

Broadcast & Audio-Video  
General Catalogue  
2007 - 2008

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# **Broadcast & Audio-Video General Catalogue**

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# HD Cameras

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# HDC-X300 HD Multi-purpose Camera

## HDC-X300K

### Features

- Superb picture quality with three 1/2-inch type 1.5-mega pixel HD CCDs
- Low smear level of -120 dB
- High signal-to-noise ratio of 54 dB
- Progressive scan mode (29.97/25/23.976PsF)
- Interlaced scan mode (59.94i/50i)
- Compact and lightweight design - only 1.2 kg (2 lb 10 oz)
- Low minimum illumination of 0.003 lx (+48 dB gain, 64 frames slow shutter)
- HD-SDI interface
- D-sub 15-pin interface
- Camera remote control capability
- Trigger function
- Optical ND filter and electronic CC function
- HDC-X300K is supplied with focus servo lens



### Supplied Accessories

- Operation manual (1)
- AC adaptor (1)
- AC cable (1)
- Tally unit (1)

### Optional Accessories

- HFU-X310 Interface unit
- HFBK-HD1 HD-SDI Option
- HFBK-SD1 SDI Option
- HFBK-XG1 XGA Option
- HFBK-TS1 iLink (HDV) Option
- RM-B150 Remote Control Unit
- RM-B750 Remote Control Unit
- RCP-750 Remote Control Panel (Joystick type)
- RCP-751 Remote Control Panel (Dial control type)
- MSU-700A Master Setup Unit
- MSU-750 Master Setup Unit
- VCT-U14 Tripod Adaptor



### Specifications

#### General

- Power requirements: DC 12 V
- Power consumption: 17 W
- Operating temperature:
  - Camera: -10 to +45 °C (14 to 113 °F)
  - AC adaptor: 0 to 40 °C (32 to 104 °F)
- Storage temperature: -20 to +60 °C (-4 to +140 °F)
- Operating humidity: 25 to 85% (relative humidity)
- Mass: 1.2 kg (2 lb 10 oz)
- Dimensions: 95 x 95 x 160 mm (3 3/4 x 3 3/4 x 6 3/8 inches) without projection
- Camera**
- Pickup device: 3-chip 1/2-inch type 1.5-mega pixel CCD
- Effective picture elements (H x V): 1440 x 1080
- Optical system: F1.4 prism
- Built-in filters: 1:Clear, 2:1/4ND, 3:1/16 ND, 4:1/64ND
- Lens mount: Sony 1/2-inch bayonet mount

- Signal system: 59.94i/23.976PsF/29.97PsF selectable at 59.94i mode  
50i/25PsF selectable at 50i mode
- Sync system: Internal and external (3 state/VBS (BB))
- Minimum illumination: 0.003 lx (F1.4, +48 dB gain, 64-frame accumulation)
- Sensitivity (2000 lx, 89.9% reflectance): F10 (typical)
- Gain selection: -3, 0, 3, 6, 9, 12, 18, 24, 30, 36, 42, 48 dB
- Shutter speed: 1/60 (50i mode), 1/100, 1/250, 1/500, 1/1000, 1/2000 s
- Clear scan: 50 to 200 Hz (50i mode)  
60 to 200 Hz (59.94i mode)
- Slow shutter: 2, 3, 4, 5, 6, 7, 8, 16, 32, 64 frame
- Smear level: -120 dB (typical)
- S/N ratio: 54 dB (typical)
- Registration: 0.02 or less (all zones, without lens)
- Geometric distortion: Below measurable level (without lens)
- Modulation depth at 20 MHz: 45% (typical)

#### Signal input

- Genlock video: BNC x1, 1.0 Vp-p, 75 Ω

#### Signal outputs

- HD SDI: BNC x1, 0.8 Vp-p +/-10%, 75 Ω

- Video: D-sub 15-pin

- Tally: Mini-jack

#### Other inputs/outputs

- Trigger: BNC x1
- Lens: 14-pin
- Remote: 8-pin
- DC input: DC jack

#### Eco-info

- Lead-free solder is used for soldering.
- Halogenated flame retardants are not used in the printed wiring boards.



# HDC-X310 HD Multipurpose camera with Fibre interface

## HDC-X310K

### Features

Features are similar to HDC-X300. HD-SDI Interface is replaced by a long distance capable monomode fibre interface allowing up to 1Km connection with a simple fibre network cable. HDC-X310K is supplied with 19X autofocus Lens.

### Supplied Accessories

- Operation manual (1)
- AC adaptor (1)
- AC cable (1)
- Tally unit (1)

### Optional Accessories

- RM-B150 Remote Control Unit
- RM-B750 Remote Control Unit
- RCP-750 Remote Control Panel (Joystick type)
- RCP-751 Remote Control Panel (Dial control type)
- MSU-700A Master Setup Unit
- MSU-750 Master Setup Unit
- VCT-U14 Tripod Adaptor
- HFU-X310 Interface unit
- HFBK-HD1 HD-SDI Option
- HFBK-SD1 SDI Option
- HFBK-XG1 XGA Option
- HFBK-TS1 iLink (HDV) Option

### Specifications

#### General

- Power requirements:
  - DC 12 V
- Power consumption:
  - 17 W
- Operating temperature:
  - Camera: -10 to +45 °C (14 to 113 °F)
  - AC adaptor: 0 to 40 °C (32 to 104 °F)
- Storage temperature:
  - 20 to +60 °C (-4 to +140 °F)
- Operating humidity:
  - 25 to 85% (relative humidity)
- Mass:
  - 1.2 kg (2 lb 10 oz)
- Dimensions:
  - 95 x 95 x 160 mm (3 3/4 x 3 3/4 x 6 3/8 inches) without projection
- Camera**
- Pickup device:
  - 3-chip 1/2-inch type 1.5-mega pixel CCD
- Effective picture elements (H x V):
  - 1440 x 1080
- Optical system:
  - F1.4 prism
- Built-in filters:
  - 1:Clear, 2:1/4ND, 3:1/16 ND, 4:1/64ND
- Lens mount:
  - Sony 1/2-inch bayonet mount
- Signal system:
  - 59.94i/23.976PsF/29.97PsF selectable at 59.94i mode
  - 50i/25PsF selectable at 50i mode
- Sync system:
  - Internal and external (3 state/VBS (BB))

#### Minimum illumination:

- 0.003 lx (F1.4, +48 dB gain, 64-frame accumulation)

#### Sensitivity (2000 lx, 89.9% reflectance):

- F10 (typical)

#### Gain selection:

- 3, 0, 3, 6, 9, 12, 18, 24, 30, 36, 42, 48 dB

#### Shutter speed:

- 1/60 (50i mode), 1/100, 1/250, 1/500, 1/1000, 1/2000 s

#### Clear scan:

- 50 to 200 Hz (50i mode)
- 60 to 200 Hz (59.94i mode)

#### Slow shutter:

- 2, 3, 4, 5, 6, 7, 8, 16, 32, 64 frame

#### Smear level:

- 120 dB (typical)

#### S/N ratio:

- 54 dB (typical)

#### Registration:

- 0.02 or less (all zones, without lens)

#### Geometric distortion:

- Below measurable level (without lens)

#### Modulation depth at 20 MHz:

- 45% (typical)

#### Signal input

- Genlock video:
  - BNC x1, 1.0 Vp-p, 75 Ω



#### Signal outputs

Fibre Interface Monomode, LC Duplex type

Video:

- D-sub 15-pin

Tally:

- Mini-jack

#### Other inputs/outputs

Trigger:

- BNC x1

Lens:

- 14-pin

Remote:

- 8-pin

DC input:

- DC jack

#### Eco-info

Lead-free solder is used for soldering. Halogenated flame retardants are not used in the printed wiring boards.

# HDC-1000 Multi-format HD Camera

## Features

- Newly developed three 2/3-inch type 2.2-megapixel HD progressive CCD
- High-sensitivity of F10
- Excellent signal-to-noise ratio of 54 dB
- A wide variety of capturing modes - 1080/50i, 1080/60i, 1080/24P, 1080/25P, 1080/30P, 720/50P, 720/60P
- Industry-first 14-bit A/D conversion
- State-of-the-art DSP LSI
- Ergonomic design
- Optical fibre digital transmission
- Memory Stick storage of camera setup parameters
- Servo-controlled ND and CC filters

## Supplied Accessories

- Operation manual (1)
- Front cover (1)
- Number plate for side panel (2)
- Belt for cable clamp (2)
- Angle adjustment fitting (2)

## Optional Accessories

- HDCU-1000 Camera Control Unit
- HDCU-1500 Camera Control Unit
- HDVF-20A 2-inch Type HD B/W CRT Viewfinder
- HDVF-9900 LCD Colour Viewfinder (Requires HDLA-1500 or HDLA-1507)
- MSU-900 Master Setup Unit
- MSU-950 Master Setup Unit
- CNU-700 Camera Command Network Unit
- CAC-6 Return Video Selector
- CAC-12 Camera Microphone Holder
- VCT-14 Tripod Adaptor
- HDTX-100 HD Triax Adaptor (Fischer type)
- HDFX-100 HD Triax Adaptor (Fischer type)
- RCP-700 series Remote control panel
- RCP-920 series Remote control panel



HDC-1000 rear panel



## Specifications

### General

- Mass
  - Approx. 20 kg (44 lb 9 oz, without VF and lens)
- Operating temperature
  - 20 to +45 °C (-4 to +113 °F)

### Camera

- Pickup device
  - 3-CCD 2/3-inch type 16:9
- Effective picture elements (H x V)
  - 1920 x 1080
- Spectrum system
  - F1.4 prism system
- Built-in filters
  - 1: Clear, 2: 1/4ND, 3: 1/8ND, 4: 1/16ND, 5: 1/64ND
  - A: CROSS, B: 3200K, C: 4300K, D: 6300K, E: 8000K
- Servo filter control
  - Yes
- Lens mount
  - Sony hanger mount
- Sensitivity
  - F10 at 2000 lx (3200K, 89.9% reflectance)
- Minimum illumination
  - 10 lx (F1.4, +12 dB gain up)
- Signal-to-noise ratio

- 54 dB (typical)
- Horizontal resolution
  - 1000 TV lines
- Dynamic range (1080/60i mode)
  - 600%
- Registration
  - Within 0.02% (all zones, without lens)
- Shutter speed selection
  - 1/100, 1/125, 1/250, 1/500, 1/1000, 1/2000 s (1080/60i mode), 1/60, 1/125, 1/250, 1/500, 1/1000, 1/2000 s (1080/50i mode)
- Modulation depth
  - 45% or more horizontally (800 TV lines at center, 27.5 MHz, with typical lens)
- Input connectors**
- Audio in (CH-1)
  - XLR-3-31 type (1, female), mic or line selectable
- Audio in (CH-2)
  - XLR-3-31 type (1, female), AES/EBU or mic or line selectable
- Return control
  - 6-pin (1)
- DC in
  - XLR-4-pin type (1)

### Output connectors

- Test out
  - BNC type (1), 1.0 Vp-p, 75Ω
- HD SDI out
  - BNC type (2)
- DC out
  - 4-pin (1), 10.5 to 17 V max. 1.5 A
- AC utility out
  - Yes (Output connector differs by region.)
- Input/output connectors**
- CCU
  - Optical fibre connector
- Lens
  - 36-pin
- Viewfinder
  - D-sub 25-pin
- Remote
  - 8-pin
- Prompter
  - BNC type (1), 1.0 Vp-p, 75Ω
- Tracker
  - 10-pin: Tracker R/T, R/G Tally, unregulated 12 V
- Crane
  - 12-pin, Y/Pb/Pr, Trunk data I/O, Serial Data
- Intercom
  - XLR-5-pin (2, female)

# HDC-1500 Multi-format HD Camera

## Features

- Newly developed three 2/3-inch type 2.2-megapixel HD progressive CCD
- High-sensitivity of F10
- Excellent signal-to-noise ratio of 54 dB
- A wide variety of capturing modes - 1080/50i, 1080/60i, 1080/24P, 1080/25P, 1080/30P, 720/50P, 720/60P
- Industry-first 14-bit A/D conversion
- State-of-the-art DSP LSI
- Ergonomic design
- Compact and lightweight: approx. 4.5 kg (9 lb 14 oz)
- Optical fibre digital transmission
- Versatile interfaces: two HD-SDI outputs, one digitally down-converted SD-SDI output
- Memory Stick storage of camera setup parameters
- Servo-controlled ND and CC filters



## Supplied Accessories

- Operation manual (1)
- Lens cap (1)
- Label for assignable switch (1)

## Optional Accessories

- HDCU-1000 Camera Control Unit
- HDCU-1500 Camera Control Unit
- HDLA-1500 Camera Adaptor
- HDLA-1505 Camera Adaptor
- HDLA-1507 Camera Adaptor
- HDFV-20A 2-inch Type HD B/W CRT Viewfinder
- HDFV-C35W Multi-format HD Colour LCD Viewfinder
- HDFV-C730W LCD Colour Viewfinder

- HDFV-C950W LCD Colour Viewfinder
- HDFV-700A B/W CRT Viewfinder (Requires HDLA-1500 or HDLA-1507)
- HDFV-9900 CRT Viewfinder (Requires HDLA-1500 or HDLA-1507)
- HKC-T1500 CCD Block Extension Adaptor
- MSU-900 Master Setup Unit
- MSU-950 Master Setup Unit
- CNU-700 Camera Command Network Unit
- CAC-6 Return Video Selector
- CAC-12 Camera Microphone Holder
- VCT-14 Tripod Adaptor
- HDTX-100 HD Triax Adaptor (Fischer type)
- HDFX-100 HD Triax Adaptor (Fischer type)
- RCP-700 Series remote control panel
- RCP-920 Series remote control panel



HDC-1500 rear panel

## Specifications

### General

- Mass
  - Approx. 4.5 kg (9 lb 14 oz, without VF and lens)
- Operating temperature
  - 20 to +45 °C (-4 to +113 °F)

### Camera

- Pickup device
  - 3-CCD 2/3-inch type 16:9
- Effective picture elements (H x V)
  - 1920 x 1080
- Spectrum system
  - F1.4 prism system
- Built-in filters
  - 1: Clear, 2: 1/4ND, 3: 1/8ND, 4: 1/16ND, 5: 1/64ND
  - A: CROSS, B: 3200K, C: 4300K, D: 6300K, E: 8000K
- Servo filter control
  - Yes
- Lens mount
  - Sony bayonet mount
- Sensitivity
  - F10 at 2000 lx (3200K, 89.9% reflectance)
- Minimum illumination
  - 10 lx (F1.4, +12 dB gain up)
- Signal-to-noise ratio
  - 54 dB (typical)

- Horizontal resolution
  - 1000 TV lines
- Dynamic range (1080/60i mode)
  - 600%
- Registration
  - Within 0.02% (all zones, without lens)
- Shutter speed selection
  - 1/100, 1/125, 1/250, 1/500, 1/1000, 1/2000 s (1080/60i mode), 1/60, 1/125, 1/250, 1/500, 1/1000, 1/2000 s (1080/50i mode)
- Modulation depth
  - 45% or more horizontally (800 TV lines at center, 27.5 MHz, with typical lens)

### Input connectors

- Audio in (CH-1)
  - XLR-3-31 type (1, female), mic or line selectable
- Audio in (CH-2)
  - XLR-3-31 type (1, female), AES/EBU or mic or line selectable
- Mic in (front)
  - XLR-3-31 type (1, female)
- Return control
  - 6-pin (1)
- DC in
  - XLR-4-pin type (1)

### Output connectors

- Test out
  - BNC type (1), 1.0 Vp-p, 75Ω
- HD SDI out
  - BNC type (1)
- Earphone out
  - Mini-jack (1), 8Ω
- DC out
  - 4-pin (1), 10.5 to 17 V max. 1.5 A
- Input/output connectors**
- CCU
  - Optical fibre connector
- Lens
  - 12-pin
- Viewfinder
  - 20-pin
- Remote
  - 8-pin
- Prompter
  - BNC type (1), 1.0 Vp-p, 75 Ω
- Tracker
  - 10-pin: Tracker R/T, R/G Tally, unregulated 12 V
- Crane
  - 12-pin, Y/Pb/Pr, Trunk data I/O, Serial Data
- Intercom
  - XLR-5-pin (2, female)

# HDC-1550 Multi-format HD Camera (triaux type)

## Features

- Newly developed three 2/3-inch type 2.2-megapixel HD progressive CCD
- High-sensitivity of F10
- Excellent signal-to-noise ratio of 54 dB
- A wide variety of capturing modes - 1080/50i, 1080/24P, 1080/25P, 1080/30P, 1080/60P, 720/50P, 720/60P
- Industry-first 14-bit A/D conversion
- State-of-the-art DSP LSI
- Ergonomic design
- Built-in triaux interface. Note that HDFX-100 triaux to fibre convertor must be used with HDCU-1000/1500
- Memory Stick storage of camera setup parameters
- Servo-controlled ND and CC filters

## Supplied Accessories

- Operation manual (1)
- Front cover (1)
- Number plate for side panel (2)
- Belt for cable clamp (2)
- Angle adjustment fitting (2)

## Optional Accessories

- HDCU-1000 Camera Control Unit
- HDCU-1500 Camera Control Unit
- HDLA-1500 Camera Adaptor
- HDLA-1505 Camera Adaptor
- HDLA-1507 Camera Adaptor
- HDVF-20A 2-inch Type HD B/W CRT Viewfinder
- HDVF-C35W Multi-format HD Colour LCD Viewfinder

- HDVF-C730W LCD Colour Viewfinder
- HDVF-C950W LCD Colour Viewfinder
- HDVF-700A B/W CRT Viewfinder (Requires HDLA-1500 or HDLA-1507)
- HDVF-9900 CRT Viewfinder (Requires HDLA-1500 or HDLA-1507)
- HKC-T1500 CCD Block Extension Adaptor
- MSU-900 Master Setup Unit
- MSU-950 Master Setup Unit
- CNU-700 Camera Command Network Unit
- CAC-6 Return Video Selector
- CAC-12 Camera Microphone Holder
- VCT-14 Tripod Adaptor
- HDFX-100 HD Triaux Adaptor (mandatory for the HDC-1550)
- RCP-700 series Remote control panel
- RCP-920 series Remote control panel



HDC-1550 rear panel

## Specifications

### General

- Mass
  - Approx. 4.5 kg (9 lb 14 oz, without VF and lens)
- Operating temperature
  - 20 to +45 °C (-4 to +113 °F)

### Camera

- Pickup device
  - 3-CCD 2/3-inch type 16:9
- Effective picture elements (H x V)
  - 1920 x 1080
- Spectrum system
  - F1.4 prism system
- Built-in filters
  - 1: Clear, 2: 1/4ND, 3: 1/8ND, 4: 1/16ND, 5: 1/64ND
  - A: CROSS, B: 3200K, C: 4300K, D: 6300K, E: 8000K
- Servo filter control
  - Yes
- Lens mount
  - Sony bayonet mount
- Sensitivity
  - F10 at 2000 lx (3200K, 89.9% reflectance)
- Minimum illumination
  - 10 lx (F1.4, +12 dB gain up)
- Signal-to-noise ratio
  - 54 dB (typical)

- Horizontal resolution
  - 1000 TV lines
- Dynamic range (1080/60i mode)
  - 600%
- Registration
  - Within 0.02% (all zones, without lens)
- Shutter speed selection
  - 1/100, 1/125, 1/250, 1/500, 1/1000, 1/2000 s (1080/60i mode), 1/60, 1/125, 1/250, 1/500, 1/1000, 1/2000 s (1080/50i mode)
- Modulation depth
  - 45% or more horizontally (800 TV lines at center, 27.5 MHz, with typical lens)

### Input connectors

- Audio in (CH-1)
  - XLR-3-31 type (1, female), mic or line selectable
- Audio in (CH-2)
  - XLR-3-31 type (1, female), AES/EBU or mic or line selectable
- Mic in (front)
  - XLR-3-31 type (1, female)
- Return control
  - 6-pin (1)
- DC in
  - XLR-4-pin type (1)

### Output connectors

- Test out
  - BNC type (1), 1.0 Vp-p, 75Ω
- HD SDI out
  - BNC type (2)
- Earphone out
  - Mini-jack (1), 8Ω
- DC out
  - 4-pin (1), 10.5 to 17 V max. 1.5 A
- Input/output connectors**
- CCU
  - Optical fibre connector
- Lens
  - 12-pin
- Viewfinder
  - 20-pin
- Remote
  - 8-pin
- Tracker
  - 10-pin: Tracker R/T, R/G Tally, unregulated 12 V
- Crane
  - 12-pin, Y/Pb/Pr, Trunk data I/O, Serial Data
- Intercom
  - XLR-5-pin (2, female)

# HDC-3300 HD Super Motion Colour Camera

## Features

- Three times the normal frame rate of 1080/180i (59.94i), 1080/150i (50i), 720/180p (59.94p) and 720/150p (50p)
- Long-distance optical fibre transmission
- Simultaneous slow motion and normal speed HD images
- Flexible system configuration compatible with other Sony broadcast camera peripherals including the RCP-700 and RCP-920 Series remote controllers, CNU-700 network command units and MSU-900/950 master setup units.



## Supplied Accessories

Operation manual (1)

## Optional Accessories

- HDCU-3300 HD Super Motion Camera Control Unit
- HDLA-1500 Camera Adaptor
- HDLA-1505 Camera Adaptor
- HDLA-1507 Camera Adaptor
- HDVF-20A 2-inch Type HD B/W CRT Viewfinder
- HDVF-C35W Multi-format HD Colour LCD Viewfinder
- HDVF-C730W LCD Colour Viewfinder
- HDVF-C950W LCD Colour Viewfinder
- HDVF-700A B/W CRT Viewfinder (Requires HDLA-1500 or HDLA-1507)
- HDVF-9900 CRT Colour Viewfinder

(Requires HDLA-1500 or HDLA-1507)

- MSU-900 Master Setup Unit
- MSU-950 Master Setup Unit
- CNU-700 Camera Command Network Unit
- CAC-6 Return Video Selector
- CAC-12 Camera Microphone Holder
- VCT-14 Tripod Adaptor
- RCP-700 series Remote control panel
- RCP-920 series Remote control panel

## Specifications

### General

- Imaging Device
  - 3-CCD 2/3 inches
- Effective picture elements (H x V)
  - 1920x1080
- Mass
  - 4.9Kg (10 lb 13 oz) (without VF and lens)
- Dimensions (W x H x D)
  - 173 x 197 x 350 mm
  - (6 7/8 x 7 7/8 x 13 7/8 inches)
- Operation temperature
  - 20 °C to +45 °C (-4 °F to +113 °F)
- Storage temperature
  - 20 °C to +60 °C (-4 °F to +140 °F)

### Filter

- Built-in filters
  - 1: CLEAR, 2: 1/4ND, 3: 1/8ND, 4: 1/16ND, 5: 1/64ND
  - A: CROSS, B: 3200K, C: 4300K, D: 6300K, D: 8000K
- Sensitivity
  - F7 at 2000 lx (3200K, 89.9% reflectance)\*
- Signal-to-noise ratio
  - 50 dB (typical)\*
- Horizontal resolution
  - 1000 TV lines\*
- Modulation depth
  - 45% (800 TV lines at center, 27.5 MHz, with typical lens)\*

### Input/Output connectors

- DC 12V Output (max.1.5A)
  - 4pin (1)
- Remote
  - 8pin (1)
- DC 12V Input
  - XRL-4-pin type (1)
- Viewfinder
  - 20pin (1)
- Lens
  - 12pin (1)
- Front Mic input
  - XLR-3-pin type (1)
- Audio 1 input
  - XLR-3-pin type (1), (Mic or Line)
- Audio 2 input
  - XLR-3-pin type (1), (AES/EBU or Mic or Line)
- Intercom 1
  - XLR-5-pin type (1)
- Intercom 2
  - XLR-5-pin type (1)
- HD-SDI output
  - BNC type (1): HD-SDI or SD-SDI, character on/off selectable\*\*
- Test output
  - BNC type (1): VBS(SD), VF Y or R or G or B (HD)
- RET Control
  - 6pin (1)

### Tracker

- 10pin (1): Tracker R/T, R/G Tally, Unreg12V
- Prompter
  - BNC type (1)
- Crane
  - 12pin (1): Y/Pb/Pr, Trunk Data I/O, Serial Data
- Earphone
  - Minijack (1), 8 Ω

\* At 1080/180i mode \*\* When the HDC-3300 camera is not connected to the HDCU-3300 camera control unit, the output signal from the HD-SDI connector is for maintenance purposes only.

# HDCU-1000 Camera Control Unit

## Features

- Eight HD-SDI or SD-SDI outputs
- Up to eight additional HD-SDI or SD-SDI outputs (with two optional HKCU-1005 boards)
- Four sets of HD-SDI, SD-SDI, and analogue composite return video inputs
- Built-in down-converted analogue composite output
- Two-channel teleprompter input
- Built-in Ethernet interface (100Base-T)
- Utility power output capability for use with the HDC-1000 or HDLA-1500
- Two-channel data trunk lines (RS-422A or RS-232C) for easy data transmission
- AES/EBU digital audio output
- Two-channel microphone output (two XLR connectors)



## Optional Accessories

- HKCU-1001 SD Analogue Interface Unit
- HKCU-1003 Multi Interface Unit
- HKCU-1005 HD/SD Expansion Unit
- RCP-700 Series remote control panel
- RCP-920 Series remote control panel
- MSU-900 Master Setup Unit
- MSU-950 Master Setup Unit
- RM-B150 Remote Control Unit
- RM-B750 Remote Control Unit
- CCA-5 Cables 8-pin/8-pin Remote Control Cable



HDCU-1000 rear panel

## Applicable Models

- HDC-1000 Multi-format HD Camera
- HDC-1500 Multi-format HD Camera
- HDC-1550 Multi-format HD Camera

## Specifications

### General

- Power requirements
  - AC 100/120/220 to 240 V, 50/60 Hz
- Maximum current consumption
  - 5.4 A (at 100 V AC, entire system active)
- Operating temperature
  - +5 to +40 °C (+41 to +104 °F)
- Mass
  - Approx. 16 kg (35 lb 4 oz)
- Dimensions (W x H x D)
  - 424 x 133 x 410 mm
  - (16 3/4 x 5 1/4 x 16 1/4 inches)

### HD inputs/outputs

- HD SDI output (\*1)
  - BNC type (4), SMPTE 292M, 1080/50i, 60i, 30P, 25P, 24P, 720/60P, 50P
  - HD SDI/SD SDI selectable
- HD monitor output (\*2)
  - BNC type (4), SMPTE 292M, 1080/50i, 60i, 30P, 25P, 24P, 720/60P, 50P
  - HD SDI/SD SDI selectable, character on/off selectable
- HD SDI return input
  - BNC type (4), SMPTE 292M, 1080/50i, 60i, 30P, 25P, 24P, 720/60P, 50P

### SD inputs/outputs

- SDI output (\*1)
  - BNC type (4), SMPTE 259M, Serial digital component
  - HD SDI/SD SDI selectable

- SDI monitor output (\*2)
  - BNC type (4), SMPTE 259M, Serial digital component, 480/576-lines
  - HD SDI/SD SDI selectable, character on/off selectable
- Analogue composite monitor output
  - BNC type (1), character on/off selectable
- SDI return input
  - BNC type (4), SMPTE 259M, Serial digital component
- VBS return input
  - BNC type (4), NTSC/PAL
- Sync**
  - Reference input
    - BNC type (1, with loop-through), HD tri-level sync or SD black burst
  - Sync output
    - BNC type (1), HD tri-level sync or SD sync
- Intercom/Tally/PGM**
  - Intercom PD & ENG
    - D-sub 25-pin (1), 4W/RTS/CC selectable
  - PGM1/PGM2
    - 0/-20 dBu selectable
  - R-Tally/G-Tally
    - 24 V power in/make contact
- Audio**
  - MIC1/MIC2 output
    - XLR-3-31 type (2, female), 0/-20 dBu selectable
  - Digital audio output (AES/EBU)
    - BNC type (1), AES/EBU format, 20-bit/48 kHz
  - Embedded audio
    - Embedded audio to HD SDI/SD SDI

### Prompter

- Prompter in
  - BNC type (2, with loop-through), Analogue, NTSC/PAL/HD-Y

### Others

- RCP/MSU/CNU interface
  - 8-pin (1), Sony Camera Command Network Protocol (for entire camera system control)
- Ethernet
  - RJ-45 (1), 10BASE-T/100BASE-TX
- Mic remote
  - D-sub 15-pin
- WF mode
  - 4-pin (2), Stair step (for SD composite Waveform monitor)
- WF control
  - D-sub 15-pin (1), GPI (for SDI component WF control)
- System expansion I/O
  - D-sub 15-pin (1), GPI (for system control with external GPI interface)
- Trunk line
  - D-sub 9-pin (1), RS-232C (remote line for CHU equipment), 12-pin (round type connector), RS-232C/422 (remote line for CHU equipment)
- Camera**
  - Optical fibre cable interface
    - SMPTE 304M based optical fibre connector (1), 1.5 gb/s optical fibre digital transmission, SMPTE 292 M

(\*1) HD SDI output and SD SDI output share the same connector. (\*2) HD monitor output and SD monitor output share the same connector.

# HDCU-1500 Camera Control Unit

## Features

- High power supply capability allowing HDC-1000 camera or HDC-1500/HDLA-1500 operation
- Three HD-SDI or SD-SDI outputs
- Up to eight additional HD-SDI or SD-SDI outputs (requires two optional HKCU-1005 boards)
- Three HD-SDI, SD-SDI, or analogue composite return video inputs
- Built-in down-converted analogue composite output
- RM-B750 Remote Control Unit attach capability on the front panel
- One channel teleprompter input
- Built-in Ethernet interface (100Base-T)
- Two-channel data trunk line(RS-422A/RS-232C) for easy data transmission
- Two-channel microphone output (two XLR connectors)



## Optional Accessories

- HKCU-1001 SD Analogue Interface Unit
- HKCU-1003 Multi Interface Unit
- HKCU-1005 HD/SD Expansion Unit
- RCP-700 Series remote control panel
- RCP-920 Series remote control panel
- MSU-900 Master Setup Unit
- MSU-950 Master Setup Unit
- RM-B150 Remote Control Unit
- RM-B750 Remote Control Unit
- CCA-5 Cables 8-pin/8-pin Remote Control Cable



HDCU-1500 rear panel

## Applicable Models

- HDC-1000 Multi-format HD Camera
- HDC-1500 Multi-format HD Camera
- HDC-1550 Multi-format HD Camera

## Specifications

### General

- Power requirements
  - AC 100 to 240 V, 50/60 Hz
- Maximum current consumption
  - 4 A (at 100 V AC, entire system active)
- Operating temperature
  - 10 to +40 °C (+14 to +104 °F)
- Mass
  - Approx. 6.2 kg (13 lb 10 oz)
- Dimensions (W x H x D)
  - 200 x 127 x 410 mm
  - (8 x 5 1/9 x 16 1/4 inches)

### HD inputs/outputs

- HD SDI output (\*1)
  - BNC type (2), SMPTE 292M, 1080/50i, 60i, 30P, 25P, 24P, 720/60P, 50P
  - HD SDI/SDI selectable
- HD monitor output (\*2)
  - BNC type (1), SMPTE 292M, 1080/50i, 60i, 30P, 25P, 24P, 720/60P, 50P
  - HD SDI/SD SDI selectable
- HD SDI return input
  - BNC type (3), SMPTE 292M, 1080/50i, 60i, 30P, 25P, 24P, 720/60P, 50P
  - HD SDI/SD SDI/VBS selectable

### SD inputs/outputs

- SDI output (\*1)
  - BNC type (2), SMPTE 259M, Serial digital component
  - HD SDI/SD SDI selectable

- SDI monitor output (\*2)
  - BNC type (1), SMPTE 259M, Serial digital component, 480/576-lines
  - HD SDI/SD SDI selectable
- Analogue composite monitor output
  - BNC type (1), Monitor/Sync selectable, character on/off selectable
- SDI return input
  - BNC type (3), SMPTE 259M, Serial digital component
  - HD SDI/SD SDI/VBS selectable
- VBS return input
  - BNC type (3), NTSC/PAL
  - HD SDI/SD SDI/VBS selectable
- Sync**
  - Reference input
    - BNC type (1, with loop-through), HD tri-level sync or SD black burst
  - Sync output
    - BNC type (1), HD tri-level sync or SD sync Sync/Monitor selectable
- Intercom/Tally/PGM**
  - Intercom PD & ENG
    - D-sub 25-pin (1), 4W/RTS/CC selectable
  - PGM1/PGM2
    - 0/-20 dBu selectable
  - R-Tally/G-Tally
    - 24 V power in/make contact
- Audio**
  - MIC1/MIC2 output
    - XLR-3-31 type (2, female), 0/-20 dBu selectable
  - Digital audio output (AES/EBU)
    -
  - Embedded audio
    - Embedded audio to HD SDI/SD SDI

### Prompter

- Prompter in
  - BNC type (1, with loop-through), Analogue, NTSC/PAL/HD-Y

### Others

- RCP/MSU/CNU interface
  - 8-pin (1), Sony Camera Command Network Protocol (for entire camera system control)
- Ethernet
  - RJ-45 (1), 10BASE-T/100BASE-TX
- Mic remote
  - D-sub 15-pin
- WF mode
  - 4-pin (1), Stair step (for SD composite Waveform monitor)
- WF control
  - D-sub 15-pin (1), GPI (for SDI component WF control)
  - WF control/mic remote selectable
- System expansion I/O
  -
- Trunk line
  - 12-pin (round type connector), RS-232C/422 (remote line for CHU equipment)
- Camera**
  - Optical fibre cable interface
    - SMPTE 304M based optical fibre connector (1), 1.5 gb/s optical fibre digital transmission, SMPTE 292 M

(\*1) HD SDI output and SD SDI output share the same connector. (\*2) HD monitor output and SD monitor output share the same connector.

# HDCU-3300 HD Super Motion Camera Control Unit

The HDCU-3300 Camera Control Unit is the camera control unit for the HDC-3300 Super Motion Camera to configure HD slow-motion camera system.

## Optional Accessories

- HKCU-1001 SD Analogue Interface Unit
- HKCU-1005 HD/SD Expansion Unit

## Applicable Models

- HDC-3300 HD Super Motion Colour Camera



## Specifications

### General

- Power supply
  - AC 100/120/220-240 V, 50 Hz/60 Hz
- Maximum Current consumption
  - 5.4 A (at 100 V AC, entire system active)
- Operating temperature
  - +5 °C to +40 °C (+41 °F to +104 °F)
- Storage temperature
  - 20 °C to +60 °C (-4 °F to +140 °F)
- Dimensions (W x H x D)
  - 424 x 133 x 410 mm
  - (16 3/4 x 5 1/4 x 16 1/4 inches)
- Mass
  - 15.9kg (35 lb 1 oz)

### Input/output connectors

- HD SDI LINK A/B/C Super Motion Output
  - BNC type (1) LinkA x 2, LinkB x 2, LinkC x 2
- HD SDI output
  - BNC type (4), SMPTE-292M, 1080/50i, 60i, 720/60P, 50P
- HD/SD SDI output
  - BNC type (4)
    - HD : SMPTE-292M 1080/50i, 60i, 720/60P, 50P
    - SD : SMPTE-259M
- Character output (composite analogue)
  - BNC type (1), CHAR (1)
- HD SDI return input
  - BNC type (4), SMPTE-292M, 1080/50i, 60i, 720/60P, 50P
- SD-SDI return input
  - BNC type (4), SMPTE-259M,
- VBS return input
  - BNC type (4)

### Sync

- Reference input
  - BNC type (1, with loop-through),
  - HD tri-level sync or SD Black Burst
- Sync output
  - BNC type (1), HD tri-level sync or SD Black Burst
- Intercom/Tally/PGM**
  - Intercom PD & ENG
    - D-sub 25-pin (1), 4W/RTS/CC selectable
  - PGM1/PGM2
    - 0/-20 dBu selectable
  - R-Tally/G-Tally
    - 24 V power in/make contact

### Audio

- MIC1/MIC2 output
  - XLR-3-31 type (2, female),
  - 0/-20 dBu selectable
- Digital audio output (AES/EBU)
  - BNC type (1), AES/EBU format,
  - 20-bit/48 kHz
- Embedded Audio
  - Embedded Audio to HD-SDI/SD-SDI

### Prompter

- Prompter in
  - BNC type (2, with loop-through),
  - Analogue, NTSC/PAL/HD-Y

### Others

- RCP/MSU/CNU interface
  - 8-pin (1), Sony Camera System-700
  - Control Protocol
  - (for entire camera system control)
- Ethernet
  - 10BASE-T/100BASE-TX connector (RJ-45)
- Mic Remote
  - D-sub 15-pin (1)

### WF control

- D-sub 15-pin (1), GPI
- (for SDI component WF control)

### WF mode

- 4-pin (2), Stair step
- (for SD composite WF monitor)

### System expansion I/O

- D-sub 15-pin GPI (1, for system control with external GPI interface)
- Trunk line
  - 12-pin (1, round type connector),
  - RS-232C or RS422

### Camera

- Optical fibre cable interface
  - SMPTE-304M based optical fibre connector (1)

### Optional Input/Output Boards

#### HKCU-1001 SD Analogue Interface Unit

- VBS output
  - BNC type (2)

- Analogue composite monitor output
  - BNC type: WF (1), PIX (1)

#### HKCU-1005 HD/SD Expansion Unit

- HD SDI/SD SDI output
  - BNC type (2)
- HD SDI/SD SDI monitor output
  - BNC type (2), character on/off selectable



## HDLA-1500 Large Lens Adaptor for CRT Viewfinders

### Features

- New user-friendly design
- Low-profile design
- Allows operations with a CRT viewfinder

### Optional Accessories

- HDVF-700A B/W CRT Viewfinder (1)
- HDVF-9900 CRT Viewfinder (1)

### Applicable Models

- HDC-1500 Multi-format HD Camera
- HDC-1550 Multi-format HD Camera
- HDC-3300 HD Super Motion Camera



HDLA-1500 rear panel

**Note:** also available as HDLA-1500/B (dark coloured version)

## HDLA-1505 Large Lens Adaptor for LCD Viewfinders

### Features

- New user-friendly design
- Allows use of large studio lenses
- Retains potable LCD viewfinder

### Optional Accessories

- HDVF-C730 LCD Colour Viewfinder
- HDVF-C950 LCD Colour Viewfinder

### Applicable Models

- HDC-1500 Multi-format HD Camera
- HDC-1550 Multi-format HD Camera
- HDC-3300 HD Super Motion Camera



HDLA-1505 rear panel

**Note:** also available as HDLA-1505/B (dark coloured version)

## HDLA-1507 CRT Viewfinder Adaptor

### Features

- New user-friendly design
- Allows use of portable camera with CRT viewfinder

### Supplied Accessories

- Operation manual (1)
- Angle adjusting plates (2)
- Cable clamps (2)
- Number plates for side panel (2)
- Stopper (1)
- Fixing screw for stopper (1)

### Optional Accessories

- HDVF-700A B/W CRT Viewfinder (1)
- HDVF-9900 CRT Viewfinder (1)

### Applicable Models

- HDC-1500 Multi-format HD Camera
- HDC-1550 Multi-format HD Camera
- HDC-3300 HD Super Motion Color Camera

### Specifications

#### General

#### Power requirement

240 V AC (max. 1.2 A)/180 V DC  
(max. 0.65 A)/12 V DC (max. 9 A)

#### Operating temperature

-20 °C to +45 °C (-4 °F to +113 °F)

#### Storage temperature

-20 °C to +60 °C (-4 °F to +140 °F)

#### Dimensions (Approx. W x H x D)

531 x 400 x 336 mm  
(21 x 15 3/4 x 13 1/4 inches)

#### Mass (Approx.)

15.5 kg (34 lb 3 oz)

#### Input/output connectors

#### VF

D-sub 25-pin (1)

#### DC IN

XLR-4-pin (1), 10.5 to 17 V DC

#### DC OUT

4-pin (1), 10.5 to 17 V DC max. 1.5 A



**Note:** also available as HDLA-1507/B (dark coloured version)

## HDFX-100 HD Triax Adaptor (Fischer type)

### Features

- Converts optical fibre transmission to the widely used triax transmission system
- Long distance transmission - up to 1400 m (4500 feet) with a 14.5 mm dia. triax cable or 1000 m (3200 feet) with a 13.2 mm dia. triax cable

### Optional Accessories

- HDTX-100 HD Triax Adaptor (Fischer type)
- HDCU-1000 Camera Control Unit
- HDCU-1500 Camera Control Unit

### Applicable Models

- HDC-1000 Multi-format HD camera (with HDTX-100)
- HDC-1500 Multi-format HD camera (with HDTX-100)
- HDC-1550 Multi-format HD camera



## HDTX-100 HD Triax Adaptor (Fischer type)

### Features

- Converts optical fibre transmission to the widely used triax transmission system
- Long distance transmission - up to 1400 m (4500 feet) with a 14.5 mm dia. triax cable or 1000 m (3200 feet) with a 13.2 mm dia. triax cable

### Applicable Models

- HDFX-100 HD Triax Adaptor (Fischer type)
- HDC-1000 Multi-format HD Camera
- HDC-1500 Multi-format HD Camera



## HKC-T1500 CCD Block Extension Adaptor

### Features

- Allows the CCD block to be extended from the camera body by up to 50m (12.5m with cable supplied)
- Provides compact, lightweight imaging assembly

### Supplied Accessories

- Multi-core cable (12.5 m) (1)
- VF relay cable (1)
- MIC relay cable (1)
- INCOM relay cable (1)
- Top cover (1)
- Operation manual (1)

### Optional Accessories

- HDC-M12 12m T cable
- HDC-M25 25m T cable
- HDC-M50 50m T cable
- HDC-M035L 3.5m T cable with right angle connector at the camera body end.

### Specifications

#### General

- Power requirements  
13.0 to 17.0 V DC
- Operating temperature  
-20 °C to +45 °C (-4 °F to +113 °F)
- Operating humidity  
10% to 90% (no condensation)
- Mass  
Cable adapter  
approx. 0.5 kg (1 lb 2 oz)

### Applicable Models

- HDC-1500 Multi-format HD Camera
- HDC-1550 Multi-format HD Camera

### Dimensions (W x H x D)

- CCD block adapter:  
approx. 1.9 kg (4 lb 3 oz)  
(with CCD block)
- Approx. 130 x 240 x 250 mm  
(5 1/8 x 9 1/2 x 9 7/8 inches)

### CCD Block Adaptor I/F

- Camera cable  
55-pin multicore cable connector (male)
- MIC IN  
XLR-3 (1, female)
- LENS  
12-pin (1)



### VF

- 20-pin (1)

### INCOM

- XLR-5 (1, female)

### Cable Adaptor I/F

- Camera cable  
55-pin multicore cable connector (female)
- MIC OUT  
XLR-3 (1, male)
- VF  
20-pin (1)
- INCOM  
XLR-5 (1, male)

# Production Cameras

BVP-E30P .....	14
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DXC-D55PH .....	16
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DXC-D55WSPH .....	22
DXC-D55WSPL .....	24
DXC-D55WSPL .....	24

# BVP-E30P 3-chip CCD Portable Colour Camera

## Features

- Portable studio/OB/EFP camera
- Three-chip Power HAD EX CCD imager for superb picture quality
- Advanced digital signal processing and 14-bit A/D conversion
- Switchable progressive\* and interlace modes
- Excellent signal-to-noise ratio of 65 dB and remarkably low smear level of -145 dB (typical)
- High sensitivity of F11 at 2000 lx
- Digital 3-D white shading
- Cross colour suppression function
- Low key saturation function
- Adaptive highlight control (Auto knee mode)
- Knee saturation control
- Multi-matrix function
- Enhanced vertical detail (Non-additive mix)
- Adaptive detail control
- Triple skin tone detail control
- Electronic soft focus
- Full compatibility with current Sony Camera Control Units for seamless integration into Sony BVP-900P Series, and BVP-E10 Series camera systems using existing Sony MSUs, CNU's and RCP's
- Compatible with Sony Wireless Camera System WLL-CA55 and WLL-RX55
- Wideband component triax transmission system
- Auto tracing white balance
- Assignable switches
- Memory Stick system for storage/recall of parameters
- Menu knob
- Adjustable shoulder pad



\*25PsF

## Supplied Accessories

Operational manual (1)  
 CD-ROM Operation manual (1)  
 Label for assignable switch (1)

## Optional Accessories

CA-590P Camera Adaptor  
 WLL-CA55 Wireless Camera Transmitter (CER)  
 CA-905F Large Lens Adaptor (Fischer Type)  
 CCU-790P Camera Control Unit  
 CCU-590P Portable Camera Control Unit  
 RM-B750 Remote Control Unit  
 RM-B150 Remote Control Unit  
 RCP-700 and RCP-920 family of Remote Control Panels  
 CNU-700 Camera Command Network Unit  
 VCS-700 Video Selector  
 MSU-900 Master Setup Unit  
 MSU-950 Master Setup Unit  
 MSA-A "Memory Stick" IC Memory Media  
 VCT-14 Tripod Adaptor  
 BVF-55CE 5-inch Type B/W Viewfinder (CCIR)  
 BVF-10CE 1.5-inch Type B/W CRT Viewfinder (CCIR)

## Specifications

### General

Power consumption:  
 13 W  
 Operating temperature:  
 -20 °C to + 45 °C (-4 °F to +113 °F)  
 Storage temperature:  
 -20 °C to + 60 °C (-4 °F to +140 °F)  
 Dimensions (W x H x D):  
 125 x 285 x 291 mm (5 x 11 1/4 x 11 1/2 inches)  
 Mass:  
 Approx. 2.5 kg (5 lb 8 oz) (not including viewfinder)

### Camera

A/D conversion:  
 14 bits  
 Optical system:  
 F 1.4 prism  
 Image device:  
 3-chip 2/3-inch type Power HAD CCD  
 Total picture elements (H x V):  
 1038 x 1188  
 Smear level (typical):  
 -145 dB  
 Scan format:  
 50i, 25PsF  
 Built in filters:  
 1: CLEAR, 2: 1/4ND, 3: 1/16ND, 4: 1/64ND  
 Horizontal resolution (center):  
 900 TV Lines  
 Modulation depth (center):  
 80%  
 Vertical resolution:  
 480 TV lines/530 TV lines (with EVS)  
 S/N ratio (typical):  
 65 dB  
 Sensitivity (typical):  
 F 11 at 2000 lx  
 (3200K 89.9% reflectance)  
 Gain selection:  
 -3, 0, +3, +6, +9, +12, +18, +24, +30, +36, +42 dB  
 Set-up memory card:  
 Memory Stick  
 Shutter speed:  
 1/60, 1/125, 1/250, 1/500, 1/1000, 1/2000 s  
 Clear scan:  
 1/25(\*) to 1/6000 s

### Interface

Input connector:  
 Microphone: XLR 3-pin, -60 dBu  
 Output connector:  
 Test out: BNC type, 1.0 Vp-p, 75 Ω, unbalanced

### Others:

Lens: 12-pin  
 View finder: 20-pin  
 Digital interface: 68-pin  
 Analogue interface: 68-pin  
 Lens mount: Special bayonet mount (B4)

### Eco-info

Lead-free solder is used for soldering. Halogenated flame retardants are not used in the cabinets and the printed wiring boards.

(\*)1/25-1/50 are on PsF mode.

# BVP-E30WSP 3-chip CCD Portable Colour Camera

## Features

- Portable studio/OB/EFP camera •Three-chip Power HAD EX CCD imager for superb picture quality •Advanced digital signal processing and 14-bit A/D conversion
- Switchable progressive\* and interlace modes •Excellent signal-to-noise ratio of 65 dB and remarkably low smear level of -145 dB (typical) •High sensitivity of F11 at 2000 lx
- Digital 3-D white shading •Cross colour suppression function •Low key saturation function •Adaptive highlight control (Auto knee mode) •Knee saturation control
- Multi-matrix function •Enhanced vertical detail (Non-additive mix) •Adaptive detail control •Triple skin tone detail control •Electronic soft focus •Full compatibility with current Sony Camera Control Units for seamless integration into Sony BVP-900P Series, and BVP-E10 Series camera systems using existing Sony MSUs, CNU's and RCP's •Compatible with Sony Wireless Camera System WLL-CA55 and WLL-RX55 •Wideband component triax transmission system •CC filter- electronic and optical •Auto tracing white balance •Assignable switches •Memory Stick system for storage/recall of parameters •Menu knob •Adjustable shoulder pad

\*25PsF



## Supplied Accessories

Operational manual (1)  
 CD-ROM Operation manual (1)  
 Label for assignable switch (1)

## Optional Accessories

CA-590P Camera Adaptor  
 WLL-CA55 Wireless Camera Transmitter (CER)  
 CA-905F Large Lens Adaptor (Fischer Type)  
 CCU-790P Camera Control Unit  
 CCU-590P Portable Camera Control Unit  
 RM-B750 Remote Control Unit  
 RM-B150 Remote Control Unit  
 RCP-700 and RCP-920 family of Remote Control Panels  
 CNU-700 Camera Command Network Unit  
 VCS-700 Video Selector  
 MSU-900 Master Setup Unit  
 MSU-950 Master Setup Unit  
 MSA-A "Memory Stick" IC Memory Media  
 VCT-14 Tripod Adaptor  
 BVF-55CE 5-inch Type B/W Viewfinder (CCIR)  
 BVF-20WCE 2-inch Type 16:9 B/W Viewfinder

## Specifications

### General

Power consumption:  
 13 W  
 Operating temperature:  
 -20 °C to + 45 °C (-4 °F to +113 °F)  
 Storage temperature:  
 -20 °C to + 60 °C (-4 °F to +140 °F)  
 Dimensions (W x H x D):  
 125 x 285 x 291 mm (5 x 11 1/4 x 11 1/2 inches)  
 Mass:  
 Approx. 2.5 kg (5 lb 8 oz) (not including viewfinder)

### Camera

A/D conversion:  
 14 bits  
 Optical system:  
 F 1.4 prism  
 Image device:  
 3-chip 2/3-inch type Power HAD CCD  
 Total picture elements (H x V):  
 1038 x 1188  
 Smear level (typical):  
 -145 dB  
 Scan format:  
 50i, 25PsF  
 Built in filters:  
 1: CLEAR, 2: 1/4ND, 3: 1/16ND, 4: 1/64ND  
 A: CROSS, B: 3200K, C: 4300K, D: 6300K  
 Horizontal resolution (center):  
 700 TV Lines  
 Modulation depth (center):  
 80% (16:9)/60% (4:3)  
 Vertical resolution:  
 480 TV lines/530 TV lines (with EVS)  
 S/N ratio (typical):  
 65 dB  
 Sensitivity (typical):  
 F 11 at 2000 lx  
 (3200K 89.9% reflectance)  
 Gain selection:  
 -3, 0, +3, +6, +9, +12, +18, +24, +30, +36,  
 +42 dB  
 Set-up memory card:  
 Memory Stick  
 Shutter speed:  
 1/60, 1/125, 1/250, 1/500, 1/1000, 1/2000 s  
 Clear scan:  
 1/25(\*) to 1/6000 s

### Interface

Input connector:  
 Microphone: XLR 3-pin, -60 dBu

### Output connector:

Test out: BNC type, 1.0 Vp-p, 75 Ω, unbalanced

### Others:

Lens: 12-pin  
 View finder: 20-pin  
 Digital interface: 68-pin  
 Analogue interface: 68-pin  
 Lens mount: Special bayonet mount (B4)

### Eco-info

Lead-free solder is used for soldering. Halogenated flame retardants are not used in the cabinets and the printed wiring boards.

(\*)1/25-1/50 are on PsF mode.

## DXC-D55PH 3-chip CCD Portable Colour Camera

### Features

- Three 2/3-inch type Power HAD EX CCDs
- Excellent picture quality: horizontal resolution of 920 TV lines, sensitivity of F11, signal-to-noise ratio of 63 dB, and smear level of -145 dB
- 14-bit A/D converter and ADSP (Advanced Digital Signal Processing) for faithful contrast reproduction and highly sophisticated image controls
- Knee Saturation control for natural color reproduction even in highlight area
- Adaptive Highlight Control realizes optimum contrast balance
- Skin-Tone Detail function with auto detection of active area
- Low Key Saturation function
- Built-in optical ND filter and electronic CC function
- Backlit switch panel
- Memory Stick storage of camera setup parameters
- Adjustable shoulder pad
- EZ Mode and EZ Focus for quick camera setup
- Auto Tracing White Balance (ATW)
- Factory-preset matrix
- Programmable gain: -3/0/3/6/9/12/18/24/30/36 dB
- Variable-speed electronic shutter
- Clear Scan (CLS) function -- 50.2 to 6000 Hz
- Monitor output
- Built-in 1 kHz audio reference
- Date-and-time superimposition on the video signal and viewfinder
- Enhanced Vertical-Definition System (EVS)
- Auto iris mode (spot, backlight)
- Mic low cut
- Dual zebra
- Multi-core CCU operation with the CA-D50 and CCU-D50P
- Triax CCU operation with the CA-TX50P and CCU-TX50P



### Supplied Accessories

Flange focal length adjustment test chart (1)  
Lens mount cap (1)  
Operating instructions (1)

### Optional Accessories

AC-DN10 AC Adaptor/Charger  
CAC-12 Camera Microphone Holder  
CA-D50 Camera Adaptor  
CA-TX50P Camera Adaptor  
CCU-D50P Camera Control Unit  
CCU-TX50P Camera Control Unit  
RCP-D50 Remote Control Panel (Joystick Type)  
RCP-D51 Remote Control Panel (Dial Control Type)  
VCT-U14 Tripod Adaptor  
DXF-20W 2.0-inch Monochrome Viewfinder  
DXF-51 5-inch Monochrome Viewfinder  
DXF-801 1.5-inch Monochrome Viewfinder  
ECM-673 Electret Condenser Microphone  
ECM-674 Electret Condenser Microphone  
LCR-1 Camera Rain Cover  
MSH "Memory Stick" IC Memory Media

## Specifications

### Power requirements:

DC 12 V (10.5 to 17 V)

### Power consumption:

14 W

### Operating temperature:

-10 °C to +45 °C (+14 °F to +113 °F)

### Storage temperature:

-20 °C to +60 °C (-4 °F to +140 °F)

### Operating humidity:

Less than 85%

### Mass (camera head only):

2.2 kg (4 lb 13 oz)

## Signal inputs/outputs

### Video output:

Analog composite, BNC, 1.0 Vp-p,  
sync negative

### Monitor output:

Analog composite, BNC, 1.0 Vp-p,  
sync negative

### Microphone input:

XLR-3-pin

### Other inputs/outputs

### Camera/VTR interface:

Pro 76-pin Digital, Pro 50-pin

### Lens:

12-pin

### VF:

20-pin

### Remote:

10-pin

## Camera performance

### Pickup device:

3-chip 2/3-inch type Power HAD EX CCD

### Aspect ratio:

4:03

### Total picture elements (H x V):

1038 x 1188

### Effective picture elements (H x V):

980 x 582

### Optical system:

F1.4 prism system

### Built-in filters:

1: Clear, 2: 1/4ND, 3: 1/16ND, 4: 1/64ND

### Lens mount:

Sony 2/3-inch bayonet mount

### Signal system:

PAL color system

### Scan format:

2:1 interlaced, 625 lines, 50 fields/s

### Horizontal scan frequency:

15.625 Hz

### Vertical scan frequency:

50 Hz

### Sync system:

Internal and External with the VBS or

BS signal

### A/D conversion:

14 bits

### Sensitivity:

F11 at 2000 lx (3200 K, 89.9% reflectance)  
(typical)

### Minimum illumination:

0.5 lx with F1.4, Hyper gain (36 dB)/

0.8 lx with F1.8, Hyper gain (36 dB)

### Smear level:

-145 dB (typical)

### Video S/N ratio (typical):

63 dB

### Horizontal resolution:

920 TV lines

### Vertical resolution:

480 TV lines (without EVS),

530 TV lines (with EVS)

### Shutter speed:

OFF, 1/60, 1/250, 1/500, 1/1000, 1/2000 s

### Clear scan:

50.2 to 6000 Hz

### Gain selection:

-3, 0, 3, 6, 9, 12, 18, 24, 30, 36 dB

### Registration:

0.05% (all zones, without lens)

### Geometric distortion:

Below measurable level

## DXC-D55PL 3-chip CCD Portable Colour Camera

### Features

- Three 2/3-inch type Power HAD EX CCDs
- Excellent picture quality: horizontal resolution of 920 TV lines, sensitivity of F11, signal-to-noise ratio of 63 dB, and smear level of -145 dB
- 14-bit A/D converter and ADSP (Advanced Digital Signal Processing) for faithful contrast reproduction and highly sophisticated image controls
- Knee Saturation control for natural color reproduction even in highlight area
- Adaptive Highlight Control realizes optimum contrast balance
- Skin-Tone Detail function with auto detection of active area
- Low Key Saturation function
- Built-in optical ND filter and electronic CC function
- Backlit switch panel
- Memory Stick storage of camera setup parameters
- Adjustable shoulder pad
- EZ Mode and EZ Focus for quick camera setup
- Auto Tracing White Balance (ATW)
- Factory-preset matrix
- Programmable gain: -3/0/3/6/9/12/18/24/30/36 dB
- Variable-speed electronic shutter
- Clear Scan (CLS) function -- 50.2 to 6000 Hz
- Monitor output
- Built-in 1 kHz audio reference
- Date-and-time superimposition on the video signal and viewfinder
- Enhanced Vertical-Definition System (EVS)
- Auto iris mode (spot, backlight)
- Mic low cut
- Dual zebra
- Multi-core CCU operation with the CA-D50 and CCU-D50P
- Triax CCU operation with the CA-TX50P and CCU-TX50P



### Supplied Accessories

- DXF-801 (1)
- VCT-U14 (1)
- Microphone (1)
- Flange focal length adjustment test chart (1)
- Lens mount cap (1)
- Operating instructions (1)

### Optional Accessories

- AC-DN10 AC Adaptor/Charger
- CAC-12 Camera Microphone Holder
- CA-D50 Camera Adaptor
- CA-TX50P Camera Adaptor
- CCU-D50P Camera Control Unit
- CCU-TX50P Camera Control Unit
- RCP-D50 Remote Control Panel (Joystick Type)
- RCP-D51 Remote Control Panel (Dial Control Type)
- DXF-20W 2.0-inch Monochrome Viewfinder
- DXF-51 5-inch Monochrome Viewfinder
- ECM-673 Electret Condenser Microphone
- ECM-674 Electret Condenser Microphone
- LCR-1 Camera Rain Cover
- MSH 'Memory Stick' IC Memory Media



## Specifications

### General

Power requirements:  
DC 12 V (10.5 to 17 V)  
Power consumption:  
14 W  
Operating temperature:  
-10 °C to +45 °C (+14 °F to +113 °F)  
Storage temperature:  
-20 °C to +60 °C (-4 °F to +140 °F)  
Operating humidity:  
Less than 85%  
Mass (camera head only):  
2.2 kg (4 lb 13 oz)

### Signal inputs/outputs

Video output:  
Analog composite, BNC, 1.0 Vp-p,  
sync negative  
Monitor output:  
Analog composite, BNC, 1.0 Vp-p,  
sync negative  
Microphone input:  
XLR-3-pin

### Other inputs/outputs

Camera/VTR interface:  
Pro 76-pin Digital, Pro 50-pin  
Lens:  
12-pin  
VF:  
20-pin  
Remote:  
10-pin

### Camera performance

Pickup device:  
3-chip 2/3-inch type Power HAD EX CCD  
Aspect ratio:  
4:03  
Total picture elements (H x V):  
1038 x 1188  
Effective picture elements (H x V):  
980 x 582  
Optical system:  
F1.4 prism system  
Built-in filters:  
1: Clear, 2: 1/4ND, 3: 1/16ND, 4: 1/64ND  
Lens mount:  
Sony 2/3-inch bayonet mount  
Signal system:  
PAL color system  
Scan format:  
2:1 interlaced, 625 lines, 50 fields/s  
Horizontal scan frequency:  
15.625 Hz  
Vertical scan frequency:  
50 Hz  
Sync system:  
Internal and External with the VBS or  
BS signal  
A/D conversion:  
14 bits  
Sensitivity:  
F11 at 2000 lx (3200 K, 89.9% reflectance)  
(typical)  
Minimum illumination:  
0.5 lx with F1.4, Hyper gain (36 dB)/  
0.8 lx with F1.8, Hyper gain (36 dB)  
Smear level:  
-145 dB (typical)  
Video S/N ratio (typical):  
63 dB

Horizontal resolution:  
920 TV lines  
Vertical resolution:  
480 TV lines (without EVS),  
530 TV lines (with EVS)  
Shutter speed:  
OFF, 1/60, 1/250, 1/500, 1/1000, 1/2000 s  
Clear scan:  
50.2 to 6000 Hz  
Gain selection:  
-3, 0, 3, 6, 9, 12, 18, 24, 30, 36 dB  
Registration:  
0.05% (all zones, without lens)  
Geometric distortion:  
Below measurable level  
**DXF-801 Viewfinder**  
CRT  
1.5-inch monochrome, 4:3/16:9 switchable  
Indicators  
REC TALLY (2), TAKE TALLY, BATT,  
SHUTTER, GAIN UP  
Horizontal resolution  
600 TV lines  
Power requirements  
DC 12 V  
Power consumption  
2.4 W  
Mass  
620 g (1 lb 9 oz)  
Dimensions (W x H x D)  
241 x 91 x 203 mm  
(9 1/2 x 3 5/8 x 8 inches)

## DXC-D55PK 3-chip CCD Portable Colour Camera

### Features

- Three 2/3-inch type Power HAD EX CCDs
- Excellent picture quality: horizontal resolution of 920 TV lines, sensitivity of F11, signal-to-noise ratio of 63 dB, and smear level of -145 dB
- 14-bit A/D converter and ADSP (Advanced Digital Signal Processing) for faithful contrast reproduction and highly sophisticated image controls
- Knee Saturation control for natural color reproduction even in highlight area
- Adaptive Highlight Control realizes optimum contrast balance
- Skin-Tone Detail function with auto detection of active area
- Low Key Saturation function
- Built-in optical ND filter and electronic CC function
- Backlit switch panel
- Memory Stick storage of camera setup parameters
- Adjustable shoulder pad
- EZ Mode and EZ Focus for quick camera setup
- Auto Tracing White Balance (ATW)
- Factory-preset matrix
- Programmable gain: -3/0/3/6/9/12/18/24/30/36 dB
- Variable-speed electronic shutter
- Clear Scan (CLS) function -- 50.2 to 6000 Hz
- Monitor output
- Built-in 1 kHz audio reference
- Date-and-time superimposition on the video signal and viewfinder
- Enhanced Vertical-Definition System (EVS)
- Auto iris mode (spot, backlight)
- Mic low cut
- Dual zebra
- Multi-core CCU operation with the CA-D50 and CCU-D50P
- Triax CCU operation with the CA-TX50P and CCU-TX50P



### Supplied Accessories

- VCL-920BY (1)
- DXF-801 (1)
- VCT-U14 (1)
- Microphone (1)
- Flange focal length adjustment test chart (1)
- Lens mount cap (1)
- Operating instructions (1)

### Optional Accessories

- AC-DN10 AC Adaptor/Charger
- CAC-12 Camera Microphone Holder
- CA-D50 Camera Adaptor
- CA-TX50P Camera Adaptor
- CCU-D50P Camera Control Unit
- CCU-TX50P Camera Control Unit
- RCP-D50 Remote Control Panel (Joystick Type)
- RCP-D51 Remote Control Panel (Dial Control Type)
- DXF-20W 2.0-inch Monochrome Viewfinder
- DXF-51 5-inch Monochrome Viewfinder
- ECM-673 Electret Condenser Microphone
- ECM-674 Electret Condenser Microphone
- LCR-1 Camera Rain Cover
- MSH "Memory Stick" IC Memory Media

## Specifications

### General

Power requirements:  
DC 12 V (10.5 to 17 V)  
Power consumption:  
14 W  
Operating temperature:  
-10 °C to +45 °C (+14 °F to +113 °F)  
Storage temperature:  
-20 °C to +60 °C (-4 °F to +140 °F)  
Operating humidity:  
Less than 85%  
Mass (camera head only):  
2.2 kg (4 lb 13 oz)

### Signal inputs/outputs

Video output:  
Analog composite, BNC, 1.0 Vp-p,  
sync negative

Monitor output:  
Analog composite, BNC, 1.0 Vp-p,  
sync negative

Microphone input:  
XLR-3-pin

### Other inputs/outputs

Camera/VTR interface:  
Pro 76-pin Digital, Pro 50-pin

Lens:  
12-pin

VF:  
20-pin

Remote:  
10-pin

### Camera performance

Pickup device:  
3-chip 2/3-inch type Power HAD EX CCD

Aspect ratio:  
4:03

Total picture elements (H x V):  
1038 x 1188

Effective picture elements (H x V):  
980 x 582

Optical system:  
F1.4 prism system

Built-in filters:  
1: Clear, 2: 1/4ND, 3: 1/16ND, 4: 1/64ND

Lens mount:  
Sony 2/3-inch bayonet mount

Signal system:  
PAL color system

Scan format:  
2:1 interlaced, 625 lines, 50 fields/s

Horizontal scan frequency:  
15.625 Hz

Vertical scan frequency:  
50 Hz

Sync system:  
Internal and External with the VBS or  
BS signal

A/D conversion:  
14 bits

Sensitivity:  
F11 at 2000 lx (3200 K, 89.9% reflectance)  
(typical)

Minimum illumination:  
0.5 lx with F1.4, Hyper gain (36 dB)/  
0.8 lx with F1.8, Hyper gain (36 dB)

Smear level:  
-145 dB (typical)

Video S/N ratio (typical):  
63 dB

Horizontal resolution:  
920 TV lines

Vertical resolution:  
480 TV lines (without EVS),  
530 TV lines (with EVS)

Shutter speed:  
OFF, 1/60, 1/250, 1/500, 1/1000, 1/2000 s

Clear scan:  
50.2 to 6000 Hz

Gain selection:  
-3, 0, 3, 6, 9, 12, 18, 24, 30, 36 dB

Registration:  
0.05% (all zones, without lens)

Geometric distortion:  
Below measurable level

### DXF-801 Viewfinder

CRT  
1.5-inch monochrome, 4:3/16:9 switchable

Indicators  
REC TALLY (2), TAKE TALLY, BATT,  
SHUTTER, GAIN UP

Horizontal resolution:  
600 TV lines

Power requirements:  
DC 12 V

Power consumption:  
2.4 W

Mass:  
620 g (1 lb 9 oz)

Dimensions (W x H x D)  
241 x 91 x 203 mm  
(9 1/2 x 3 5/8 x 8 inches)

### VCL-920BY Lens

Focal length:  
8.5 to 170 mm

Zoom:  
Manual or power selectable

Zoom ratio:  
20x

Maximum aperture:  
1:1.8

Aperture:  
Manual or automatic selectable

Focusing range:  
Infinity to 0.9 m

Filter attachment threads:  
82 mm dia. 0.75 mm pitch

Mounting:  
Sony 2/3-inch type bayonet mount

Mass:  
Approx. 1.3 kg (2 lb 14 oz) including  
lens hood

Dimensions (W x H x D)  
122 x 102 x 210 mm  
(4 7/8 x 4 1/8 x 8 3/8 inches)  
including lens hood, excluding lens grip

## DXC-D55WSPH 3-chip CCD Portable Colour Camera

### Features

- Three 2/3-inch type Power HAD EX CCDs
- Excellent picture quality: sensitivity of F11, signal-to-noise ratio of 63 dB, and smear level of -145 dB
- 14-bit AD converter and ADSP (Advanced Digital Signal Processing) for faithful contrast reproduction and highly sophisticated image controls
- Knee Saturation control for natural color reproduction even in highlight area
- Adaptive Highlight Control realizes optimum contrast balance
- Skin-Tone Detail function with auto detection of active area
- Low Key Saturation function
- Built-in optical ND filter and electronic CC function
- Backlit switch panel
- Memory Stick storage of camera setup parameters
- Adjustable shoulder pad
- EZ Mode and EZ Focus for quick camera setup
- Auto Tracing White Balance (ATW)
- Factory-preset matrix
- Programmable gain: -3/0/3/6/9/12/18/24/30/36 dB
- Variable-speed electronic shutter
- Clear Scan (CLS) function -- 50.2 to 6000 Hz
- Monitor output
- Built-in 1 kHz audio reference
- Date-and-time superimposition on the video signal and viewfinder
- Enhanced Vertical-Definition System (EVS)
- Auto iris mode (spot, backlight)
- Mic low cut
- Dual zebra
- Multi-core CCU operation with the CA-D50 and CCU-D50P
- Triax CCU operation with the CA-TX50P and CCU-TX50P

### Supplied Accessories

Flange focal length adjustment test chart (1)  
Lens mount cap (1)  
Operating instructions (1)

### Optional Accessories

CAC-12 Camera Microphone Holder  
CA-D50 Camera Adaptor  
CA-TX50P Camera Adaptor  
CCU-D50P Camera Control Unit  
CCU-TX50P Camera Control Unit  
RCP-D50 Remote Control Panel (Joystick Type)  
RCP-D51 Remote Control Panel (Dial Control Type)  
DXF-801 1.5 inch Monochrome Viewfinder  
DXF-20W 2.0-inch Monochrome Viewfinder  
DXF-51 5-inch Monochrome Viewfinder  
ECM-673 Electret Condenser Microphone  
ECM-674 Electret Condenser Microphone  
LCR-1 Camera Rain Cover  
MSH "Memory Stick" IC Memory Media  
VCT-U14 Tripod Adapter  
Microphone



## Specifications

### General

#### Power requirements:

DC 12 V (10.5 to 17 V)

#### Power consumption:

14 W

#### Operating temperature:

-10 °C to +45 °C (+14 °F to +113 °F)

#### Storage temperature:

-20 °C to +60 °C (-4 °F to +140 °F)

#### Operating humidity:

Less than 85%

#### Mass (camera head only):

2.2 kg (4 lb 13 oz)

### Signal inputs/outputs

#### Video output:

Analog composite, BNC, 1.0 Vp-p,  
sync negative

#### Monitor output:

Analog composite, BNC, 1.0 Vp-p,  
sync negative

#### Microphone input:

XLR-3-pin

### Other inputs/outputs

#### Camera/VTR interface:

Pro 76-pin Digital, Pro 50-pin

#### Lens:

12-pin

#### VF:

20-pin

#### Remote:

10-pin

### Camera performance

#### Pickup device:

3-chip 2/3-inch type Power HAD EX CCD

#### Aspect ratio:

16:9/4:3 switchable

#### Total picture elements (H x V):

1038 x 1188

#### Effective picture elements (H x V):

980 x 582

#### Optical system:

F1.4 prism system

#### Built-in filters:

1: Clear, 2: 1/4ND, 3: 1/16ND, 4: 1/64ND

#### Lens mount:

Sony 2/3-inch bayonet mount

#### Signal system:

PAL color system

#### Scan format:

2:1 interlaced, 625 lines, 50 fields/s

#### Horizontal scan frequency:

15.625 Hz

#### Vertical scan frequency:

50 Hz

#### Sync system:

Internal and External with the VBS or  
BS signal

#### A/D conversion:

14 bits

#### Sensitivity:

F11 at 2000 lx (3200 K, 89.9% reflectance)  
(typical)

#### Minimum illumination:

0.5 lx with F1.4, Hyper gain (36 dB)/  
0.8 lx with F1.8, Hyper gain (36 dB)

#### Smear level:

-145 dB (typical)

#### Video S/N ratio (typical):

63 dB

#### Horizontal resolution:

850 TV lines (4:3 mode)

800 TV lines (16:9 mode)

#### Vertical resolution:

480 TV lines (without EVS),

530 TV lines (with EVS)

#### Shutter speed:

OFF, 1/60, 1/250, 1/500, 1/1000, 1/2000 s

#### Clear scan:

50.2 to 6000 Hz

#### Gain selection:

-3, 0, 3, 6, 9, 12, 18, 24, 30, 36 dB

#### Registration:

0.05% (all zones, without lens)

#### Geometric distortion:

Below measurable level

# DXC-D55WSPL 3-chip CCD Portable Colour Camera

The DXC-D55WSPL is a portable color camera which uses the latest 14-bit A/D conversion circuit as well as the field-proven 2/3-inch type 16:9 Power HAD EX CCDs, delivering excellent sensitivity and signal-to-noise ratio, together with reduced smear level.

### Features

- Three 2/3-inch type Power HAD EX CCDs
- Excellent picture quality: sensitivity of F11, signal-to-noise ratio of 63 dB, and smear level of -145 dB
- 14-bit AD converter and ADSP (Advanced Digital Signal Processing) for faithful contrast reproduction and highly sophisticated image controls
- Knee Saturation control for natural color reproduction even in highlight area
- Adaptive Highlight Control realizes optimum contrast balance
- Skin-Tone Detail function with auto detection of active area
- Low Key Saturation function
- Built-in optical ND filter and electronic CC function
- Backlit switch panel
- Memory Stick storage of camera setup parameters
- Adjustable shoulder pad
- EZ Mode and EZ Focus for quick camera setup
- Auto Tracing White Balance (ATW)
- Factory-preset matrix
- Programmable gain: -3/0/3/6/9/12/18/24/30/36 dB
- Variable-speed electronic shutter
- Clear Scan (CLS) function -- 50.2 to 6000 Hz
- Monitor output
- Built-in 1 kHz audio reference
- Date-and-time superimposition on the video signal and viewfinder
- Enhanced Vertical-Definition System (EVS)
- Auto iris mode (spot, backlight)
- Mic low cut
- Dual zebra
- Multi-core CCU operation with the CA-D50 and CCU-D50P
- Triax CCU operation with the CA-TX50P and CCU-TX50P



### Supplied Accessories

- DXF-801 (1)
- VCT-U14 (1)
- Microphone (1)
- Flange focal length adjustment test chart (1)
- Lens mount cap (1)
- Operating instructions (1)

### Optional Accessories

- AC-DN10 AC Adaptor/Charger
- CAC-12 Camera Microphone Holder
- CA-D50 Camera Adaptor
- CA-TX50P Camera Adaptor
- CCU-D50P Camera Control Unit
- CCU-TX50P Camera Control Unit
- RCP-D50 Remote Control Panel (Joystick Type)
- RCP-D51 Remote Control Panel (Dial Control Type)
- DXF-20W 2.0-inch Monochrome Viewfinder
- DXF-51 5-inch Monochrome Viewfinder
- ECM-673 Electret Condenser Microphone
- ECM-674 Electret Condenser Microphone
- LCR-1 Camera Rain Cover
- MSH "Memory Stick" IC Memory Media

## Specifications

### General

Power requirements:  
DC 12 V (10.5 to 17 V)  
Power consumption:  
14 W  
Operating temperature:  
-10 °C to +45 °C (+14 °F to +113 °F)  
Storage temperature:  
-20 °C to +60 °C (-4 °F to +140 °F)  
Operating humidity:  
Less than 85%

Mass (camera head only):  
2.2 kg (4 lb 13 oz)

### Signal inputs/outputs

Video output:  
Analog composite, BNC, 1.0 Vp-p,  
sync negative

Monitor output:  
Analog composite, BNC, 1.0 Vp-p,  
sync negative

Microphone input:  
XLR-3-pin

### Other inputs/outputs

Camera/VTR interface:  
Pro 76-pin Digital, Pro 50-pin

Lens:  
12-pin

VF:  
20-pin

Remote:  
10-pin

### Camera performance

Pickup device:  
3-chip 2/3-inch type Power HAD EX CCD

Aspect ratio:  
16:9/4:3 switchable

Total picture elements (H x V):  
1038 x 1188

Effective picture elements (H x V):  
980 x 582

Optical system:  
F1.4 prism system

Built-in filters:  
1: Clear, 2: 1/4ND, 3: 1/16ND, 4: 1/64ND

Lens mount:  
Sony 2/3-inch bayonet mount

Signal system:  
PAL color system

Scan format:  
2:1 interlaced, 625 lines, 50 fields/s

Horizontal scan frequency:  
15.625 Hz

Vertical scan frequency:  
50 Hz

Sync system:  
Internal and External with the VBS or  
BS signal

A/D conversion:  
14 bits

Sensitivity:  
F11 at 2000 lx (3200 K, 89.9% reflectance)  
(typical)

Minimum illumination:  
0.5 lx with F1.4, Hyper gain (36 dB)/  
0.8 lx with F1.8, Hyper gain (36 dB)

Smear level:  
-145 dB (typical)

Video S/N ratio (typical):  
63 dB

Horizontal resolution:  
850 TV lines (4:3 mode)  
800 TV lines (16:9 mode)

Vertical resolution:  
480 TV lines (without EVS),  
530 TV lines (with EVS)

Shutter speed:  
OFF, 1/60, 1/250, 1/500, 1/1000, 1/2000 s

Clear scan:  
50.2 to 6000 Hz

Gain selection:  
-3, 0, 3, 6, 9, 12, 18, 24, 30, 36 dB

Registration:  
0.05% (all zones, without lens)

Geometric distortion:  
Below measurable level

### DXF-801 Viewfinder

CRT  
1.5-inch monochrome, 4:3/16:9 switchable

Indicators  
REC TALLY (2), TAKE TALLY, BATT,  
SHUTTER, GAIN UP

Horizontal resolution  
600 TV lines

Power requirements  
DC 12 V

Power consumption  
2.4 W

Mass  
620 g (1 lb 9 oz)

Dimensions (W x H x D)  
241 x 91 x 203 mm  
(9 1/2 x 3 5/8 x 8 inches)

**SONY**



# Sensor Cameras

BRC-300 .....	28
BRC-H700 .....	30
DXC-390P .....	32
DXC-990P .....	34
DXC-C33P .....	36

## BRC-300 3-CCD Colour Video Camera

### Features

- 1/4.7-type IT Mega Pixels 3-CCD with Advanced HAD technology
- Unique-all-in-one design - Combines camera, lens & pan/tilt mount
- 48x zoom capability
- Minimum illumination - 7 lx at F1.6
- Horizontal resolution 600 TV lines
- High performance Pan/Tilt/Zoom mechanism
- 4:3/16:9 aspect selectable (16:9 precision technology)
- Image flip function - Allows for desk top or ceiling mount installation
- Optional interface card slot - RGB, SDI, and Fibre
- Optional easy-to-use and ergonomic designed RemoteControl Unit - Remotely control via RS-232C and RS-422 (VISCA protocol)
- Optional Optical Multiplex Unit - Allows for long-distance operation using fibre cable



### Supplied Accessories

- AC adaptor (1)
- IR remote commander (1)
- Terminal connector (1)
- AC adaptor cable (1)
- Ceiling bracket (2)
- Operating instructions (1)

### Optional Accessories

- BRBK-301 Analogue/RGB Component Card
- BRBK-302 SDI Card
- BRBK-303 Optical Multiplex Card
- RM-BR300 Remote Control Unit
- BRU-300 Optical Multiplex Unit
- CCFC-M100 Optical Fibre Cable
- CCXC-9DBS Cable 9-pin/5BNCs Cable
- VCL-HG0737X Wide Conversion Lens
- CCMC-9DS Cable 9-pin/4BNCs, DIN 4-pin



## Specifications

### Image device:

Three 1/4.7 type IT Advanced HAD CCD (x3),  
1070000pixels (gross)

### CCD effective pixels

#### 4:3 mode:

960 (H) x 720 (V)

#### 16:9 mode:

1,152 (H) x 648 (V)

### Effective pixels

#### NTSC:

768 (H) x 494 (V)

#### PAL:

752 (H) x 582 (V)

### Signal systems:

NTSC/PAL

### Horizontal resolution:

600 TV lines(4:3 mode)

### Sync systems:

Internal/External

### Lens:

12x optical zoom, 48x with digital zoom

### Focal length:

f = 3.6 to 43.2 mm (F1.6 to F2.8)

### Horizontal viewing angle

#### 4:3 mode:

3.3 (Tele end) to 37.8 degrees (Wide end)

#### 16:9 mode:

4.0 (Tele end) to 45.4 degrees (Wide end)

### Minimum object distance:

300 mm (Wide end), 800 mm (Tele end)

### Pan/Tilt angle:

-170 to +170 degrees (Pan), -30 to +90  
degrees (Tilt)

### Pan/Tilt speed:

0.25 to 60 degrees/s (Pan/Tilt)

### Minimum illumination:

7 lx at F1.6

### S/N ratio:

50 dB

### Shutter speed

#### NTSC:

1/10000 to 1/4 s

#### PAL:

1/10000 to 1/3 s

### Gain:

Auto/Manual (-3 to 18 dB, 3 dB steps)  
switchable

### White balance:

Auto, Indoor, Outdoor, One-push WB, Manual

### Preset positioning:

6 positions

### Analogue output:

VBS (BNC), Y/C (4-pin Mini DIN)

### Camera control interface:

RS-232C (VISCA protocol) / RS-422 (VISCA  
protocol)

### Back-light compensation:

On / Off

### Operating temperature:

0 to 40 degrees (32 to 104 °F)

### Storage temperature:

-20 to 60 degrees (-4 to 140 °F)

### Power requirement:

DC 12 V

### Power consumption:

21.6 W (without optional card)

### Dimensions (W x H x D):

180 x 210.1 x 205 mm (7 1/8 x 8 3/8 x 8 1/8 x  
inches) (without projection ports)

### Mass:

2.7 kg (5 lb 15 oz)

## BRC-H700 HD 3CCD Colour Video Camera

### Features

- Superb picture quality with three 1.07 megapixel HD CCDs
- High-performance Pan/Tilt/Zoom mechanism
- RS-232C/RS-422 remote control (VISCA protocol)
- Versatile video outputs
- Flexible installation - ceiling mount or flat surface
- Sixteen presets
- Multi-function IR remote commander unit
- Easy-to-use and ergonomically designed remote control unit (RM-BR300)
- Optical multiplex unit (BRU-H700)

### Supplied Accessories

- IR Remote Commander Unit
- Wire rope
- Mounting screws
- Operating instructions
- AC adaptor
- AC power cable
- Ceiling bracket
- RS-422 terminal block connector

### Optional Accessories

- BRBK-H700 HD Optical Multiplex Card With Audio IN (RCA pin)
- HFBK-HD1 HD SDI Output Board
- HFBK-SD1 SDI Output Board
- HFBK-XG1 XGA Output Board
- RM-BR300 Remote Control Unit
- CCMC-9DS Cable 9-pin/4BNCs, DIN 4-pin
- CCXC-9DBS Cable 9-pin/5BNCs Cable
- HFBK-TS1 iLINK (HDV) Output Board

### Service Parts

- HD Optical Multiplex Unit



## Specifications

### Image device

Three 1/3 type IT CCDs

### Total picture elements

Approx. 1.12 Megapixels

### Effective picture elements

Approx. 1.07 Megapixels

### Signal systems

1080/59.94i, 1080/50i (switchable)

### Lens

12x optical zoom, 48x with digital zoom

Carl Zeiss Vario-Sonnar T\*(R)

### Focal length

f=4.5 to 54.0 mm (F1.6 to F2.8)

### Minimum object distance

800 mm (Tele end)

### Horizontal viewing angle without Image Stabilization

5.5 degrees (Tele) to 60.3 degrees (Wide)

### Vertical viewing angle without Image Stabilization

3.1 degrees (Tele) to 36.2 degrees (Wide)

### Focus system

Auto/Manual

### Pan/Tilt angle

-170 to +170 degrees (Pan),

-30 to +90 degrees (Tilt)

### Pan/Tilt speed

0.25 to 60 degrees/s (Pan/Tilt)

### Minimum illumination

6 lx (50 IRE, F1.6)

### S/N ratio

50 dB

### Shutter speed

1/10,000 to 1/59.94 (1/50) s

### Gain

Auto/Manual (0 to 18 dB and Hyper Gain)

### White balance

Auto, Indoor, Outdoor, One-push WB, Manual

### Optical Image Stabilizer

On/Off

### Image flip

On/Off

### ND filter

Off/ND1/ND2

### Preset positioning

16 positions

### Video output (Built-in)

Analogue RGB, Analogue Y/Pb/Pr

### Video output (With optional card(s))

HFBK-HD1: HD-SDI,

HFBK-SD1: Down converted SD

(RGB, Y/Cb/Cr, Y/C, Composite, SDI x2)

HFBK-XG1: WXGA, XGA, VGA,

HFBK-TS1: HDV

### Camera control interface

RS-232C/RS-422 (VISCA protocol)

### Backlight compensation

On/Off

### Operating temperature

0 to 40 degrees (32° to 104° F)

### Storage temperature

-20 to 60 degrees (-4° to 140° F)

### Power requirements

DC 12 V

### Power consumption

Max. 24 W (without optional card)

### Dimensions (Diameter x H)

207 x 315.8 mm (8 1/8 x 12 1/2 inches)

### Mass

4.5 kg (9 lb 15 oz)

## DXC-390P 3-CCD Colour Video Camera

### Features

- 1/3 type IT 3CCDs •C mount •Exwave HAD technology provides excellent sensitivity and low smear levels
- Superior picture quality: High resolution of 800 TV lines and S/N ratio of 61 dB •High Sensitivity of F8 at 2000 lux
- Scene Files and User Files •Powerful picture contrast controls: DynaLatitude, DCC+ and Black Stretch •Several enhance controls: Detail, Linear Matrix and Partial Enhance
- Wide selection of Automatic Exposure (AE) modes •Hyper Gain •RGB, Y/C and composite video outputs
- Full control of functions from the side panel or the optional RM-C950 Remote Control Unit



### Supplied Accessories

- Lens cap (1)
- Tripod adaptor (1)
- Operation manual (1)
- Panel sheet for RM-C950 (1)

### Optional Accessories

- VCL-616WEA 1/3 Type C-mount Lens
- RM-C950 Remote Control Unit
- CMA-D2CE Camera Adaptor
- CMA-D3CE Camera Adaptor
- CCDC cables 12-pin/4-pin DC Cables
- CCXC-12 cables 12-pin/12-pin Multi Core Cables
- CCMC-9DS Cable 9-pin/4BNCs, DIN 4-pin

# Sensor Cameras

## Specifications

Image device:  
1/3 type IT (Interline Transfer) CCD (x3)

Effective picture elements:  
752 (H) × 582 (V)

Sensing area:  
6.00 (H) × 4.96 (V) mm

Scanning system:  
2:1 interlaced, 625 lines

Horizontal frequency:  
15.625 kHz

Vertical frequency:  
50 Hz

Sync system:  
Internal or External with VBS,  
HD/VD(Automatic Switching)

Phase control:  
H/SC phase control

Horizontal resolution:  
800TV lines

Lens mount:  
C mount

Flange back:  
17.526 mm in air

Sensitivity:  
F8.0 at 2000 lux

Minimum illumination  
4 lux (F2, GAIN:HYPER)

S/N ratio:  
61 dB

Gain  
STEP/AGC/HYPER selectable  
STEP:  
0 to 24 dB by 1 dB step  
AGC:  
0 to 24 dB (Limit value: 6 dB, 12 dB,  
18 dB, 24 dB variable)  
HYPER:  
30 dB

Electronic shutter  
OFF/STEP/VARIABLE/CCD IRIS selectable  
OFF:  
1/50 s  
STEP:  
OFF (PAL:1/50 s), F.L.(PAL:1/120 s),  
1/125, 1/250, 1/500, 1/1000, 1/2000,  
1/4000, 1/10000, 1/20000, 1/40000,  
1/100000, 0.1, 0.2, 0.3, 0.5, 1.0, 1.5,  
2.0, 2.5, 3.0, 3.5, 4.0, 5.0, 6.0, 7.0,  
8.0 s  
VARIABLE:  
in high-speed mode 310/625 to  
1/625H, OFF  
in low-speed mode 255 to 1 frames  
for field mode  
256 to 2 frames for frame mode

CCD IRIS:  
1/60 to 1/100,000 s (Limit value:  
1/500, 1/1000, 1/2000, 1/4000,  
1/10000, 1/20,000, 1/40,000,  
1/100,000 s variable)

Lens:  
Remote (Auto or Manual)/Video selectable

AE area:  
Multi/Large/Medium/Spot/Slit/Manual  
selectable

AE level:  
Variable

AE speed:  
Fast/Mid/Slow selectable

AE detect:  
Average/Peak selectable

Contrast Effect:  
Manual/DynaLatitude/DCC+ selectable

Knee Point:  
High/Normal/Low selectable(Contrast  
Effect: Manual)

Black stretch:  
Variable (Contrast Effect: Manual)

Gamma:  
ON/OFF Variable

Pedestal:  
Master and R/B Manual adjustable

Black balance:  
ABB

White balance:  
AWB/ATW NORMAL/ATW  
WIDE/MANUAL/3200K/5600K selectable  
AWB or ATW R/B Paint, MANUAL R/B Gain

ATW area:  
NORMAL/MANU selectable

ATW speed:  
FAST/NORMAL/SLOW selectable

Detail level:  
ON/OFF (Variable at ON)

Detail Frequency:  
HIGH/MID/LOW selectable

Linear matrix:  
ON/OFF

Linear matrix MODE:  
STANDARD/R Enhance/G Enhance/B  
Enhance/Manual selectable

Partial Enhance:  
ALL/IN/OUT selectable

CCD integration mode:  
FIELD/FRAME selectable

Shading Compensation:  
OFF/ON (Manual control)

Trigger Polarity:  
Positive edge trigger /Negative edge  
trigger selectable

Baud rate:  
19200/9600/4800/2400/1200 selectable

Sync:  
RGB/G/OFF selectable

Strobe:  
ON/OFF

User File:  
A/B switchable (Two pattern memories)

Scene File:  
STANDARD/MICROSCOPE/FULL  
AUTO/STROBE/FILE A or B

Output signal  
VBS:  
1.0 Vp-p, 75 Ω, sync negative  
RGB:  
0.7 Vp-p, 75 Ω, Sync ON/OFF possible

SYNC:  
2 Vp-p, 75 Ω  
Y:  
1.0 Vp-p, 75 Ω  
C:  
0.3 Vp-p, 75 Ω, without sync

Operating temperature:  
-5 to 45°C

Storage temperature:  
-20 to 60°C

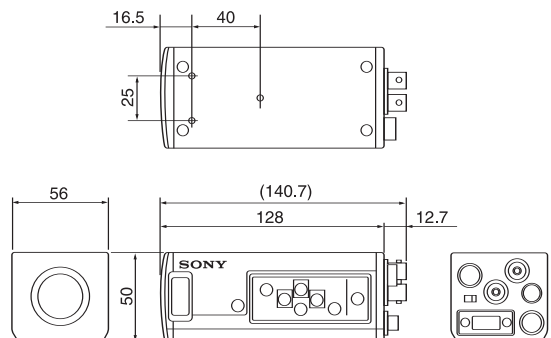
Power requirements:  
DC 10.5 to 15.0 V

Power consumption:  
Approx. 7.6 W

Dimensions:  
56 (W) × 50 (H) × 128 (D) mm  
(Excluding projecting parts)

Weight:  
Approx. 370 g

Connectors:  
Lens (6-pin)  
RGB/SYNC (9-pin D-sub)  
DC IN/VBS (12-pin)  
VIDEO OUT (BNC)  
TRIGGER IN (BNC)  
REMOTE (8-pin mini DIN)



# DXC-990P 3-CCD Colour Video Camera

The DXC-990P is a 1/2 type 3-CCD colour video camera featuring a new DSP technology as well as Exwave HAD technology for excellent sensitivity (F11@2000 lux) and low vertical smear. Using a bayonet mount lens and providing a resolution of 850 TV lines and high S/N ratio (62 dB), the DXC-990P is ideal for applications such as semiconductor inspection, printing inspection and microscopy, where picture accuracy and detail are important. All functions are easily controlled from the camera's rear panel with an optional RM-C950 Remote Control Unit or an external computer via an RS-232C interface. Multiple component, RGB, Y/C and composite video signal outputs allow the DXC-990P to be integrated into virtually any industrial video system. Optional adapters and couplers are available for mounting onto various types of microscopes.

## Features

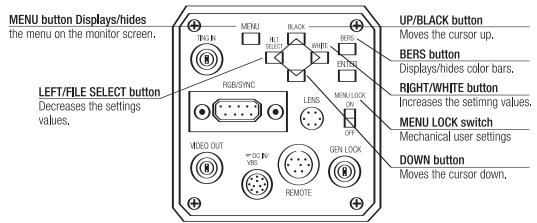
- New Digital Signal Processing (DSP) technology for powerful picture contrast controls
- Partial Enhance
- DynaLatitude
- DCC+
- High Sensitivity (F11@2000 lux)
- Y/C, RGB, Y/R-Y/B-Y, and composite video signal outputs
- Linear matrix, shading compensation, master pedestal and gamma selection
- Flash synchronisation function
- Full colour genlock
- CCD iris and adjustable window
- Auto Exposure
- Fixed, One-push, Manual and Automatic White Balance
- Colour shading matrix and painting connections
- Two set up memories
- Colour bar generator
- Cable extension up to 100 m with CMA-D3 adaptor

## Supplied Accessories

- Lens mount cap (1)
- Stopper mount (1)
- Operation manual (1)
- Panel sheet for RM-950 (1)

## Optional Accessories

- CMA-D2CE Camera Adaptor
- CMA-D2MDCE Camera Adaptor
- CMA-D3CE Camera Adaptor
- CCXC-12 cables 12-pin/12-pin Multi Core Cables
- CCDC cables 12-pin/4-pin DC Cables
- CCMC-9DS Cable 9-pin/4BNCs, DIN 4-pin
- CCMC-3MZ Cable
- RM-C950 Remote Control Unit
- VCL-0716BXA 1/2 Type Bayonet Mount Lens





# Sensor Cameras

## Specifications

Image device:  
1/2 type IT (Interline Transfer) Exwave CCD (x3)

Effective picture elements:  
752 (H) x 582 (V)

Sensing area:  
6.4 x 4.8 mm

Horizontal frequency:  
15.734 kHz

Vertical frequency:  
59.94 Hz

Sync system:  
Internal or external with VBS, HD/VD

Horizontal resolution:  
850 TV lines

Sensitivity:  
F11 (2000 lux)

Minimum illumination:  
1 lux (F1.4, GAIN: HYPER)

S/N ratio:  
62 dB

Gain:  
STEP/AGC (0 to 24 dB)/HYPER

Shutter speed:  
0.5 to 1/100,000 s

Lens mount:  
Bayonet mount

AE area:  
Multi/Large/Medium/Spot/Slit/Manual

AE level:  
Variable

AE speed:  
Fast/Mid/Slow selectable

AE detect:  
Average/Peak selectable

Contrast effect:  
Manual/DynaLatitude/DCC+ selectable

Knee point:  
High/Normal/Low selectable

Black stretch:  
Variable

Gamma:  
On/Off

Pedestal:  
Master, R/B manual adjustable

Black balance:  
ABB

White balance:  
AWB/ATW normal/ATW wide/Manual/3200 K/5600 K selectable  
AWB or ATW R/B paint, manual R/G gain

ATW area:  
Normal/Manual

ATW speed:  
Slow/Mid/Fast

Detail level:  
On (Variable)/Off

Detail frequency:  
High/Mid/Low

Linear matrix:  
On/Off

Linear matrix code:  
STANDARD/R Enhance/G Enhance/B Enhance/Manual selectable

Partial enhance:  
All/In/Out

CCD integration mode:  
Field/Frame

Shading compensation:  
On/Off (manual)

Trigger polarity:  
Positive edge trigger/Negative edge trigger selectable

Baud rate:  
19200/9600/4800/2400/1200

Sync:  
RGB/G/OFF

Trigger:  
On/Off

User file:  
A/B

Scene file:  
Standard/Microscope/Full Auto/Strobe/File A or B

Output signals:  
VBS, RGB/SYNC, Y/C, Y/R-Y/B-Y

Serial data:  
RS-232C

Operational temperature:  
-5 to 45°C (23 to 113°F)

Storage temperature:  
-20 to 60°C (-4 to 140°F)

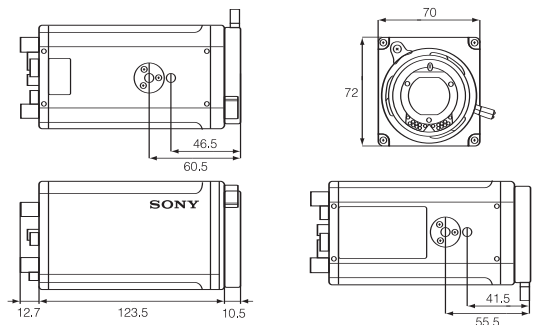
Power requirements:  
DC 10.5 to 15.0 V

Power consumption:  
Approx. 8.0 W

Dimensions:  
70 x 72 x 123.5 mm (2 7/8 x 2 7/8 x 4 7/8 inches)

Mass:  
630 g (1 lb 6 oz)

Connectors:  
RGB/SYNC (9-pin D-sub), DC IN/VBS (12-pin), VIDEO OUT (BNC), TRIGGER IN (BNC), REMOTE (8-pin mini DIN), GEN LOCK IN (BNC), LENS (6-pin)



## DXC-C33P 3-CCD Colour Video Camera

Ideal for use in space-limited locations, the DXC-C33P incorporates one of the smallest/lightest camera head unit featuring three 1/3 type CCDs. In spite of its compact (32 (W) x 38 (H) x 40 (D) mm, 1 5 /16 x 1 1 /2 x 1 5 /8 inches) and lightweight (48 g, 1.7 oz) camera head unit, this model inherits superb picture quality of the DXC Series. Its horizontal resolution is 850 TV lines and the high sensitivity is 2000 lux at F8. Also, various features such as DynaLatitude, Partial Enhance are provided to this model. First for the DXC Series and also first for 3-CDD small head cameras, the DXC-C33P is equipped with a DV output terminal. Thanks to the DV output terminal, video signals can be recorded to i.LINK interface-equipped VTR with no quality deterioration. With the excellent features and medical approval, the DXC-C33P is the right choice for medical fields, and also for demanding applications such as research and industrial fields.



### Features

- Small camera head
- High picture quality
- i.LINK DV out
- 10-bit DSP
- DynaLatitude
- Frame memory
- Partial Enhance
- User-friendly control panel
- Two AE areas preset
- RS-232C interface
- External synchronisation (HD/VD, VBS)

### Supplied Accessories

- Tripod adaptor (1)
- AC power cable (1)
- Lens cap (1)
- Panel sheet for RM-C950 (1)
- Operation manual (1)

### Optional Accessories

- RM-C950 Remote Control Unit
- CCMC-20 cables 20-pin/20-pin Cable
- CCMC-9DS Cable 9-pin/4BNCs, DIN 4-pin

# Sensor Cameras

## Specifications

Image device:  
1/3 type IT (Interline Transfer) CCD (x3)

Effective picture elements:  
752 (H) x 582 (V)

Sensing area:  
4.8 (H) x 3.6 (V) mm

Scanning system:  
2:1 interlaced, 625 lines

Horizontal frequency:  
15.625 kHz

Vertical frequency:  
50 Hz

Sync system:  
Internal or external with VBS or HD/VD

Phase control:  
H/SC phase control

Horizontal resolution:  
850 TV lines

Lens mount:  
C mount

Flange back:  
17.526 mm in air

Sensitivity:  
F8.0 at 2000 lux (3200 K)

Minimum illumination:  
4 lux (F2, GAIN: HYPER)

S/N ratio:  
61 dB (Typical)

Gain  
STEP/AGC/HYPER selectable  
STEP:  
0 to 24 dB by 1 dB step  
AGC:  
0 to 24 dB (Limit value: 6 dB, 12 dB,  
18 dB, 24 dB selectable)  
HYPER:  
30 dB

Electronic shutter:  
8.0 to 1/100,000 s

Lens:  
Manual Iris

AE area:  
Multi/Large/Medium/Spot/Slit/Manual  
selectable

AE level:  
Variable

AE speed:  
Fast/Mid/Slow selectable

AE detect:  
Average/Peak selectable

Contrast effect:  
Manual/DynaLatitude/DCC+ selectable

Knee point:  
High/Normal/Low selectable  
(Contrast Effect: Manual)

Black stretch:  
Variable (Contrast Effect: Manual)

Gamma:  
ON/OFF (Variable at ON)

Pedestal:  
Master and R/B Manual adjustable

Black balance:  
ABB

White balance:  
AWB/ATW NORMAL/ATW  
WIDE/MANUAL/3200 K/5600 K selectable  
AWB or ATW R/B Paint, MANUAL R/B Gain

ATW area:  
NORMAL/MANU selectable

ATW speed:  
FAST/NORMAL/SLOW selectable

Detail level:  
ALL/TARGET/OFF (Variable at ALL or  
TARGET)

Detail frequency:  
HIGH/MID/LOW selectable

Linear matrix:  
ALL/TARGET/OFF

Linear matrix mode:  
STANDARD/R Enhance/G Enhance/B  
Enhance/Manual selectable

Partial enhance:  
ALL/IN/OUT selectable

CCD integration mode:  
FIELD/FRAME selectable

Shading compensation:  
OFF/ON (Manual control)

Trigger polarity:  
Positive edge trigger/Negative edge trigger  
selectable

Baud rate:  
19200/9600/4800/2400/1200 selectable

Sync:  
RGB/G/OFF selectable

Strobe:  
Slave

User file:  
A/B switchable  
(Two pattern memories)

Scene file:  
STANDARD/MICROSCOPE/FULL  
AUTO/STROBE/FILE A or B

Output signal  
i.LINK (DV):  
IEEE1394 Based

VBS:  
1.0 Vp-p, 75 Ω, sync negative

RGB:  
0.7 Vp-p, 75 Ω, sync switchable

SYNC:  
2 Vp-p, 75 Ω

Y:  
1.0 Vp-p, 75 Ω

C:  
PAL 0.3 Vp-p, 75 Ω, without sync

Operating temperature:  
-5 to 45°C (23 to 113°F)

Storage temperature:  
-20 to 60°C (-4 to 140°F)

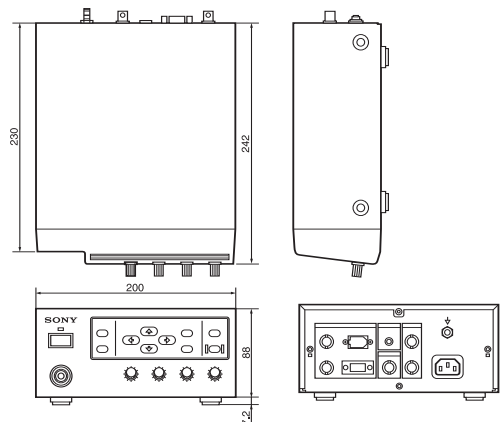
Power supply:  
AC 100 to 240 V, 50/60 Hz

Power consumption:  
Max. 18 W

Dimensions  
CHU: 32 (W) x 38 (H) x 40 (D) mm  
(1 5/16 x 1 1/2 x 1 5/8 inches)  
CCU: 200 (W) x 88 (H) x 242 (D) mm  
(7 7/8 x 3 1/2 x 9 5/8 inches)

Mass  
CHU: 48 g (1.7 oz)  
CCU: 2.5 kg (5 lb 8 oz)

Connectors:  
DV OUT (6-pin jack)  
RGB/SYNC (9-pin D-sub)  
VIDEO OUT (BNC)  
S-VIDEO (4-pin mini DIN)  
FS/TRIG IN (Stereo Mini jack)  
REMOTE (8-pin mini DIN)  
AC Inlet  
Camera (20-pin)



**SONY**

## Camera Accessories & Peripherals

BKP-9057	40	MSU-900	67
BRBK-301	41	MSU-950	68
BRBK-302	41	RCP-700	69
BRBK-303	41	RCP-701	69
BRBK-304	41	RCP-750	70
BRBK-H700	41	RCP-751	70
BRU-300	42	RCP-920	71
BRU-H700	42	RCP-921	71
BVF-20WCE	43	RCP-D50	72
BVF-55CE	43	RCP-D51	72
BVF-77CE	44	RM-BR300	73
CA-590P	45	RM-C950	73
CA-905F	46	RMM-301	73
CA-D50	47	VCL-0716BXA	74
CA-TX50P	48	VCL-616WEA	74
CA-WR855	49	VCS-700	75
CAC-12	50	VCT-U14	76
CAC-4	50	VFH-550	77
CCU-590P	51	VFH-770	77
CCU-790P	52	VFH-990	77
CCU-D50P	53	WLL-CA50	78
CCU-TX50P	54	WLL-CA55	79
CMA-D2	55	WLL-RX55	80
CMA-D2MDCE	55		
CMA-D3CE	56		
CNU-700	57		
DXF-20W	57		
DXF-801	58		
DXF-51	58		
HDVF-C35W	59		
HDVF-700A	60		
HDVF-C730W	61		
HDVF-C950W	62		
HDVF-9900	62		
HFBK-HD1	63		
HFBK-SD1	63		
HFBK-TS1	63		
HFBK-XG1	63		
HKCU-1001	64		
HKCU-1003	64		
HKCU-1005	64		
LC-DS300SFT	65		
LC-H300	65		
LC-HB330	65		
LCR-1	66		
LO-23	66		
LO-26	66		

## BKP-9057 Viewfinder Saddle

### Features

- For mounting 7-inch type viewfinder (BVF-77/77CE), on the CA-905K/905F/905L
- Flexible panning
- Easy handling

\*When the BKP-9057 is used, 'Picture in Picture' function of the seven-inch viewfinder does not work.

### Applicable Models

BVP-E30P 3-chip CCD Portable Colour Camera

BVP-E30WSP 3-chip CCD Portable Colour Camera

### Supplied Accessories

Installation manual (1)

MS-59/60 board (1)

VF connector cable (1)

Harness (1)

Mounting screws (1)

### Specifications

#### Dimensions:

368 (W) x 373 (H) x 534 (D) mm  
(14 1/2 x 14 3/4 x 21 1/8 inches)  
(with CA-905, without viewfinder)

#### Mass:

2.3 kg (5 lb 1 oz)

#### Connectors:

Viewfinder 20-pin (to camera)

Viewfinder 25-pin (to VF)

#### Panning degree:

BVP-E30P/WSP:

$\pm 30^\circ$

(After the BKP-9057 is moved 20 mm backward and 20 mm upward, it will become  $\pm 90^\circ$ )



## BRBK-301 Analogue/RGB Component Card

Allows an analogue/RGB component output for the BRC-300/BRU-300

Applicable Models  
BRC-300 3-CCD Colour Video Camera  
BRU-300 Optical Multiplex Unit



## BRBK-302 SDI Card

Allows a SDI output for the BRC-300/BRU-300

Applicable Models  
BRC-300 3-CCD Colour Video Camera  
BRU-300 Optical Multiplex Unit



## BRBK-303 Optical Multiplex Card

Allows video output, external synch, and control for the BRC-300

Applicable Models  
BRC-300 3-CCD Colour Video Camera



## BRBK-304 DV Card

Allows a DV output for the BRC-300/BRU-300

Applicable Models  
BRC-300 3-CCD Colour Video Camera



## BRBK-H700 HD Optical Multiplex Card

HD Optical Multiplex Card for use with BRC-H700 HD 3CCD Colour Video Camera

Applicable Models  
BRC-H700 HD 3CCD Colour Video Camera



## BRU-300 Optical Multiplex Unit

### Features

- The BRU-300 converts uncompressed digital data from the BRC-300 3CCD Colour Video Camera (with the optional BRBK-303 Optical Multiplex Card) into various video outputs.

### Applicable Models

BRC-300 3-CCD Colour Video Camera

### Supplied Accessories

AC power cable (1)  
Terminal connector (1)  
RS-232C cable (1)  
Operating instructions (1)

### Optional Accessories

RM-BR300 Remote Control Unit  
BRBK-301 Analogue/RGB Component Card  
BRBK-302 SDI Card  
CCFC-M100 Optical Fibre Cable



## BRU-H700 HD Optical Multiplex Unit

### Features

The BRU-H700 is an HD optical multiplex unit for use with the BRC-H700 HD 3CCD colour video camera. Uncompressed digital data including external sync, camera control and audio signals can be transmitted via the BRU-H700 when used with the BRBK-H700 HD optical multiplex card installed in the BRC-H700.

### Applicable Models

BRC-H700 HD 3CCD Colour Video Camera

### Supplied Accessories

AC power cable (1)  
Operating instructions (1)  
RS-232C cable (1)  
RS-422 terminal block connector (1)

### Specifications

Optical fibre connector  
Multi mode, LC-type Fibre Connector  
Video output (Built-in)  
Analogue RGB, Analogue Y/Pb/Pr  
HFBK-HD1 : HD-SDI,  
HFBK-SD1 : Down converted SD  
(RGB, Y/Cb/Cr, Y/C, Composite, SDI x2)  
Video output (With optional card : slot x2)  
HFBK-XG1 : WXGA, XGA, VGA,  
HFBK-TS1 : HDV

### Camera control interface

RS-232C/RS-422 (VISCA protocol)

### Sync systems

Internal/External

### Multiple connection

Up to 7 Units

### Operating temperature

0 to 40 degrees (32 to 104 °F)

### Storage temperature

-20 to 60 degrees (-4 to 140 °F)

### Power requirements

59.94 i : AC 100 to 120 V (50/60 Hz)

50 i : AC 220 to 240 V (50/60 Hz)

### Power consumption

Max. 10 W (without optional cards)

### Dimensions (WxHxD)

210 (W) x 240 (D) x 86 (H) mm

(8 3/8 x 9 1/2 x 3 1/2 inches)

### Mass

2.7 kg (5 lb 15 oz)





## BVF-20WCE 2-inch Type 16:9 B/W Viewfinder

### Features

- 2-inch type 16:9 widescreen B/W CRT viewfinder for the portable camera
- High resolution-600 TV lines at centre in both 16:9 and 4:3 modes
- Diagonal size is 1.5-inch in 4:3 mode and 2.0-inch in 16:9 mode to ensure easy focusing even in 16:9 mode
- The eye-piece is removable from the viewfinder to allow direct view of the CRT
- Tally indicators on both front and rear of the viewfinder as well as on the screen of the viewfinder
- Supplied with a new external microphone



### Applicable Models

BVP-E30P 3-chip CCD Portable Colour Camera  
 BVP-E30WSP 3-chip CCD Portable Colour Camera  
 DWW-970P Digital Betacam Camcorder  
 MSW-970P MPEG IMX Camcorder

### Supplied Accessories

Operation manual (1)

### Optional Accessories

BKW-401 Viewfinder Rotation Bracket

### Specifications

#### General

Power requirements:  
9.3 V DC  
 Power consumption:  
2.3 W  
 Operating temperature:  
-20°C to +45°C (-4°F to +113°F)  
 Storage temperature:  
-20°C to +60°C (-4°F to +140°F)  
 External dimensions:  
229(W) x 76(H) x 215(D) mm  
(9 1/2 x 3 x 8 1/4 inches)  
 Mass:  
580 g (1 lb 4 oz)

### Performance

CRT:  
2-inch monochrome  
 Horizontal resolution:  
600 TV lines (at centre)  
 Indicators:  
REC/TALLY, BATT, VTR, SAVE, ! (warning)  
 Compensation for aberrations:  
-3.6D to +0.4D

## BVF-55CE 5-inch Type B/W Viewfinder (CCIR)

### Features

- 650 TV lines of resolution at centre
- High brightness—600NIT
- Adjustable centre position marker with ON/OFF switch
- Panning and tilting facility
- Easy installation and handling



### Applicable Models

BVP-E30P 3-chip CCD Portable Colour Camera  
 BVP-E30WSP 3-chip CCD Portable Colour Camera

### Supplied Accessories

Connecting cables (12-pin - 20-pin) (1)  
 Slide shoe (1)  
 V wedge shoe attachment (1)  
 Screws (1)  
 Monitor hood for studio use (1)

### Specifications

#### General

Operating temperature:  
-10 to +50 °C (+14 to +122 °F)  
 Mass:  
1.9 kg (4 lb 3 oz)

External dimensions:  
191(W) x 188(H) x 291(D)mm  
(7 5/8 x 7 1/2 x 11 1/2 inches)

#### Performance

Screen size:  
73(H) x 97(W)mm underscan  
(2 7/8 x 3 7/8 inches)  
 Power requirements:  
DC 12 V  
 Power consumption:  
10 W  
 Resolution:  
650 TV lines at centre  
550 TV lines at corners  
 Picture distortion:  
Less than 3%



## BVF-77CE 7-inch Type B/W Viewfinder (CCIR)

### Features

For use with BVP-E30 series cameras in conjunction with CA-905F large lens adaptor and BKP-9057 viewfinder saddle • Compact size with reduced height, light weight and low power consumption • Wide range of mechanical positioning and fixed centre of gravity • Extremely high centre resolution of 800 TV lines and wide peaking range contribute to a very crisp image and accurate focusing • Large, very easy to see tally lamps • Underscan display



### Applicable Models

CA-905F plus BKP-9057

### Specifications

#### General

Power requirements:

DC 10.5 to 17.0 V DC 12.0 (typical)

Power consumption:

23 W

Mass:

5.0 kg (11 lb)

External dimensions:

265(W) x 178(H) x 321(D)mm

(10 1/2 x 7 1/8 x 12 3/4 inches)

#### Performance

CRT:

7-inch 90-degree deflection

Screen size:

120(H) x 90(D) mm (normal)

(4 3/4 x 3 5/8 inches)

Tilting angle:

+60°/-40°

Brightness:

More than 500cd/m<sup>2</sup> (146fL)

Resolution:

800 lines (centre)

600 lines (corner)

Geometric distortion:

Within 1.0%

Linearity:

Within 3%

Stability of raster size:

Within 2%

Controls:

Contrast/Brightness/Peaking

Peaking SW/Power

SW Scan Size SW

Aperture correction:

0 to 15 dB



Note: Also available in black (BVF-77CE/B).

# CA-590P Camera Adaptor

The CA-590P is a triax camera adaptor used to connect the BVP-E30P/E30WSP series cameras to the CCU-790P/590P Camera Control Unit.

### Applicable Models

BVP-E30P 3-chip CCD Portable Colour Camera  
BVP-E30WSP 3-chip CCD Portable Colour Camera  
CCU-590P Portable Camera Control Unit  
CCU-790P Camera Control Unit

### Supplied Accessories

Triax cable holder  
Carrying belt  
M3 x 6 screw  
Operation manual

### Optional Accessories

CCA-5 Cables 8-pin/8-pin Remote Control Cable



# CA-905F Large Lens Adaptor (Fischer Type)

## Features

- Adaptor to attach a large lens to portable cameras
- Compact and lightweight
- Easy lens attachment and detachment
- Vertical/horizontal adjustment
- Stabilising mechanism for complete matching with the lens mount and the camera position
- Combined use with 7-inch type viewfinder (with BKP-9057 viewfinder saddle) provides a wide range of applications

\*CA-905 can not be used in the following combination of a viewfinder and a CCU —CA-905+BVF-7700/7700P and CCU-550A/550AP



Lens, camera, camera adaptor, viewfinder, VF saddle, tripod are optional

## Applicable Models

BVP-E30P 3-chip CCD Portable Colour Camera  
 BVP-E30WSP 3-chip CCD Portable Colour Camera

## Supplied Accessories

Number plate (2)  
 Cable clamp (2)  
 Operation manual including BKP-9057 operation (1)  
 Maintenance manual part 1 (1)

## Specifications

### General

Power Consumption:  
 90 W (w/ lens, VF and BKP-9057)  
 Operation temperature:  
 -20 to + 45 °C (-4 to 113°F)  
 Storage temperature:  
 -20 to + 55°C (-4 to 130°F)  
 Mass:  
 12 kg (26 lb 7 oz)  
 Dimensions:  
 368 x 327 x 534 mm  
 (14 1/2 x 12 7/8 x 21 1/8 inches)

## Connectors

CCU:  
 Triax (Fischer type)  
 Lens:  
 12-pin (to camera)  
 Lens:  
 36-pin (to lens)  
 Command:  
 8-pin (to camera)

## CA-D50 Camera Adaptor

### Features

- Camera Adaptor for use with the CCU-D50/D50P Camera Control Unit.
- Dockable to Sony DXC cameras that employ the 76-pin digital connector
- Interfaces with 26-pin equipped Sony portable VTRs
- Interfaces with the BKP-L551 Battery Adaptor with the appropriate service part.(\*)

(\*)Please contact your nearest Sony office.

### Applicable Models

- DXC-D55PH 3-chip CCD Portable Colour Camera
- DXC-D55PK 3-chip CCD Portable Colour Camera
- DXC-D55PL 3-chip CCD Portable Colour Camera
- DXC-D55WSPL 3-chip CCD Portable Colour Camera
- DXC-D55WSPH 3-chip CCD Portable Colour Camera

### Supplied Accessories

- Operation manual (1)

### Optional Accessories

- CCZ-A Cables 26-pin/26-pin Cable

### Specifications

#### General

Power requirements:  
DC 12 V

Power consumption:  
Approx. 3.8 W

Operating temperature:  
-10°C to 45°C (14°F to 113°F)

Storage temperature:  
-20°C to 55°C (-4°F to 131°F)

Dimensions:  
113 (W) × 183 (H) × 168 (D) mm  
(7 1/4 × 4 1/2 × 6 5/8 inches)

Mass:  
1.1 kg (2 lb 7 oz)

#### Input/Output connectors

Camera interface:  
Pro 76-pin DIGITAL (1)

CCU/VTR/CMA:  
Sony Z-type 26-pin (1)

SDI output:  
BNC (1), 270 Mb/s, 0.8 Vp-p, 75 Ω

Genlock/Prompter output:  
BNC (1), 1.0 Vp-p, 75 Ω

Earphone  
Mini jack

Intercom:  
Mini intercom jack

DC input:  
XLR 4-pin (1), 10.5 to 17.0 V



## CA-TX50P Camera Adaptor

The CA-TX50P is a triax camera adaptor for use with the DXC-D55P series portable video cameras for connection with the CCU-TX50P Triax Camera Control Unit.



### Applicable Models

CCU-TX50P Camera Control Unit  
DXC-D55PH 3-chip CCD Portable Colour Camera  
DXC-D55PK 3-chip CCD Portable Colour Camera  
DXC-D55PL 3-chip CCD Portable Colour Camera  
DXC-D55WSPH 3-chip CCD Portable Colour Camera  
DXC-D55WSPH 3-chip CCD Portable Colour Camera

### Supplied Accessories

Operation manual (1)

### Optional Accessories

AC-DN10 AC Adaptor/Charger  
WRR-862B UHF Synthesised Dual Diversity Tuner (AU)  
DXF-51 5-inch Monochrome Viewfinder

### Specifications

#### Power requirements:

DC 12 V (DC 180 V when supplied via the CCU connector)

#### Power consumption:

CA (Internal): 7.3 W  
Max. 58 W (DC 12 V input)  
Max. 67 W (DC 180 V input)

#### Operating temperature:

-10 °C to 45 °C (14 °F to 113 °F)

#### Storage temperature:

-20 °C to 60 °C (-4 °F to 140 °F)

#### Mass:

Approx. 2.5 kg (5 lb 5 oz)

#### Dimensions (W x H x D):

206 x 212 x 131 mm  
(8 1/8 x 8 3/8 x 5 1/4 inches)

### Signal inputs/outputs

#### CCU:

Triax (Fischer type)

#### CAMERA:

Pro 76-pin Digital

#### PROMPTER:

BNC type, 1.0 V<sub>p-p</sub>, 75 Ω

#### RETURN:

BNC type, 1.0 V<sub>p-p</sub>, 75 Ω

#### INTERCOM/PROGRAM:

#### XLR 5-pin (for Headset)

Input level: -60 dBs (dynamic)  
Output level: -∞ to +12 dBs

#### AUDIO IN (CH-1/2):

XLR 3-pin (2), 600 Ω, balanced  
Input level:  
Mic in: -60 dB  
Line in: -20 dB

#### DC IN:

XLR 4-pin, 10.5 V to 17 V

#### DC OUT:

4-pin, 10.5 V to 17 V, Max 1.5 A

#### EARPHONE

Mini jack

## CA-WR855 Camera Adaptor

### Features

- Allows a WRR-855B to be mounted on Sony DSR-450WSP/400P DVCAM camcorders
- Direct audio/power connection interfaces

### Applicable Models

WRR-855B UHF Synthesised Diversity Tuner (6668U)



## CAC-12 Camera Microphone Holder

### Features

- Allows microphone direction to be adjusted
- For attaching the ECM-647/678 or the C-74 condenser microphone to cameras and camcorders



### Applicable Models

- DSR-250P/1 DVCAM Camcorder
- DSR-400PK DVCAM Camcorder
- DSR-400PL DVCAM Camcorder
- DSR-450WSPL DVCAM Camcorder
- DXC-D55PH 3-chip CCD Portable Colour Camera
- DXC-D55PK 3-chip CCD Portable Colour Camera
- DXC-D55PL 3-chip CCD Portable Colour Camera
- DXC-D55WSPL 3-chip CCD Portable Colour Camera
- DXC-D55WSPH 3-chip CCD Portable Colour Camera

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## CAC-4 Chest Pad

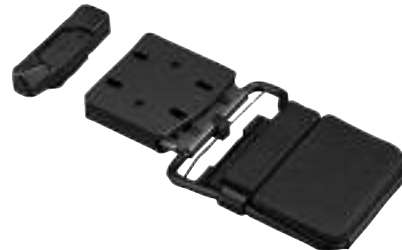
### Features

- Provides more stable camera operation
- Attachable to the VCT-U14/C tripod adaptors directly

### Specifications

Mass:

Approx. 185 g (7 oz)





# CCU-590P Portable Camera Control Unit

## Features

- Wideband transmission (10 MHz for Y and 14.5 MHz for R-Y/B-Y)
- Long-distance transmission - up to 1400 m via a 14.5 mm dia. cable
- Three SDI or analogue composite outputs
- One component output (Y/R-Y/B-Y or G/R/B)
- Four inputs for return video (RET-1/2: analogue composite, RET-3/4: SDI)
- Built-in Ethernet interface (100Base-T) for future use
- RM-B750 Remote Control Unit attachable on the front panel
- Teleprompter support
- Support for two-channel intercom systems (four-wire/RTS/Clearcom)
- Two-channel microphone program (two XLR connectors)



## Applicable Models

- BVP-E30P 3-chip CCD Portable Colour Camera
- BVP-E30WSP 3-chip CCD Portable Colour Camera

## Supplied Accessories

- AC power cord
- AC power plug holder
- 4-pin connector
- Number plate
- Operation manual

## Optional Accessories

- CA-590P Camera Adaptor
- CCA-5 Cables 8-pin/8-pin Remote Control Cable
- RMM-301 Rack Mounting Bracket
- RM-B750 Remote Control Unit

## Specifications

### General

- Power requirements
  - AC 100 to 240 V, 50/60 Hz, maximum 1.8 A
- Operating temperature
  - 10 to +40 °C (+14 to +104 °F)
- Dimensions (W x H x D)
  - 200 x 124 x 365 mm
  - (7 7/8 x 5 x 14 3/8 inches)
- Mass
  - Approx. 5.5 kg (12 lb 2 oz)

### Signal inputs

- Reference
  - BNC (loop-through), VBS/BS, 1.0 Vp-p, 75Ω
- Return (1, 2) <sup>(1)</sup>
  - BNC(loop-through), VBS, 1.0 Vp-p, 75 Ω
- SDI return (3, 4)
  - BNC, SDI/VBS selectable
  - VBS: 1.0 Vp-p, 75 Ω, SDI: SMPTE 259M
- Prompter <sup>(1)</sup>
  - BNC (loop-through), VBS, 1.0 Vp-p, 75 Ω

### Signal outputs

- VBS/SDI
  - BNC (x3), VBS/SDI selectable
  - VBS: 1.0 Vp-p, 75 Ω, SDI: SMPTE 259M
- Analogue component
  - BNC (x3 for 1 set), Y/R-Y/B-Y or G/R/B switchable
  - Y: 1.0 Vp-p, 75 Ω, R-Y/B-Y: 525 m Vp-p, 75 Ω, R/G/B: 700 mVp-p, 75 Ω
- PIX
  - BNC, 1.0 Vp-p, 75 Ω
- WF
  - BNC, 1.0 Vp-p, 75 Ω, 700 mVp-p, 75 Ω
- WF mode
  - 4-pin
- Audio
  - XLR-3-pin (x2), 0 dBu/-20 dBu, balanced
- Sync
  - BNC, 0.3 Vp-p, 75 Ω

### Camera input/output signals

- Camera
  - Triax
  - Coax
    - BNC, 75 Ω
- Remote
  - 8-pin
- Ethernet
  - IEEE 802.3 10BASE-T,
  - IEEE 802.3u 100BASE-TX
- Intercom/tally/program
  - D-sub 25-pin
  - 4W/RTS
  - Tally: DC 24 V, TTL level or contact selectable
- Microphone remote
  - D-sub 15-pin
- Intercom (front)
  - XLR-5-pin

# CCU-790P Portable Camera Control Unit

## Features

- Wideband transmission (10 MHz for Y and 4.5 MHz for R-Y/B-Y)
- Long-distance transmission - up to 2000 m via a 4.5 mm dia. cable
- Three SDI or analogue composite outputs
- Up to three additional SDI outputs
- One component output (Y/R-Y/B-Y or G/R/B)
- Four inputs for return video (RET-1/2: analogue composite, RET-3/4: SDI)
- Built-in Ethernet interface (100Base-T) for future use
- Teleprompter support
- Support for two-channel intercom systems (four-wire/RTS/Clearcom)
- Two-channel program audio
- Two-channel microphone system (two XLR connectors)



## Applicable Models

- BVP-E30P 3-chip CCD Portable Colour Camera
- BVP-E30WSP 3-chip CCD Portable Colour Camera

## Supplied Accessories

- AC power cord
- AC power plug holder
- 4-pin connector
- Number plate
- Operation manual

## Optional Accessories

- CA-590P Camera Adaptor
- CCA-5 Cables 8-pin/8-pin Remote Control Cable

## Specifications

### General

- Power requirements
  - AC 110 to 120 V/220 to 240 V, 50/60 Hz
- Operating temperature
  - 0 to +45 °C (+32 to +113 °F)
- Dimensions (W x H x D)
  - 424 x 133 x 394 mm
  - (16 3/4 x 5 1/4 x 15 5/8 inches)
- Mass
  - Approx. 12 kg (26 lb 7 oz)

### Signal inputs

- Reference
  - BNC (loop-through), VBS/BS, 1.0 Vp-p, 75 Ω
- Return (1, 2) <sup>(\*)</sup>
  - BNC(loop-through), VBS, 1.0 Vp-p, 75 Ω
- SDI return (3, 4)
  - BNC, SDI/VBS selectable
  - VBS: 1.0 Vp-p, 75 Ω SDI: SMPTE 259M
- Prompter (\*1)
  - BNC (loop-through), VBS, 1.0 Vp-p, 75 Ω

### Signal outputs

- VBS/SDI
  - BNC (x3), VBS/SDI selectable
  - VBS: 1.0 Vp-p, 75 Ω SDI: SMPTE 259M
- SDI
  - BNC (x3) <sup>(\*)</sup>
- Analogue component
  - BNC (x3 for 1 set), Y/R-Y/B-Y or G/R/B switchable
  - Y: 1.0 Vp-p, 75 Ω,
  - R-Y/B-Y: 525 mVp-p, 75 Ω,
  - R/G/B: 700 mVp-p, 75 Ω
- PIX
  - BNC, 1.0 Vp-p, 75 Ω
- WF
  - BNC, 1.0 Vp-p, 75 Ω, 700 mVp-p, 75 Ω
- WF mode
  - 4-pin
- Audio
  - XLR-3-pin (x2), 0 dBu/-20 dBu, balanced
- Sync
  - BNC, 0.3 Vp-p, 75 Ω
- Camera input/output signals**
- Camera
  - Triax
- Coax
  - BNC, 75 Ω
- Remote
  - 8-pin
- Ethernet
  - IEEE 802.3 10BASE-T,
  - IEEE 802.3u 100BASE-TX
- Intercome/tally/program
  - D-sub 25-pin
- 4W/RTS
  - Tally: DC 24 V, TTL
  - level or contact selectable
- Microphone remote
  - D-sub 15-pin
- Intercom (front)
  - XLR-5-pin

# CCU-D50P Camera Control Unit

## Features

- Interfaces with Sony DXC-D55P Series digital cameras via its associated CA-D50 Camera Adaptor.
- The output of the CA-D50 Camera Adaptor is transferred to the CCU-D50P Camera Control Unit as a component digital SDI(\*1) signal via a Sony CCZ-A 26-pin cable up to 75 m long.
- The distance between the CA-D50 Camera Adaptor and CCU-D50P Camera Control Unit can be extended to a maximum 200 m by providing a separate low loss coaxial video cable to carry the SDI signal between the two units.
- Outputs analogue composite and one of the following: component digital SDI, analogue component (Y/R-Y/B-Y or RGB), or S-video(\*2).
- Flexible intercom connectivity allows the interfacing of 2-wire or 4-wire systems.
- Green tally indication included for use in mid to large-scale camera operations.
- The RCP-D50 can be connected to the CCU-D50P.

(\*1) Embedded audio is not supported. (\*2) Available output signals depend on the connected camera or camcorder.



## Applicable Models

- DXC-D55PH 3-chip CCD Portable Colour Camera
- DXC-D55PK 3-chip CCD Portable Colour Camera
- DXC-D55PL 3-chip CCD Portable Colour Camera
- DXC-D55WSPL 3-chip CCD Portable Colour Camera
- DXC-D55WSPH 3-chip CCD Portable Colour Camera

## Supplied Accessories

- AC power cord (1)
- Rack mount adaptor (2)
- Rack mount screw (4)
- Tally indication segment (1)
- Operation manual (1)

## Optional Accessories

- RCP-D50 Remote Control Panel
- RCP-D51 Remote Control Panel
- CCZ-A Cables 26-pin/26-pin Cable

## Specifications

### General

- Power requirements: AC 200/240 V, 50/60 Hz
- Power consumption: Approx. 0.8 A
- Operating temperature: 5°C to 40°C (41°F to 104°F)
- Storage temperature: -20°C to 55°C (-4°F to 131°F)
- Dimensions: 424 (W) x 88 (H) x 283 (D) mm (16 3/4 x 3 1/2 x 11 1/4 inches)
- Mass: 6.3 kg (13 lb 14 oz)

## Input/Output connectors

- VBS output: BNC (2) 1.0 Vp-p, 75 Ω
- R/G/B output: BNC (1) 0.7 Vp-p, 75 Ω
- Y/R-Y/B-Y output: BNC (1), Y: 1.0 Vp-p, 75 Ω, R-Y/B-Y: 0.525 Vp-p, 75 Ω
- Y/C output: BNC (1) Y: 1.0 Vp-p, 75 Ω, C: 0.3 Vp-p, 75 Ω
- SYNC output: BNC (1), 0.3 Vp-p, 75 Ω
- SDI output: BNC (2), 270 Mb/s, 0.8 Vp-p, 75 Ω
- S-Video output: DIN 4-pin (1), Y: 1.0 Vp-p, 75 Ω, C: 0.3 Vp-p, 75 Ω
- Monitor output: BNC (1) VBS: 1.0Vp-p, 75 Ω
- Mic output: XLR 3-pin (1), 600 Ω
- Genlock input: BNC (1), loop-through, VBS or BBS, 1.0 Vp-p, 75Ω
- SDI input: BNC (1), 270 Mb/s, 0.8 Vp-p, 75 Ω
- Return Video input: BNC (1), loop-through, 1.0 Vp-p, 75 Ω
- Prompter Video input: BNC (1), loop-through, 1.0 Vp-p, 75 Ω
- Camera: Sony Z-type 26-pin (1)
- Intercom/Tally: D-sub 15-pin, 4W/2W selectable, R/G Tally, contact
- Remote: 10-pin (1)

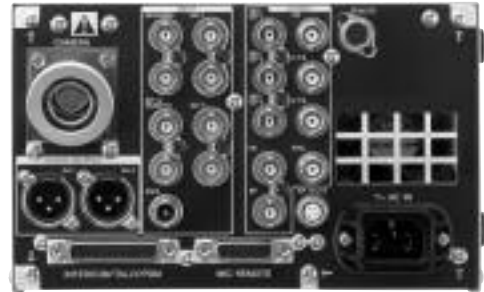
## Control functions

- Iris (auto/manual), White Balance (auto/manual/preset), Black balance (auto/manual/preset), Gain select (low/mid/high), R/B White, R/B Black, Master Black, Sub-carrier Phase, Horizontal Phase, Output Mode (colour bar/camera), Knee Point (auto/manual), Detail Level, Master Gamma, Tally/Intercom, Shutter Speed, Clear scan, ATW

# CCU-TX50P Camera Control Unit

## Features

- Compact design - half rack width and 3U height
- High quality data transmission
- Long distance transmission - up to 1500 metres via  $\varnothing 14.5$  mm cable
- In addition to the component/RGB switchable output, three outputs switchable between composite video and SDI are provided
- Component video output (selectable from Y/R-Y/B-Y and R/G/B)
- Three return video inputs (One input is shared with prompter input)
- Colour teleprompter compatible
- Red/Green tally indication
- Support for major intercom systems (Four-wire/RTS/Clear-com)
- Program audio input
- Two-channel microphone outputs (two XLR connectors)



## Applicable Models

DXC-D55PH 3-chip CCD Portable Colour Camera  
 DXC-D55PK 3-chip CCD Portable Colour Camera  
 DXC-D55PL 3-chip CCD Portable Colour Camera  
 DXC-D55WSP 3-chip CCD Portable Colour Camera  
 DXC-D55WSPH 3-chip CCD Portable Colour Camera  
 CA-TX50P Camera Adaptor

## Supplied Accessories

AC power cord (1)  
 AC power plug holder (1)  
 Plug holder for AC power cord (1)  
 Rack mount adaptor (2)  
 Rack mount screw (4)  
 Number plate (1)  
 Operation manual (1)

## Optional Accessories

CA-TX50P Camera Adaptor  
 RCP-D50 Remote Control Panel (Joystick Type)  
 RCP-D51 Remote Control Panel (Dial Control Type)  
 RMM-301 Rack Mounting Bracket

## Specifications

Power requirements:  
 AC 100 to 240 V, 50/60 Hz  
 Power consumption:  
 130 VA (measured at maximum load at camera side 12 V, 4.8 A, cable length 300 m)  
 Peak inrush current  
 (1) Power ON, current probe method: 50 A (240 V)  
 (2) Hot switching inrush current, measured in accordance with European standard  
 DN55103-1: 10 A (230 W)  
 Cable length:  
 Max. 750 m (8.5 mm dia.)

Operating temperature:  
 5 °C to 40 °C (41 °F to 104 °F)  
 Storage temperature:  
 -20 °C to 55 °C (-4 °F to 131 °F)  
 Mass:  
 Approx. 5.5 kg (12 lb 2 oz)  
 Dimensions (W x H x D):  
 200 x 124 x 365 mm (8 x 5 x 13 7/8 inches)  
 Signal inputs  
 REFERENCE: BNC type, loop-through, VBS/BS, 1.0 Vp-p, 75  $\Omega$   
 RETURN VIDEO 1, 2, 3 (\*1): BNC type, loop-through, 1.0 Vp-p, 75  $\Omega$   
 PROMPTER VIDEO (\*1): BNC type, loop-through, 1.0 Vp-p, 75  $\Omega$   
 Signal outputs  
 VBS 1, 2, 3 (\*2): BNC type, 1.0 Vp-p, 75  $\Omega$   
 SDI 1, 2, 3 (\*2): BNC type, 270 Mb/s, 0.8 Vp-p, 75  $\Omega$   
 Y/R-Y/B-Y (\*3): BNC type, Y: 1.0 Vp-p, 75  $\Omega$ , R-Y/B-Y: 525 mVp-p, 75  $\Omega$   
 R/G/B (\*3): BNC type, 0.7 Vp-p, 75  $\Omega$   
 SYNC: BNC type, 0.3 Vp-p, 75  $\Omega$   
 PIX: BNC type, VBS, 1.0 Vp-p, 75  $\Omega$   
 WF: BNC type, 700 mVp-p, 75  $\Omega$   
 Encoded output: 1.0 Vp-p, 75  $\Omega$   
 WF MODE: 4-pin  
 AUDIO: XLR 3-pin, 0 dBu/-20 dBu, balanced, 2 channels  
 Camera control inputs/outputs  
 CAMERA: Triax (Fischer type)  
 COAX: BNC type, 75  $\Omega$   
 REMOTE: 10-pin, multi connector  
 INTERCOM/TALLY/PGM: D-sub 25-pin, 4W/RTS/Clear-com selectable  
 TALLY: DC 24 V, TTL level or contact selectable  
 MIC REMOTE: D-sub 15-pin  
 INCOM (on the front panel): XLR 5-pin

(\*1) The same connector is shared for return-3 and teleprompter.  
 (\*2) The same connector is shared for composite and SDI.  
 (\*3) The same connector is shared for component and R/G/B.

## CMA-D2 Camera Adaptor

Camera adaptor for DXC-990/390

### Features

- Supplies DC power with a CCDC cable to cameras
- Transmits DC power and video/sync signals between the camera and the adaptor with a CCMC 12-pin cable
- Maximum cable length: 100 m with CCDC-100A cable/ 25 m with CCMC-12P25 cable •19-inch EIA standard rack mountable



### Applicable Models

DXC-390 3-CCD Colour Video Camera  
DXC-990 3-CCD Colour Video Camera

### Supplied Accessories

AC power cord (1)  
Operation manual (1)

### Specifications

#### Connectors:

- CAMERA (12-pin MULTI)
- CAMERA (4-pin DIN)
- VIDEO OUT (BNC)
- S VIDEO OUT (Mini DIN 4-pin)
- GEN-LOCK IN (BNC)

#### DC out:

13 V, 1.3 A

#### Power requirements:

AC 120 V, 50/60 Hz

#### Power consumption:

23 W

#### Dimensions:

210 (W) × 50 (H) × 200 (D) mm  
(8 3/8 × 2 × 7 7/8 inches)

#### Mass:

1.1 kg (2 lb 7 oz)

## CMA-D2MDCE Camera Adaptor

Camera adaptor for DXC-990P/390P

### Features

- Supplies DC power with a CCDC cable to cameras
- Transmits DC power and video/sync signals between the camera and the adaptor with a CCMC 12-pin cable
- Maximum cable length: 100 m with CCDC-100A cable/ 25 m with CCMC-12P25 cable •19-inch EIA standard rack mountable •Complies with medical safety standard



### Applicable Models

DXC-990P 3-CCD Colour Video Camera

### Supplied Accessories

AC power cord (1)  
Operation manual (1)

### Specifications

#### Connectors:

- CAMERA (12-pin MULTI)
- CAMERA (4-pin DIN)
- VIDEO OUT (BNC)
- S VIDEO OUT (Mini DIN 4-pin)
- GEN-LOCK IN (BNC)

#### DC out:

13 V, 1.3 A

#### Power requirements:

AC 100 to 240 V, 50/60 Hz

#### Power consumption:

24.5 W

#### Dimensions:

210 (W) × 50 (H) × 200 (D) mm  
(8 3/8 × 2 × 7 7/8 inches)

#### Mass:

1.1 kg (2 lb 7 oz)

## CMA-D3CE Camera Adaptor

### Features

- Supplies DC power and transmits video/sync signal between the adaptor and the DXC-390P with CCZ-A cable and CCMC-3MZ cable
- Connects with optional RM-C950/8 remote control unit
- AC IN/DC IN



### Applicable Models

- DXC-390P 3-CCD Colour Video Camera
- DXC-990P 3-CCD Colour Video Camera

### Supplied Accessories

- Operation manual (1)
- AC cable (1)

### Specifications

#### Connectors

- CAMERA (26-pin MULTI)
- VIDEO OUT (BNC)
- SYNC IN / OUT (BNC)
- TRIG INPUT (BNC)
- W. E OUTPUT (BNC)
- REMOTE (mini DIN 8 pin)

#### Power requirements:

- AC 100-240 V or
- DC (10.5 to 15.0 V)

#### Dimensions:

- 210 (W) x 44 (H) x 210 (D) mm



## CNU-700 Camera Command Network Unit

### Features

- High-speed data transmission rates — more than 500 kb/s between CNU and MSU/RCP/CCU and 35 kb/s between camera head and CCU
- Expandable system configuration — up to 12 cameras with one CNU-700 and one BKP-7930 installed
- Character display function in monochrome
- Bypass facility to maintain communication between the CCUs and RCPs in the event of a CNU malfunction or power loss

### Applicable Models

BVP-E30P 3-chip CCD Portable Colour Camera  
 BVP-E30WSP 3-chip CCD Portable Colour Camera  
 HDC-1000 Studio Camera  
 HDC-1500 Portable Camera  
 HDC-1550 Multi-format HD Camera  
 HDC-3300 Multi-format HD Camera

### Supplied Accessories

AC power cord (1)  
 Plug holder for the AC power cord (1)  
 Operation manual (1)  
 Maintenance manual (1)

### Optional Boards

BKP-7930 Expansion Board  
 BKP-7933 S-Bus Interface Board

### Specifications

#### General

Power requirements:  
 AC 100 to 120 V, 50/60 Hz (For USA and Canada)  
 AC 220 to 240 V, 50/60 Hz (For other countries)

Power consumption:  
 4.0 VA max.

Operating temperature:  
 0 to +45 °C (+32 to +113 °F)

#### Mass:

9.5 kg (20 lb 15 oz)

#### Dimensions:

424(W) x 132(H) x 400(D) mm  
 (16 3/4 x 5 1/4 x 15 3/4 inches)

#### Input/output connectors

CCU 1 through 6:  
 8-pin multiconnector (1 each)

RCP 1 through 6:  
 8-pin multiconnector (1 each)

MSU:  
 8-pin multiconnector (1)

VCS:  
 8-pin multiconnector (1)

AUX 1 and 2:  
 8-pin multiconnector (1 each)

Character:  
 BNC type (2) video: 0.7 Vp-p, sync: 0.3 Vp-p

Reference:  
 BNC type (2) 0.3 Vp-p with loop-through output

RS-232C:  
 D-sub 9-pin (3)

AC input:  
 3-pin (1)



## DXF-20W 2.0-inch Monochrome Viewfinder

### Applicable Models

- Supplied with the PDW-F350 XDCAM HD camcorder as standard
- Also available as an option for the PDW-F330 XDCAM HD camcorder



## DXF-801 1.5-inch Monochrome Viewfinder

### Features

- 1.5-inch monochrome viewfinder •Supplied with the DXC-D55L/D55PL/D55WSL/D55WSPL portable camera as standard •Also available as an option for the DXC-D55H/D55PH/D55WSH/D55WSPH portable camera



### Applicable Models

- DXC-D55PH 3-chip CCD Portable Color Camera
- DXC-D55H 3-chip CCD Portable Color Camera
- DXC-D55WSH 3-chip CCD Portable Color Camera
- PDW-F350L XDCAM HD Camcorder (without lens)

### Supplied Accessories

- Operating instructions (1)

### Specifications

- CRT
- 1.5-inch monochrome, 4:3/16:9 switchable
- Indicators
- REC TALLY (2), TAKE TALLY, BATT, SHUTTER, GAIN UP
- Horizontal resolution
- 600 TV lines
- Power requirements
- DC 12 V

### Power consumption

- 2.4 W
- Mass
- 620 g (1 lb 9 oz)
- Dimensions (W x H x D)
- 241 x 91 x 203 mm (9 1/2 x 3 5/8 x 8 inches)

## DXF-51 5-inch Monochrome Viewfinder

### Features

- High horizontal resolution of 650 TV lines •Stable video image •Bright and clear colour image •Under Scanning capability •Can operate either on EIA and CCIR signals systems with automatic selection •16:9/4:3 Automatic Aspect Ratio Selection •The viewfinder aspect ratio of the DXF-51 is automatically switched between 16:9 and 4:3
- Two red REC tally lamps •Green Tally Lamp which can be used as a second tally lamp for CCU operations
- 20-pin connector •DIN 8-pin connector •+/- 40 degrees of tilting is possible •+/- 90 degrees of panning is possible
- Rugged and compact body



### Applicable Models

- DSR-400PK DVCAM Camcorder
- DSR-400PL DVCAM Camcorder
- DSR-450WSPL DVCAM Camcorder
- DXC-D55PH 3-chip CCD Portable Colour Camera
- DXC-D55PK 3-chip CCD Portable Colour Camera
- DXC-D55PL 3-chip CCD Portable Colour Camera
- DXC-D55WSPL 3-chip CCD Portable Colour Camera
- DXC-D55WSPH 3-chip CCD Portable Colour Camera
- PDW-F350 XDCAM HD Camcorder
- PDW-F330 XDCAM HD Camcorder

### Supplied Accessories

- Hood (1)
- Operation manual (1)
- 20-pin Cable (1)
- Specifications
- Picture tube:
- 5-inch monochrome, 70° deflection
- Scanning system:
- 2:1 interlace, 625/50 or 525/59.94 switchable
- Horizontal resolution:
- 650 TV lines (centre)
- Camera connector:
- 20-pin or DIN 8-pin connector
- Power requirements:
- DC 12 V +5.0/-1.5 V (supplied from a camera)

### Power consumption:

- 11 W
- Operating temperature:
- 0°C to 40°C (32°F to 104°F)
- Mass:
- 2.4 kg (5 lb 5 oz) with stand and hood
- Dimensions:
- 202 (H) x 199 (W) x 217 (D) mm (8 x 7 7/8 x 8 5/8 inches) including projecting parts and controls
- 202 (H) x 199 (W) x 289 (D) mm (8 x 7 7/8 x 11 1/2 inches) with stand and hood



# HDVF-C35W Multi-format HD Color LCD Viewfinder

## Features

- For use with the HDC1500/1550/F950, F23, and HDW-F900R/790/790P/730S
- 3.5-inch type large LCD screen
- Accommodates multiple frame rates
- A detachable eye-piece design allows the user to directly view the LCD
- High-performance loupe delivers pictures with low distortion
- The 3x magnification function simplifies focus operation, especially when prime lenses are used
- Gray scale signals can be generated, allowing camera operators to easily adjust exposure to the appropriate level
- Color or monochrome display switchable
- Two assignable switches for switching to preset adjustment settings and for assigning frequently used functions



## Applicable Models

- F23 Digital Cinematography Camera
- HDC-3300 HD Super Motion Color Camera
- HDC-1500 Multi-format HD Camera
- HDC-1550 Multi-format HD Camera
- HDW-730S HDCAM Camcorder
- HDW-790P HDCAM Camcorder
- HDW-F900R HDCAM Camcorder
- HDW-790 HDCAM Camcorder

## Supplied Accessories

- Operation manual (1)

## Specifications

### General

- Power supply: 10.5 to 17.0 V DC (supplied by the camera)
- Power consumption: 6.3 W
- Operating temperature: -20 °C to +45 °C (-4 °F to +113 °F)
- Storage temperature: -20 °C to +60 °C (-4 °F to +140 °F)
- Mass: 850 g (1 lb 14 oz)

### LCD

- LCD type: 3.5-inch color TFT screen
- Image display area dimensions: 76.8 x 43.2 mm (3 1/8 x 1 3/4 inches) (H/V, 16:9 aspect ratio)

### Performance

- Brightness: 250 cd/m<sup>2</sup>
- Resolution: 500 or more lines
- Supported formats: 1080i/23.98PsF, 24PsF, 25PsF, 29.97PsF, 30PsF, 1080i/50i, 59.94i, 60i
- Color temperature: 6500K (with viewfinder barrel and eyepiece attached)

### Indicators

- Green tally, TALLY/REC, BATT, I, MAG, spare, SAVE

### Input signals

- Pb, Pr: 0.7 Vp-p, asynchronous, 75 Ω terminated
- Y: 1.0 Vp-p, synchronous, 75 Ω terminated

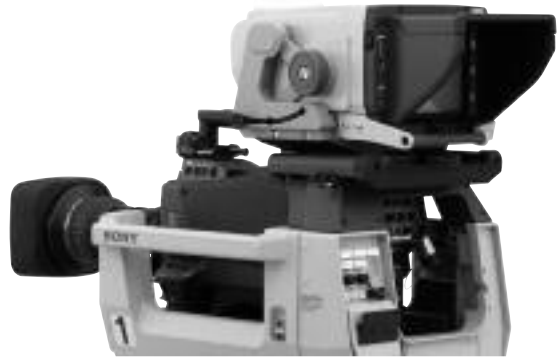
### Connector

- Camera connector: Round type 20-pin

# HDVF-700A 7-inch Type HD B/W CRT Viewfinder

## Features

- High resolution B/W CRT viewfinder specially designed for use with the HDC-1000/900/910 — for direct camera installation
- Compact size with a reduced height, lightweight and energy saving design
- Extremely high center resolution of 1000 TV lines and wide peaking range contribute to a very crisp image and accurate focusing
- Accommodates multiple frame rates
- Large, very easy to see tally lamps
- Underscan display
- 16:9/4:3 switchable
- Picture in picture for return video monitoring and HD Return video signal can be displayed
- Continuously variable peaking circuit provides a sharp image and easy focusing
- Drip-proof design is able to withstand light rain and well suited to outdoor use



## Applicable Models

- HDC-1000 Multi-format HD Camera
- HDC-1550 Multi-format HD Camera
- HDC-3300 HD Super Motion Color Camera
- HDC-1500 Multi-format HD Camera

## Supplied Accessories

- Studio monitor hood (1)
- Fuse (1)
- Operation manual (1)
- Number plate (1)

## Optional Accessories

- VFH-770 7-inch Type Viewfinder Sports Hood

## Specifications

### General

- Power supply: 10.5 to 17.0 V DC (supplied by the camera)
- Power consumption: 33 W
- Operating temperature: 0 °C to 40 °C (32 °F to 104 °F)
- Mass: 5.0 kg (11 lb) not including hood

### CRT

- 7-type monochrome, 90 ° deflection
- Dimensions: 160 x 131mm (6 3/8 x 5 1/4 inches)
- Picture size: 120 x 90 mm (4 3/4 x 3 5/8 inches) (4:3 aspect ratio)

### Deflection and high voltage

- Brightness: 500 cd/m<sup>2</sup>
- Resolution: 800 lines at center, 600 lines at edges
- Geometric distortion: 2.0% or less
- EHT voltage regulation: within ± 2.0%
- EHT voltage: 12.5 kV (standard)

## Input voltages and signal characteristics

### Supported formats:

- Effective scanning lines/Format/Horizontal scanning frequency/Vertical scanning frequency
- 1080/23.98PsF/26.97 kHz/47.95 Hz
- 1080/24PsF/27 kHz/48 Hz
- 1080/25PsF/28.13 kHz/50 Hz
- 1080/29.97PsF/33.72 kHz/59.94 Hz
- 1080/30PsF/33.75 kHz/60 Hz
- 1080/50i/28.13 kHz/50 Hz
- 1080/59.94i/33.72 kHz/59.94 Hz
- 1080/60i/33.75 kHz/60 Hz
- 1035/59.94i/33.72 kHz/59.94 Hz
- 1035/60i/33.75 kHz/60 Hz

### Video input:

- 1.0 Vp-p ± 6dB, 75 Ω terminated

### Video input:

- 1.0 Vp-p ± 6dB (SMPTE 240M), 75 Ω terminated

### DC restoration:

- Back porch type
- Back porch level: within 2% of peak (The fluctuation in black level against 10% to 90% fluctuation in APL)

### Frequency response:

- 0.1 to 23 MHz (±2 dB)
- 23 to 27 MHz (±3 dB)

### Peaking:

- 0 to 18 dB (17 MHz)

### Synchronization:

- Line pull range: Horizontal: ±500 Hz or more, Vertical: -10 Hz or more
- Line hold range: ±500 Hz or more

# HDVF-C730W Multi-format HD Color LCD Viewfinder

## Features

- For use with the HDC1000/HDC1500/HDC1550/HDC3300/HDC-F950
- The high quality 6.3-inch type TFT color LCD panel provides a high resolution of more than 500 TV lines
- Accommodates multiple frame rates
- The extremely compact design allows much greater panning and tilting angles than CRT-base viewfinders
- Very low power consumption



## Applicable Models

HDC-1000 Multi-format HD Camera  
 HDC-1550 Multi-format HD Camera  
 HDC-3300 HD Super Motion Color Camera  
 HDC-1500 Multi-format HD Camera

## Supplied Accessories

Monitor hood (1)  
 Number plate (1)  
 Operation manual (1)  
 V-shaped shoe attachment (1)  
 Hexagonal key (1)  
 Hexagonal socket head screws (4)  
 Connecting cable (1)

## Optional Accessories

VFH-770 7-inch Type Viewfinder Sports Hood

## Specifications

### General

Power supply:  
 DC 10.5 to 17.0 V (supplied by the camera)  
 Power consumption:  
 14 W  
 Operating temperature:  
 0 °C to 45 °C (32 °F to 113 °F)  
 Storage temperature:  
 - 20 °C to 60 °C (- 4 °F to 140 °F)  
 Mass:  
 2.2 kg (4 lb 13 oz) not including hood

### LCD

type:  
 6.3-inch type color TFT  
 Image display area dimensions:  
 129 x 73 mm (5 x 2 7/8 inches)  
 (16:9 aspect ratio)

## Performance

Brightness:  
 230 cd/m<sup>2</sup>  
 Resolution:  
 500 or more lines  
 Supported formats:  
 Effective scanning lines/Format/Horizontal  
 scanning frequency/Vertical scanning frequency  
 1080/23.98PsF/26.97 kHz/47.95 Hz  
 1080/24PsF/27 kHz/48 Hz  
 1080/25PsF/28.13 kHz/50 Hz  
 1080/29.97PsF/33.72 kHz/59.94 Hz  
 1080/30PsF/33.75 kHz/60 Hz  
 1080/50i/28.13 kHz/50 Hz  
 1080/59.94i/33.72 kHz/59.94 Hz  
 1080/60i/33.75 kHz/60 Hz

### Color temperature:

6500 K

### Input signals:

Pb, Pr: 0.7 Vp-p, asynchronous, 75 Ω terminated  
 Y: 1.0 Vp-p, synchronous, 75 Ω terminated

### Connectors

CAMERA connector:  
 Round type 20-pin

# HDVF-C950W Multi-format HD Color LCD Viewfinder

## Features

- For use with the HDC1500 series cameras
- High quality 9-inch type TFT color LCD panel
- Accommodates multiple frame rates
- The 2x magnification function simplifies focus operation, especially when prime lenses are used
- Color or monochrome display switchable



### Applicable Models

- F23 Digital Cinematography Camera
- HDC-1500 Multi-format HD Camera
- HDC-3300 HD Super Motion Color Camera
- HDC-1550 Multi-format HD Camera

### Supplied Accessories

- Number plate (1)
- Operation manual (1)
- V-shaped shoe attachment (1)
- Hexagonal key (1)
- Hexagonal socket head screws (4)
- Connecting cable (1)

### Optional Accessories

- VFH-990 9-inch Type Viewfinder Sports Hood

### Specifications

#### General

- Power supply: DC 10.5 to 17.0 V (supplied by the camera)
- Power consumption: 18 W

#### Operating temperature:

-20 °C to +45 °C (-4 °F to +113 °F)

#### Storage temperature:

-20 °C to +60 °C (-4 °F to +140 °F)

#### Mass:

2.7 kg (5 lb 15 oz) not including hood

#### LCD

##### LCD type

9-inch color TFT screen

##### Image display area dimensions:

197 x 111 mm (7 7/8 x 4 3/8 inches)

(H/V, 16:9 aspect ratio)

##### Indicator section dimensions:

197 x 7 mm (7 7/8 x 9/32 inches)

(H/V, at the lower of the screen)

#### Performance

##### Brightness:

350 cd/m<sup>2</sup>

##### Resolution:

400 or more lines

### Supported formats:

Effective scanning lines/Format/Horizontal scanning frequency/Vertical scanning frequency

1080/23.98PsF/26.97 kHz/47.95 Hz

1080/24PsF/27 kHz/48 Hz

1080/25PsF/28.13 kHz/50 Hz

1080/29.97PsF/33.72 kHz/59.94 Hz

1080/30PsF/33.75 kHz/60 Hz

1080/50i/28.13 kHz/50 Hz

1080/59.94i/33.72 kHz/59.94 Hz

1080/60i/33.75 kHz/60 Hz

#### Colour temperature:

6500 K

#### Input signals:

Pb, Pr: 0.7 Vp-p, asynchronous, 75 Ω terminated

Y: 1.0 Vp-p, synchronous, 75 Ω terminated

#### Connectors

##### CAMERA connector:

Round type 20-pin

# HDVF-9900 9-inch Type HD Color CRT Viewfinder (White)

## Features

- Adopts a 9-inch type HD CRT
- For use with the HDC-1000 Series HD Studio Camera
- Supports 1080/59.94i, 60i, 50i and 24PsF formats



### Applicable Models

- HDC-1000 Multi-format HD Camera
- HDC-3300 HD Super Motion Color Camera
- HDC-1500 Multi-format HD Camera
- HDC-1550 Multi-format HD Camera

### Supplied Accessories

- Studio monitor hood (1)
- Field monitor hood (1)
- Operation manual (1)
- Number plate (1)

### Specifications

#### General

- Power requirement: DC 10.5 to 17.0 V (supplied from the camera)
- Power Consumption: 50 W

#### Operating temperature:

-20 °C to +45 °C (-4 F to +113 °F)

#### Mass:

7.9 kg (17 lb 7 oz) excluding hood

#### Dimensions (W x H x D):

290 x 192 x 435 mm  
(11 1/2 x 7 5/8 x 17 1/4 inches)

### Picture device

#### Type:

9-inch type CRT 0.25 mm

Super Fine Pitch Trinitron

#### Screen diagonal:

155.4 (H) x 87.4 (V) mm (6 1/8 x 3 1/2 inches)

#### Horizontal resolution:

340 TV lines (16:9)

#### Brightness:

250 cd/m<sup>2</sup>

#### Color temperature:

6500 K

#### Indication:

R Tally, G Tally, ! FAN ALARM

#### Deflection and high voltage

##### Geometric distortion:

2.0% or less

##### EHT voltage regulation:

within ±1.0%

##### EHT voltage:

16 kV (standard)

### Input voltages and signal characteristics

#### Supported formats:

1080/50i/28.13 kHz/50 Hz

1080/59.94i/33.72 kHz/59.94 Hz

1080/60i/33.75 kHz/60 Hz

#### Video input:

1.0 Vp-p ±6dB, 75 Ω terminated

#### Video input:

1.0 Vp-p ± 6dB (SMPTE 240M), 75 Ω terminated

#### DC restoration:

Back porch type

Back porch level: within 2% of peak

(The fluctuation in black level against

10% to 90% fluctuation in APL)

#### Frequency response:

0.1 to 25 MHz (±3 dB)

#### Peaking:

0 to 18 dB (15 MHz)

#### Synchronization:

Line pull range: Horizontal: ±500 Hz or more,

Vertical: -10 Hz or more

Line hold range: ±500 Hz or more

Note: Also available in black (HDVF-9900/B).

## HFBK-HD1 HD SDI Output Board

The HFBK-HD1 is an HD SDI Output Board for the HFU-X310 Optical Interface Unit which is used with the HDC-X310/X310K HD multi-purpose camera.

### Applicable Models

HFU-X310	HD Optical Fibre Interface Unit
HDC-X310	HD Multi-purpose Camera
HDC-X310K	HD Multi-purpose Camera
BRC-H700	HD 3CCD Colour Video Camera

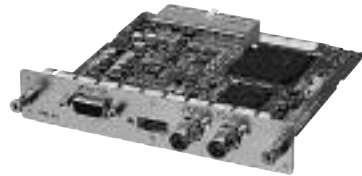


## HFBK-SD1 SDI Output Board

The HFBK-SD1 is an SDI Output Board for the HFU-X310 Optical Interface Unit which is used with the HDC-X310/X310K HD multi-purpose camera.

### Applicable Models

HFU-X310	HD Optical Fibre Interface Unit
HDC-X310	HD Multi-purpose Camera
HDC-X310K	HD Multi-purpose Camera
BRC-H700	HD 3CCD Colour Video Camera



## HFBK-TS1 iLINK (HDV) Output Board

The HFBK-TS1 is an i.LINK (HDV) Output Board for the HFU-X310 Optical Interface Unit which is used with the HDC-X310/X310K HD multi-purpose camera.

### Applicable Models

HFU-X310	HD Optical Fibre Interface Unit
HDC-X310	HD Multi-purpose Camera
HDC-X310K	HD Multi-purpose Camera
BRC-H700	HD 3CCD Colour Video Camera



## HFBK-XG1 XGA Output Board

The HFBK-XG1 is an XGA Output Board for the HFU-X310 Optical Interface Unit which is used with the HDC-X310/X310K HD multi-purpose camera.

### Applicable Models

HFU-X310	HD Optical Fibre Interface Unit
HDC-X310	HD Multi-purpose Camera
BRC-H700	HD 3CCD Colour Video Camera
HDC-X310K	HD Multi-purpose Camera



## HKCU-1001 SD Analogue Interface Unit

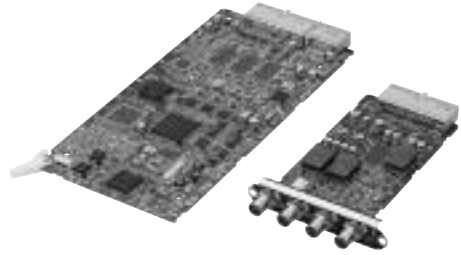
The HKCU-1001 is an interface expansion option board for the HDCU-1000/HDCU-1500. It provides two analogue NTSC or PAL VBS signal outputs, WFM output, and a monitor output.

### Applicable Models

HDCU-1500 Camera Control Unit  
HDCU-1000 Camera Control Unit

### Specifications

VBS output  
BNC type (2)  
Analogue composite monitor output  
BNC type: WF (1), PIX (1)

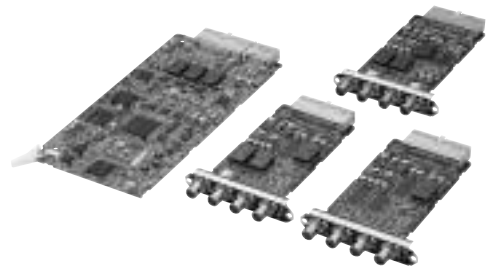


## HKCU-1003 Multi Interface Unit

The HKCU-1003 is an interface expansion option board for the HDCU-1000/HDCU-1500. It consists of three types of interface board and provides: - Frame reference input and output to lock 2-3 pull-down sequence - Two analogue NTSC or PAL VBS signal outputs - Analogue NTSC or PAL VBS and analogue component R/G/B or Y/R-Y/B-Y outputs

### Applicable Models

HDCU-1500 Camera Control Unit  
HDCU-1000 Camera Control Unit

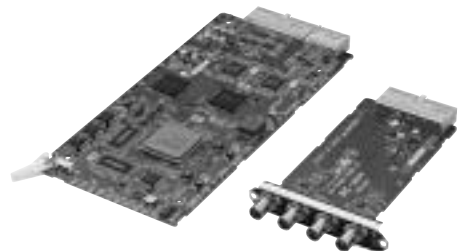


## HKCU-1005 HD/SD Expansion Unit

The HKCU-1005 is an interface expansion option board for the HDCU-1000/HDCU-1500. It provides four HD-SDI or SD-SDI outputs.

### Applicable Models

HDCU-1500 Camera Control Unit  
HDCU-1000 Camera Control Unit



## LC-DS300SFT Soft Carrying Case

### Features

•Direct pack with accessories attached: Battery pack, Microphone, Viewfinder and Zoom lens. •Easy to pack a variety of accessories such as Battery charger and other items.

### Applicable Models

DSR-400PK DVCAM Camcorder  
DSR-400PL DVCAM Camcorder  
DSR-450WSPL DVCAM Camcorder  
PDW-F330 XDCAM HD Camcorder  
PDW-F350 XDCAM HD Camcorder

### Specifications

Mass:

3.5 kg (7 lb 11 oz)

Dimensions (w/h/d):

220 × 300 × 620 mm

(without projection)

(8 3/4 × 11 7/8 × 24 1/2 inches)



## LC-H300 Hard Carrying Case

### Applicable Models

DSR-450WSPL DVCAM Camcorder  
DSR-400PL DVCAM Camcorder  
DSR-400PK DVCAM Camcorder  
PDW-F330 XDCAM HD Camcorder  
PDW-F350 XDCAM HD Camcorder



## LC-HB330 Hard Carrying Case

### Applicable Models

DXC-D55 Series Portable Colour Camera



## LCR-1 Camera Rain Cover

### Features

- Transparent material used to operate camera and VTR switches with the LCR-1/1 on

### Applicable Models

BVP-9500WS Super Motion Video Camera  
BVP-9500WSP Super Motion Video Camera  
DSR-400PK DVCAM Camcorder  
DSR-400PL DVCAM Camcorder  
DSR-450WSPL DVCAM Camcorder  
DXC-D55PH 3-chip CCD Portable Colour Camera  
DXC-D55PK 3-chip CCD Portable Colour Camera  
DXC-D55PL 3-chip CCD Portable Colour Camera  
DXC-D55WSPL 3-chip CCD Portable Colour Camera  
DXC-D55WSPH 3-chip CCD Portable Colour Camera  
PDW-510P XDCAM Camcorder

PDW-530P XDCAM Camcorder  
PDW-F330 XDCAM HD Camcorder  
PDW-F350 XDCAM HD Camcorder

### Specifications

Mass:  
260 g (9 oz)



## LO-23 Flexible Cable Unit

### Features

- Servo zooming and manual focusing for Fujinon Lens, such as VCL-916 BYA and VCL-714BXA

### Specifications

Cable length:  
1 m (3.3 ft)  
Mass:  
1.2 kg (2 lb 10 oz)



## LO-26 Flexible Cable Unit

### Features

- Servo zooming and manual focusing for Canon Lenses, such as VCL-918BY

### Specifications

Cable length:  
1 m (3.3 ft)  
Mass:  
1.1 kg (2 lb 7 oz)





## MSU-900 Master Setup Unit

### Features

- Central control of camera parameters for the entire camera system
- Picture and waveform monitor switching
- Precise picture adjustment
- Built-in 6.5-inch (\*) type LCD display for clear viewing of adjustment parameters during operation
- Memory Stick slot for storing/recalling files
- Built-in Ethernet interface (100Base-T)

### Applicable Models

HDCU-1000 Camera Control Unit  
HDCU-1500 Camera Control Unit  
HDC-1000 Multi-format HD Camera  
HDC-1500 Multi-format HD Camera  
HDC-1550 Multi-format HD Camera  
HDC-3300 Multi-format HD Camera  
DWW-970P Digital Betacam Camcorder  
HDC-X300 HD Multi-purpose Camera  
HDC-X300K HD Multi-purpose Camera  
BVP-E30WSP 3-chip CCD Portable Colour Camera  
BVP-E30P 3-chip CCD Portable Colour Camera  
HDC-X310 HD Multi-purpose Camera  
HDC-X310K HD Multi-purpose Camera

### Optional Accessories

CCA-5 Cables 8-pin/8-pin Remote Control Cable

### Specifications

#### General

Power requirements  
AC 100 to 240 V, 50/60 Hz  
Current consumption  
0.35 A  
Operating temperature  
+5 to +40 °C (+41 to +104 °F)  
Maximum cable length  
200 m (656 feet)  
Mass  
Approx. 4.5 kg (9 lb 14 oz)  
Dimensions (W x H x D)  
482 x 67 x 222 mm (19 x 2 3/4 x 8 3/4 inches)

#### Inputs/outputs

Remote  
CCU/CNU: 8-pin (1)  
AUX: 8-pin (1)  
I/O port  
50-pin (1)  
Ethernet  
6-pin (1)  
AC input  
3-pin (1)



## MSU-950 Master Setup Unit

### Features

- Central control of camera parameters for the entire camera system
- Picture and waveform monitor switching
- Precise picture adjustment
- Built-in 6.5-inch (•) type LCD display for clear viewing of adjustment parameters during operation
- Memory Stick slot for storing/recalling files
- Built-in Ethernet interface (100Base-T)

### Applicable Models

- HDCU-1000 Camera Control Unit
- HDCU-1500 Camera Control Unit
- HDC-1000 Multi-format HD Camera
- HDC-1500 Multi-format HD Camera
- HDC-1550 Multi-format HD Camera
- HDC-3300 Multi-format HD Camera
- DWW-970P Digital Betacam Camcorder
- HDC-X300 HD Multi-purpose Camera
- HDC-X300K HD Multi-purpose Camera
- BVP-E30WSP 3-chip CCD Portable Colour Camera
- BVP-E30P 3-chip CCD Portable Colour Camera
- HDC-X310 HD Multi-purpose Camera
- HDC-X310K HD Multi-purpose Camera

### Optional Accessories

- CCA-5 Cables 8-pin/8-pin Remote Control Cable

### Specifications

#### General

- Power requirements
  - AC 100 to 240 V, 50/60 Hz
- Current consumption
  - 0.35 A
- Operating temperature
  - +5 to +40 °C (+41 to +104 °F)
- Maximum cable length
  - 200 m (656 feet)
- Mass
  - Approx. 3.7 kg (8 lb 2 oz)
- Dimensions (W x H x D)
  - 204 x 354 x 67 mm (8 1/8 x 14 x 2 3/4 inches)

#### Inputs/outputs

- Remote
  - CCU/CNU: 8-pin (1)
  - AUX: 8-pin (1)
- I/O port
  - 50-pin (1)
- Ethernet
  - 6-pin (1)
- AC input
  - 3-pin (1)



## RCP-700 Remote Control Panel (Joystick Type)

### Features

- Controls Painting (black and white), Master Black and Iris Control menus for daily operation
- Basically used as a sub control panel to support MSU-700A/750/A or RCP-740/741/730/731/720/721 in combination with MSU-700A/750/A
- Up to six units of RCP-700/701 can be mounted on a 19-inch rack drawer

### Applicable Models

- BVP-E30P 3-chip CCD Portable Colour Camera
- BVP-E30WSP 3-chip CCD Portable Colour Camera

### Supplied Accessories

- Plug, 6-pin Male (1)

### Specifications

#### Connectors

- Remote: CNU/CCU (8-pin)

#### Preview:

- 6-pin

#### General

##### Mass:

- 1.0 kg (2 lb 3 oz)

##### Dimensions:

- 68(W) x 221(H) x 127(D) mm  
(2 3/4 x 8 3/4 x 5 inches)



## RCP-701 Remote Control Panel (Dial Control Type)

### Features

- Controls Painting (black and white), Master Black and Iris Control menus for daily operation
- Basically used as a sub control panel to support MSU-700A/750 or RCP-740/741/730/731/720/721 in combination with MSU-700A/750
- Up to six units of RCP-700/701 can be mounted on a 19-inch rack drawer

### Applicable Models

- BVP-E30WSP 3-chip CCD Portable Colour Camera
- BVP-E30P 3-chip CCD Portable Colour Camera

### Optional Accessories

- CCA-5 Cables 8-pin/8-pin Remote Control Cable

### Supplied Accessories

- Plug, 6-pin Male

### Specifications

#### Connectors

- Remote: CNU/CCU (8-pin)

#### Preview:

- 6-pin

#### General

##### Mass:

- 0.9 kg (2 lb)

##### Dimensions:

- 68(W) x 221(H) x 83(D) mm  
(2 3/4 x 8 3/4 x 3 3/8 inches)



## RCP-750 Remote Control Panel (Joystick type)

### Features

- Touch Control Colour LCD display for easy access to comprehensive Menu System
- Small size with full paint control
- Memory stick facility for storage of settings
- Parallel control function with MSU-700A/750A

### Applicable Models

BVP-E30P 3-chip CCD Portable Colour Camera  
 BVP-E30WSP 3-chip CCD Portable Colour Camera  
 HDC-1000 Studio Camera  
 HDC-1500 Portable Camera  
 HDC-1550 Multi-format HD Camera  
 HDC-3300 Multi-format HD Camera  
 HDC-X300 Multi-purpose HD Camera  
 HDC-X300K Multi-purpose HD Camera  
 WLL-RX55 Wireless Camera Receiver

### Optional Accessories

CCA-5 Cables 8-pin/8-pin Remote Control Cable

### Specifications

#### General

Power requirements:  
 DC 10.5 to 35 V  
 Power consumption:  
 4 W max.  
 Maximum cable length:  
 200 m (656 feet) with CCU/HDCU connected  
 Operating temperature:  
 5°C to 40 °C (41°F to 104°F)  
 Mass:  
 1.5 kg (3 lb 5 oz)  
 Dimensions:  
 102 mm x 354 mm x 126.5 mm  
 (4 1/8 x 14 x 5 inches)

#### Inputs/Outputs

Remote:  
 CCU/CNU: 8-pin x 1  
 AUX : 8-pin x 1  
 EXT I/O:  
 9-pin x 1



## RCP-751 Remote Control Panel (Dial control type)

### Features

- Touch Control Colour LCD display for easy access to comprehensive Menu System
- Small size with full paint control
- Memory stick facility for storage of settings
- Parallel control function with MSU-700A/750A

### Applicable Models

BVP-E30P 3-chip CCD Portable Colour Camera  
 BVP-E30WSP 3-chip CCD Portable Colour Camera  
 HDC-1000 Studio Camera  
 HDC-1500 Portable Camera  
 HDC-1550 Multi-format HD Camera  
 HDC-3300 Multi-format HD Camera  
 HDC-X300 Multi-purpose HD Camera  
 HDC-X300K Multi-purpose HD Camera  
 WLL-RX55 Wireless Camera Receiver

### Optional Accessories

CCA-5 Cables 8-pin/8-pin Remote Control Cable

### Specifications

#### General

Power requirements:  
 DC 10.5 to 35 V  
 Power consumption:  
 4 W max.  
 Maximum cable length:  
 200 m (656 feet) with CCU/HDCU connected  
 Operating temperature:  
 5°C to 40 °C (41°F to 104°F)  
 Mass:  
 1.3 kg (2 lb 14 oz)  
 Dimensions:  
 102 mm x 354 mm x 86.5 mm  
 (4 1/8 x 14 x 3 1/2 inches)

#### Inputs/Outputs

Remote:  
 CCU/CNU: 8-pin x 1  
 AUX : 8-pin x 1  
 EXT I/O:  
 9-pin x 1



## RCP-920 Remote Control Panel (Joystick type)

### Features

- Optimized control arrangement for basic camera operation
- Auto setup control
- Scene file control
- Slow shutter/ECS/shutter control
- Parallel control function with MSU-900/950 is available
- Ethernet control capability
- Four units fit in 19-inch rack

### Applicable Models

HDCU-1500 Camera Control Unit  
 HDCU-1000 Camera Control Unit  
 HDC-X300 HD Multi-purpose Camera  
 HDC-X310 HD Multi-purpose Camera  
 WLL-RX55 Wireless Camera Receiver  
 HDC-X310K HD Multi-purpose Camera  
 HDC-X300K HD Multi-purpose Camera  
 BVP-E30P 3-chip CCD Portable Color Camera  
 BVP-E30 3-chip CCD Portable Color Camera  
 BVP-E30WS 3-chip CCD Portable Color Camera  
 BVP-E30WSP 3-chip CCD Portable Color Camera  
 HDC1000 Multi-format HD Camera  
 HDC1550 Multi-format HD Camera  
 HDC1500 Multi-format HD Camera

### Supplied Accessories

Operation manual (1)

### Optional Accessories

CCA-5 Cables 8-pin/8-pin Remote Control Cable

### Specifications

#### General

Power consumption: 4 W max.  
 Maximum cable length: 200 m (656 feet) with CCU/HDCU connected  
 Operating temperature: 5°C to 40 °C (41°F to 104°F)  
 Mass: 1.8 kg (3 lb 15 oz)  
 Dimensions: 102 mm x 310 mm x 125 mm (4 1/8 x 12 1/4 x 5 inches)  
**Inputs/outputs**  
 Remote 8-pin RJ-45 connector x1  
 CCU/CNU 8-pin multiconnector, female x1  
 AUX 8-pin multiconnector, female x1  
 EXT I/O 10-pin, male x1



## RCP-921 Remote Control Panel (Dial type)

### Features

- Optimized control arrangement for basic camera operation
- Auto setup control
- Scene file control
- Slow shutter/ECS/shutter control
- Parallel control function with MSU-900/950 is available
- Ethernet control capability
- Four units fit in 19-inch rack

### Applicable Models

HDCU-1000 Camera Control Unit  
 HDCU-1500 Camera Control Unit  
 HDC-X300 HD Multi-purpose Camera  
 HDC-X310K HD Multi-purpose Camera  
 HDC-X310 HD Multi-purpose Camera  
 WLL-RX55 Wireless Camera Receiver  
 HDC-X300K HD Multi-purpose Camera  
 BVP-E30P 3-chip CCD Portable Color Camera  
 BVP-E30WSP 3-chip CCD Portable Color Camera  
 BVP-E30 3-chip CCD Portable Color Camera  
 BVP-E30WS 3-chip CCD Portable Color Camera  
 HDC1000 Multi-format HD Camera  
 HDC1550 Multi-format HD Camera  
 HDC1500 Multi-format HD Camera

### Optional Accessories

CCA-5 Cables 8-pin/8-pin Remote Control Cable

### Supplied Accessories

Operation manual (1)

### Specifications

#### General

Power requirements: DC 10.5 to 30 V  
 Power consumption: 4 W max.  
 Maximum cable length: 200 m (656 feet) with CCU/HDCU connected  
 Operating temperature: 5°C to 40 °C (41°F to 104°F)  
 Mass: 1.8 kg (3 lb 15 oz)  
 Dimensions: 102 mm x 310 mm x 84 mm (4 1/8 x 12 1/4 x 3 3/8 inches)  
**Inputs/outputs**  
 Remote 8-pin RJ-45 connector x1  
 CCU/CNU 8-pin multiconnector, female x1  
 AUX 8-pin multiconnector, female x1  
 EXT I/O 10-pin, male x1



## RCP-D50 Remote Control Panel (Joystick Type)

### Features

- Covers the complete range of camera control functions
- Provides Joystick operation •3.5-inch (\*1) LCD screen with touch panel function
- Allows incoming camera image to be monitored on LCD panel (\*2)
- Memory Stick system — various scene files can be stored on/recalled from the Memory Stick media and loaded to a different RCP-D50/D51 or DXC-D55

(\*1) Viewable area measured diagonally. (\*2) When used with a CCU-TX7/TX7P camera control unit, please ask Sony representative.



### Applicable Models

- DXC-D55PH 3-chip CCD Portable Colour Camera
- DXC-D55PK 3-chip CCD Portable Colour Camera
- DXC-D55PL 3-chip CCD Portable Colour Camera
- DXC-D55WSPL 3-chip CCD Portable Colour Camera
- DXC-D55WSPH 3-chip CCD Portable Colour Camera

### Supplied Accessories

- CCA-7-5 Connecting Cable (5 m) (1)
- Operation Manual (1)
- Screws and Washers (2)
- Number Plate (1)

### Optional Accessories

- CCA-7 Cables 10-pin/10-pin Cable

### Specifications

- Power requirements: 10 to 17 V (supplied from camera or CCU)
- Power consumption: 4.0 W
- Operating temperature: +5°C to 40°C (41°F to 104°F)
- Storage temperature: -20°C to 55°C (-4°F to 131°F)
- Dimensions: 102 (W) x 74 (D) x 354 (D) mm (4 1/8 x 3 x 14 inches)
- Mass: Approx. 1.5 kg (3 lb 5 oz)

## RCP-D51 Remote Control Panel (Dial Control Type)

### Features

- Covers the complete range of camera control functions
- Provides Encoder operation •3.5-inch (\*1) LCD screen with touch panel function
- Allows incoming camera image to be monitored on LCD panel (\*2)
- Memory Stick system — various scene files can be stored on/recalled from the Memory Stick media and loaded to a different RCP-D50/D51 or DXC-D55

(\*1) Viewable area measured diagonally. (\*2) When used with a CCU-TX7/TX7P camera control unit, please ask Sony representative.



### Applicable Models

- DXC-D55PH 3-chip CCD Portable Colour Camera
- DXC-D55PK 3-chip CCD Portable Colour Camera
- DXC-D55PL 3-chip CCD Portable Colour Camera
- DXC-D55WSPL 3-chip CCD Portable Colour Camera
- DXC-D55WSPH 3-chip CCD Portable Colour Camera

### Supplied Accessories

- CCA-7-5 Connecting Cable (5 m) (1)
- Operation Manual (1)
- Screws and Washers (2)
- Number Plate (1)

### Optional Accessories

- CCA-7 Cables 10-pin/10-pin Cable

### Specifications

- Power requirements: 10 to 17 V (supplied from camera or CCU)
- Power consumption: 4.0 W
- Operating temperature: +5°C to 40°C (41°F to 104°F)
- Storage temperature: -20°C to 55°C (-4°F to 131°F)
- Dimensions: 102 (W) x 74 (D) x 354 (D) mm (4 1/8 x 3 x 14 inches)
- Mass: Approx. 1.3 kg (2 lb 14 oz)

## RM-BR300 Remote Control Unit

### Features

- Easy-to-use and ergonomic joystick design
- Feature-rich control panel

### Applicable Models

BRC-300 3-CCD Colour Video Camera  
BRU-300 Optical Multiplex Unit

### Supplied Accessories

AC adaptor (1)  
AC power cable (1)  
RS-232C cable (1)  
Terminal connector (2)  
Operating instructions (1)



## RM-C950 Remote Control Unit

### Features

- Full remote control of the DXC-9000/950/ H10/390/990 camera functions and lens zoom/ focus/iris functions via RS-232C
- Facilitated operation with knob control of gain, detail, master pedestal, red and blue gain functions
- Power is supplied through the DXC-9000/ 950/990 connected to the CMA-D2 Camera Adaptor or CCU-M5 Remote Control Unit
- Power is supplied through the DXC-H10 connected to the CMA-H10 Camera Adaptor

### Applicable Models

DXC-390 3-CCD Colour Video Camera  
DXC-390P 3-CCD Colour Video Camera  
DXC-990 3-CCD Colour Video Camera  
DXC-990P 3-CCD Colour Video Camera  
DXC-C33 3-CCD Colour Video Camera  
DXC-C33P 3-CCD Colour Video Camera

### Supplied Accessories

Connection cable (3 m) (1)  
Operation manual (1)

### Specifications

Power requirements:  
DC 12 V (supplied from DXC-9000/950 connected to CMA-D2 or CCU-M5)  
Operating temperature:  
-5 to 45°C (23 to 113°F)  
Connectors:  
CAMERA (8-pin)  
Mass:  
Approx. 400 g (14 oz)  
Dimensions:  
212 (W) × 41 (H) × 132 (D) mm  
(8 3/8 × 1 5/8 × 5 1/4 inches)  
(excluding projecting parts and controls)



## RMM-301 Rack Mounting Bracket

Rack Mounting Bracket for CCU-590P and CCU-TX50

### Specifications

Dimensions:  
482(W) x 132(H) x 330(D)mm  
(19 1/8 x 5 1/4 x 13 inches)

Mass:  
4.7 kg (10 lb 6 oz)



## VCL-0716BXA 1/2 Type Bayonet Mount Lens



### Applicable Models

DXC-990 3-CCD Colour Video Camera  
DXC-990P 3-CCD Colour Video Camera

### Supplied Accessories

Lens cap (front) (1)  
Operation manual (1)  
Lens cap (rear) (1)

### Specifications

Type  
1/2 type  
Focal length  
7.3 to 117 mm  
Zoom ratio  
16x  
Maximum relative aperture  
F1.9 (7.3 to 98 mm) to F2.3 (117 mm)  
Flange focal length (in air)  
38 mm (adjustable range: +/-0.3 mm)

Minimum object distance  
1 m (0.04 m in macro operation)  
Angle of view  
Horizontal: 47°20' to 3°08'  
Vertical: 36°24' to 2°21'  
Diagonal: 57°26' to 3°55'  
Iris control  
Manual, Auto, Remote control from camera or control box  
Zoom control  
Manual, Remote control from control box  
Focus control  
Manual, Remote control from control box  
Power requirements  
DC 12 V  
Current consumption  
70 mA (Quiescent), 350 mA (Maximum)  
Mount  
Bayonet mount

Mass  
Approx. 870 g (1 lb 15 oz)  
Dimensions (W x H x D)  
90.5 x 75 x 144.2 mm (3 5/8 x 3 x 5 3/4 inches), without lens hood

\* Zoom/Focus/Iris functions can be remotely controlled from RM-C950/8.

## VCL-616WEA 1/3 Type C-mount Lens



### Supplied Accessories

Lens hood (1)  
Lens cap (front) (1)  
Lens cap (rear) (1)  
Operation manual (1)

### Specifications

Application  
1/3 type format 3CCD colour camera  
Focal length  
5.5 to 88 mm  
Zoom ratio  
16x  
Maximum relative aperture  
F1.4 (5.5 mm) to F1.8 (88 mm)  
Iris range  
F1.4 to F16, closed

Flange focal length (in air)  
17.526 +/-0.05 mm (adjustable range: +/-0.20 mm)  
Minimum object distance  
1.0 m  
Angle of view  
Horizontal: 47°09' to 3°07'  
Vertical: 36°15' to 2°21'  
Iris control  
Manual, Auto, Remote control from camera or control box  
Zoom control  
Manual, Remote control from control box  
Focus control  
Manual, Remote control from control box  
Power requirements  
DC 12 V  
Maximum current consumption  
400 mA

Mount  
C mount  
Mass  
Approx. 900 g (1 lb 16 oz), without lens hood  
Dimensions (W x H x D)  
100 x 108 x 198.8 mm (4 x 4 1/4 x 7 7/8 inches)



# VCS-700 Video Selector

## Features

- Routes video output of multiple cameras for picture and waveform monitoring
- Accepts up to six picture and waveform inputs
- Video output selectable from the MSU-700A/750/A or external control equipment through the 37-pin I/O port
- Two picture and waveform outputs available for different system applications



## Applicable Models

- BVP-E30P 3-chip CCD Portable Colour Camera
- BVP-E30WSP 3-chip CCD Portable Colour Camera

## Supplied Accessories

- AC power cord (1)
- Plug holder for the AC power cord (1)
- 4-pin connector (1)
- Operation manual (1)
- Maintenance manual (1)

## Specifications

### General

- Power requirements: 220 to 240 V AC, 50/60 Hz
- Power consumption: 0.28 VA
- Operating temperature: 5 to +45 °C (73 to +113 °F)
- Mass: 5.2 kg (11 lb 7 oz)

### Dimensions:

424(W) x 44(H) x 400(D)mm  
(16 3/4 x 1 3/4 x 15 3/4 inches)

### Input connectors

- PIX 1 to PIX 6 input: BNC type (6)
- WF 1 to WF 6 input: BNC type (6)  
1.0 Vp-p(VBS)/0.7 Vp-p(V), 75 Ω
- PIX A input: BNC type (1) 1.0 Vp-p(VBS), 75 Ω
- WF A input: BNC type (1) 1.0 Vp-p(VBS), 75 Ω
- CHARACTER input: BNC type (1, with loop-through output)  
0.7 Vp-p(V), 75 Ω

- AC in: 3-pin

### Output connectors

- PIX A and PIX B output: BNC type (1 each), 1.0 Vp-p(VBS), 75 Ω
- WF A and WF B output: 1.0 Vp-p(VBS)/0.7 Vp-p(V), 75 Ω

### SYNC output:

BNC type (1)  
0.3 Vp-p(VBS), 75 Ω, negative polarity

### WF mode:

round 4-pin connector (1)

### Remote connectors

REMOTE: 8-pin multiconnectors (1)

### I/O PORT:

D-sub 37-pin(1)

# VCT-U14 Tripod Adaptor



## Applicable Models

DSR-250P/1 DVCAM Camcorder  
DSR-400PK DVCAM Camcorder  
DSR-400PL DVCAM Camcorder  
DSR-450WSPL DVCAM Camcorder  
DXC-D55PH 3-chip CCD Portable Colour  
Camera  
DXC-D55PK 3-chip CCD Portable Colour  
Camera  
DXC-D55PL 3-chip CCD Portable Colour  
Camera  
DXC-D55WSPL 3-chip CCD Portable Colour  
Camera  
DXC-D55WSPH 3-chip CCD Portable Colour  
Camera

## Specifications

Dimensions:  
282 (W) × 27 (H) × 80 (D) mm  
(11 1/8 × 1 1/8 × 3 1/4 inches)  
Mass:  
Approx. 900 g (2 lb)

## VFH-550 5-inch Type Viewfinder Sports Hood

5-inch type viewfinder sports hood for BVF-55 series

Applicable Models  
BVF-55CE/1



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## VFH-770 7-inch Type Viewfinder Sports Hood

7-inch type viewfinder sports hood for BVF-7700/77 series

Applicable Models  
BVF-77CE/1  
HDVF-C730W LCD Colour Viewfinder



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## VFH-990 9-inch Type Viewfinder Sports Hood

9-inch Type Viewfinder Sports Hood for HDVF-C950 Multi-format  
HD Color LCD Viewfinder

Applicable Models  
HDVF-C950W Multi-format HD Color LCD Viewfinder



# WLL-CA50 Wireless Camera Transmitter (CER)

## Features

- Wireless camera transmitter connected to either a Digital Betacam, MPEG IMX, or XDCAM camcorder, and used with the WLL-RX55 wireless camera receiver
- MPEG-2 video compression and MPEG-1 Layer I/II 48-kHz audio
- COFDM for stable transmission
- Time interleave
- Secure encryption key
- 2.4 GHz band transmission frequency allows a license-free operation
- Cable-free camcorder connection
- Flexible channel selector (up to 6 simultaneous channels)
- User-friendly menu
- Low power consumption



## Applicable Models

- DVW-970P Digital Betacam Camcorder
- MSW-970P MPEG IMX Camcorder
- PDW-510P XDCAM Camcorder (DVCAM Recording)
- PDW-530P XDCAM Camcorder (MPEG IMX/DVCAM Recording)

## Supplied Accessories

- Transmission antenna (1)

## Optional Accessories

- BP-GL95 Rechargeable Lithium-ion Battery Pack
- BP-GL65 Rechargeable Lithium-ion Battery Pack
- WLL-RX55

## Specifications

### General

- Power requirement: 12 V DC
- Power consumption: 9W
- Operating temperature: 0 °C to +40 °C (+32 °F to +104 °F)
- Dimension (w x h x d): 97 x 209 x 152 (mm), 3 7/8 x 8 1/4 x 6 (inches)
- Mass (excluding antenna): 1.2 kg (2 lb 10 oz)

### RF block

- TX centre frequency range: 2406 to 2478 MHz
- Modulation: 16 QAM-COFDM, QPSK-COFDM
- Occupied bandwidth: 8 MHz
- Channel spacing: 12 MHz
- RF power output: 4 mW (EIRP = 10 mW)
- Antenna gain: 4.0 dBi

### Input

- Input signals: Digital component parallel 40-pin (Sony camcorder) SDI (embedded audio) BNC (x1) (spare)
- Ext. DC IN: 11.3 to 17 V DC XLR 4-pin male (x1)

### Eco-info

- Lead-free solder is used for soldering certain parts.
- Halogenated flame retardants are not used in the printed wiring boards.

# WLL-CA55 Wireless Camera Transmitter (CER)

## Features

- Wireless camera transmitter connected to a BVP-E30 camera, and used with the WLL-RX55 receiver
- MPEG-2 broadcast quality video and MPEG-1 Layer I/II 48-kHz audio transmission
- Stable transmission using COFDM technology
- Time interleave
- 2.4 GHz band transmission frequency allows a license-free operation
- Secure encryption key
- Cable-free camera connection
- Full camera remote control capability
- Full camera genlock
- Flexible channel selector (up to 6 simultaneous channels)
- User-friendly menu
- Transmission status display in viewfinder
- Low power consumption



## Applicable Models

BVP-E30P 3-chip CCD Portable Colour Camera  
 BVP-E30WSP 3-chip CCD Portable Colour Camera

## Supplied Accessories

Transmission antenna (1)  
 Operation manual (1)

## Optional Accessories

BP-GL65 Rechargeable Lithium-ion Battery Pack  
 BP-GL95 Rechargeable Lithium-ion Battery Pack  
 WRR-855B UHF Synthesised Diversity Tuner (62CE7)

## Specifications

### General

Power requirements:  
 DC 12 V  
 Power consumption:  
 15 W  
 Operating temperature:  
 -20 °C to +45 °C (-4 °F to +113 °F)  
 Dimensions (W x H x D):  
 132 x 214 x 176 mm (5 1/4 x 8 1/2 x 7 inches)  
 Mass (excluding antenna):  
 2 kg (4 lb 7 oz)

### RF block

Transmission frequency range:  
 2402 to 2470 MHz (USA and Canada)  
 2402 to 2482 MHz (Other countries)  
 Transmission centre frequency range:  
 2406 to 2466 MHz (USA and Canada)  
 2406 to 2478 MHz (Other countries)

### Transmission mode:

Standard/Robust/High-picture/Standard-LD  
 (low delay)/Robust-LD (low delay)

Minimum system delay (Time interleave mode: off):

2.3 frames (\*)

### Modulation:

16 QAM-COFDM, QPSK-COFDM

### Occupied bandwidth:

8 MHz

### Channel spacing:

12 MHz

### RF power output:

4 mW (EIRP=10 mW)

### Antenna gain:

4.0 dBi

### Antenna directivity:

Omni-directional

### Input/output

#### Camera interface:

Digital component parallel 68-pin (for Sony digital camera)  
 Analogue component parallel 68-pin (for Sony analogue camera)

#### DC input:

XLR-4-pin (for the optional AC-550/550CE), DC 10.5 to 17 V

#### DC output:

4-pin (for wireless microphone receiver), DC 10.5 to 17 V (Max. 200 mA)

#### RF output:

N-type special connector, 50 Ω

### Video input:

BNC (SDI or analogue composite), 1.0 Vp-p, 75 Ω

### Audio input (CH-1/CH-2):

XLR-3-pin x 2

### Intercom:

XLR-5-pin

### Earphone:

Mini jack

### Remote:

8-pin

### Slot for wireless microphone receiver:

D-sub 15-pin

### Eco info

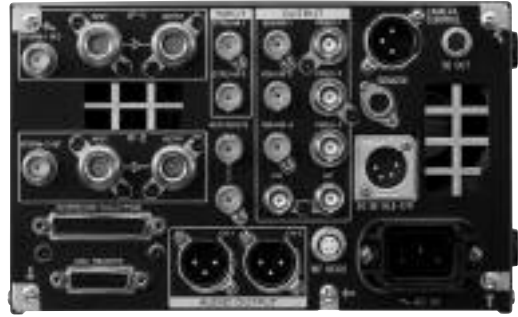
Lead-free solder is used for soldering certain parts.  
 Halogenated flame retardants are not used in the printed wiring boards.

\* The system delay is measured by WLL-CA55 and WLL-RX55 combination.

# WLL-RX55 Wireless Camera Receiver

## Features

- Wireless camera receiver, designed to be used with the WLL-CA50/CA55
- Diversity reception
- MPEG-2 video compression and MPEG-1 Layer I/II 48-kHz audio
- COFDM for stable transmission
- Time interleave
- 2.4 GHz band transmission frequency allows a license-free operation
- Secure encryption key
- Flexible channel selector (up to 6 simultaneous channels)
- Wireless camera control capability
- User-friendly menu
- Versatile antenna unit



## Supplied Accessories

- Reception antenna (2)
- Down converter (2)
- Mounting bracket (2)
- Mounting screw: M3 (4)
- Mounting screw: M4 (8)
- Coaxial cable with N-type connectors (10 m) (2)
- 4-pin connector (1)
- Fasten belt (1)
- Camera number plate (1)
- Operation manual (1)

## Optional Accessories

- RM-B750 Remote Control Unit
- RM-B150 Remote Control Unit
- RCP-750 Remote Control Panel (Joystick type)
- RCP-751 Remote Control Panel (Dial control type)
- WRT-8B UHF Synthesised Transmitter (6668U)
- WRT-822A UHF Synthesised Wireless Transmitter (64U)
- WRT-822B UHF Synthesised Wireless Transmitter (62CE7)

## Specifications

### General

- Power requirements: AC 100 to 240 V, 50/60 Hz or DC 12 V
- Power consumption: 66 W
- Operating temperature: 5 to 40 °C (41 to 104 °F)
- Storage temperature: -20 to +60 °C (-4 to +140 °F)
- Dimensions (W x H x D): 200 x 127 x 365 mm (7 7/8 x 5 x 14 3/8 inches)
- Mass: 5 kg (11 lb)

### Reception system

- Receiving centre frequency range: 2406 to 2478 MHz
- Occupied bandwidth: 8 MHz
- Channel spacing: 12 MHz
- Antenna gain: 9.0 dBi
- Antenna directivity: 60°
- Modulation: 16QAM-COFDM, QPSK-COFDM

- IF centre frequency: 326 to 398 MHz
- IF input connector: N-type special connector x 2, 50 Ω
- IF output connector: N type special connector x 2, 50 Ω, loop through

### Input/output

- Bitstream input:
  - Data format: DVB-ASI
  - Connector: BNC x 2, 75 Ω
- Bitstream output:
  - Data format: DVB-ASI
  - Connector: BNC x 2, 75 Ω
- Sync signal input:
  - Reference input: BNC x 2, VBS/BS: 1.0 Vp-p, 75 Ω, loop through
- Digital signal output:
  - SDI/ASI output: BNC x 3, transmission cable length: max. 200 m
  - SDI: 4:2:2 component serial digital (270 Mb/s), 0.8 Vp-p, 75 Ω
  - ASI: DVB-ASI, EN50083-9 (DVB-PI-232 Revised TM Rev.2)
  - Transmission mode: Data-packet mode (188 bytes)
- Analogue signal output:
  - Video 1: BNC, 1.0 Vp-p, 75 Ω
  - Video 2: BNC, 1.0 Vp-p, 75 Ω
  - Video 3: BNC, 1.0 Vp-p, 75 Ω
  - PIX: BNC, 1.0 Vp-p, 75 Ω
  - WF: BNC, Encode output: 1.0 Vp-p, 75 Ω
  - WF mode: 4-pin
  - Audio output: XLR-3-pin x 2, 0 dBu/-20 dBu balanced

### Other input/output

- DC input:
  - XLR-4-pin (for the optional AC-550/550CE), DC 10.5 to 17 V
- DC output:
  - 4-pin (for wireless microphone transmitter) (Max. 200 mA)

### Remote:

- 8-pin
- Intercom/Tally/Program:
  - D-sub 25-pin, 4W/RTS,
  - Tally: DC 24 V, TTL level, or contact selectable
- Mic remote:
  - D-sub 15-pin
- Intercom (front):
  - XLR-5-pin
- Camera control:
  - XLR-3-pin

### Eco info

- Lead-free solder is used for soldering certain parts.
- Halogenated flame retardants are not used in the printed wiring boards.

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# HVR-Z1E HDV Camcorder

## Features

3CCD Camera System with "1080i HD CCD"  
 •14bit HD DXP •Carl Zeiss® Vario-Sonnar® T\* Lens with 12x Optical Zoom •HD Codec Engine™  
 •HDV1080i/DVCAM/DV (SP) recording and playback switchable system •50i/60i (PAL/NTSC) recording and playback switchable system  
 •Precision 16:9 SD recording and playback  
 •Down Conversion function •Built-in wide-range stereo microphone and 2 ch. XLR Audio Inputs  
 •Versatile Time Code settings •16:9 colour viewfinder •16:9 3.5" hybrid colour LCD monitor •Simultaneous Operation of LCD monitor and viewfinder •On handle zoom lever and rec. start/stop button •Variety of zoom operation •AF (Auto Focus) assist  
 •Manual Iris •Manual Gain •Manual Shutter Speed •Assign Buttons (custom configurable) •Expand focus •Marker  
 •Colour bars •External REC control •Quick REC •Audio Settings (recording levels, mic. Select, monitoring, audio lock, output select, limiter, noise reduction) •Shot Transition™ •Picture Profile™  
 •Cinematone Gamma™ and Cineframe™ •Colour correction functions •Status Check button •Multi-language operation •Battery status indicator •Customised menu settings •Long recording time



## Supplied Accessories

AC-VQ850 (AC Adaptor/Charger)  
 Power cord DK-415 (Connecting cord)  
 NP-F570 (InfoLITHIUM Rechargeable battery pack)  
 Lens Hood  
 Large Eye Cup  
 RMT-841 (Wireless Remote Controller)  
 A/V Connecting cable  
 Shoe Adaptor  
 2x Size AA (R6) batteries  
 Cleaning Cassette  
 Shoulder strap

## Optional Accessories

AC-VQ1050B (AC Adaptor/Charger)  
 HVL-LBP LED Videolight  
 NP-F970 InfoLITHIUM rechargeable battery pack  
 NP-F770 InfoLITHIUM rechargeable battery pack  
 NP-F570 InfoLITHIUM rechargeable battery pack  
 2NP-F970/B InfoLITHIUM rechargeable battery pack  
 VCT-FXA Shoulder Brace  
 VCL-HG0872 0.8x Wide Conversion Lens  
 VF-72CPK Filter Kit  
 LCH-FXA Hard Carrying Case  
 LCS-VCB Soft Carrying Case  
 LCR-FXA Rain Jacket  
 ECM-673 Electret Condenser Microphone  
 UWP-C1 & C2 UHF Synthesised Wireless Microphone Package



## Specifications

### Camera section

#### Lens:

Carl Zeiss Vario-Sonnar T\* zoom lens, 12x (optical), f = 4.5 to 54 mm (3/16 to 2 1/4 inches), f = 32.5 to 390 mm (1 5/16 to 15 3/8 inches)\* at 16:9 mode, f = 40 to 480 mm (1 5/8 to 19 inches)\* at 4:3 mode, F = 1.6 to 2.8, filter diameter: 72 mm (2 7/8 inches)

#### Built-in filter:

1/6 ND, 1/32 ND

#### Focus:

Auto, manual (focus ring/infinity position), one push auto

#### Imaging device:

3-chip 1/3-inch type CCDs

#### Picture elements:

Approx. 1,070,000 pixels (effective), approx. 1,120,000 pixels (total)

#### White balance:

Auto, one-push auto, indoor (3200 K), outdoor (5800 K  $\pm$  7 steps)

#### Shutter speed:

50i/PAL mode 1/3, 1/6, 1/12, 1/25, 1/50, 1/60, 1/100, 1/120, 1/150, 1/215, 1/300, 1/425, 1/600, 1/1000, 1/1250, 1/1750, 1/2500, 1/3500, 1/6000, 1/10000 s  
60i/NTSC mode 1/4, 1/8, 1/15, 1/30, 1/60, 1/90, 1/100, 1/125, 1/180, 1/250, 1/350, 1/500, 1/725, 1/1000, 1/1500, 1/2000, 1/3000, 1/4000, 1/6000, 1/10000 s

#### Exposure:

Auto, manual

#### Gain:

0, 3, 6, 9, 12, 15, 18 dB (adjustable for H, M and L gain positions)

#### Minimum illumination:

3 lx with F1.6 at 18 dB

\* These values are calculated to be equivalent to 35mm film

### VTR section

#### Recording format:

1080/50i, 1080/60i, 576/50i (PAL), 480/60i (NTSC)

#### Playback/Down-conversion format:

1080/50i, 1080/60i, 576/50i (PAL), 480/60i (NTSC) 576/50p, 480/60p

#### Tape speed:

HDV/DV SP Max. 18.812 mm/s with PHDVM-63DM cassette  
DVCAM Max. 28.218 mm/s with PHDVM-63DM cassette

#### Playback/Recording time:

HDV/DV SP Max. 63 min with PHDVM-63DM cassette  
DVCAM Max. 41 min with PHDVM-63DM cassette

#### Fast forward/Rewind time:

Approx. 2 min 40 s with PHDVM-63DM cassette

### Built-in input/output devices

#### LCD viewfinder:

0.44-inch type, approx. 252,000 pixels (1120 x 225), hybrid type LCD monitor  
3.5-inch type, approx. 250,000 pixels (1120 x 224), hybrid type

#### Microphone:

Stereo type, noise reduction on/off

### General

#### Mass Approx.:

2.1 kg (4 lb 10 oz) (camcorder only)

#### Power requirements

DC 7.2 V (battery pack)

#### Power consumption:

HDV Approx. 8.0 W (recording mode with LCD viewfinder on)

DVCAM/DV Approx. 7.6 W (recording mode with LCD viewfinder on)

#### Operating temperature:

0 to 40 °C (32 to 104 °K)

#### Storage temperature:

-20 to +60 °C (-4 to 140 °K)

#### Supplied accessories:

AC-VQ850 AC adaptor/charger, power cord, connecting cord, lens hood, large eye-cup, RMT-841 wireless Remote Commander, A/V connecting cable, component video cable, shoe adaptor, NP-F570 InfoLITHIUM rechargeable battery pack, size AA (R6) batteries (2), cleaning cassette, shoulder strap, operating instructions

# HVR-V1E HDV Camcorder

## Features

- Adopts HDV 1080i specification of the HDV format
- Compatible with existing DV tape and new high-grade mini cassette tape: DigitalMaster PHDVM-63DM •Long recording time of 63 minutes with the PHDVM-63DM DigitalMaster mini cassette tape •Optical 20x Carl zeiss Vario-Sonnar T\* lens •Super SteadyShot system (optical) •Switchable recording and playback - HDV 1080i/DVCAM/DV (SP) •25p Progressive Shooting Capability •Down-conversion playback capabilities from 1080i to 576i •16:9 widescreen acquisition in DVCAM and DV formats •2-channel XLR audio input •Time code preset •Interval recording •Smooth Slow Rec function •Shot Transition function •Picture Profile feature •Last Scene Review function •Playback Zoom function •TC LINK function for multi-camera operations •Long operating time - up to 7 hours with the NP-F970 battery •On-handle zoom lever and Rec Start/Stop button •Camera setting storage on Memory Stick Duo media •HDMI (High-Definition multimedia interface) output connector •3.5-inch type widescreen, Clear Photo LCD plus monitor •Marker display •Six user assignable function buttons •Cinematone Gamma feature •Black Stretch and Black Compress functions •Knee Correction function •Cinematone Color function •Focal length display in meters or feet •Shutter speed display in units of rotation angles



## Supplied Accessories

- AC-L15 AC adaptor (1)
- Power cord (1)
- NP-F570 infoLITHIUM rechargeable battery pack (1)
- A/V connecting cable (1)
- Component video cable (1)
- USB cable (1)
- Lens hood with lens cover (1)
- RMT-831 wireless Remote Commander (1)
- ECM-NV1 monaural electrolet condenser microphone (1)
- Operating instructions(CD-ROM) (1)
- Printed operating instructions (1)

## Optional Accessories

- HVL-LBP Video Light
- LCS-G1BP Soft Carrying Case
- SH-L35WBP LCD Hood
- VCL-HG0862K 0.8x Wide Conversion Lens
- VCT-1BP Bracket
- VF-62CPK PL Filter Kit
- VMC-30FS 3m Multi AV Cable (with S Video)
- VMC-30VC 3m Component Video Cable
- NP-F770 InfoLITHIUM Rechargeable Battery Pack
- NP-F970 InfoLITHIUM Rechargeable Battery Pack
- 2NP-F970/B InfoLITHIUM Rechargeable (2) Battery Pack

VCT-PG11RMB Tripod with the RM-1BP LANC Remote Controller

- ECM-673 Electret Condenser Microphone
- UWP-C2 UHF Synthesized Wireless Microphone Package (62CE7)
- UWP-C2 UHF Synthesized Wireless Microphone Package (AU)
- UWP-C2 UHF Synthesized Wireless Microphone Package (67CE7)
- UWP-C1 UHF Synthesized Wireless Microphone Package (AU)
- UWP-C1 UHF Synthesized Wireless Microphone Package (62CE7)
- UWP-C1 UHF Synthesized Wireless Microphone Package (67CE7)

## Specifications

### Camera section

#### Lens

Carl Zeiss Vario-Sonnar T\* zoom lens,  
20x (optical),  $f = 3.9$  to  $78$  mm,  $f = 37.4$  to  
 $748$  mm at 16:9 mode  $f = 45.7$  to  
 $914$  mm at 4:3 mode,  $F = 1.6$  to  $2.8$ ,  
filter diameter:  $62$  mm

#### Built-in filter

1/4 ND, 1/16 ND

#### Focus

Auto, manual (focus ring/one  
push auto/infinity)

#### Imaging system

1/4-inch type, 3 ClearVid CMOS

#### Sensor system

#### Picture elements

Approx. 1,037,000 pixels (effective),  
approx. 1,120,000 pixels (total)

#### White balance

Auto, one-push auto (2 positions),  
indoor (3200 K), outdoor  
(5800 K +15steps)

#### Manual shutter speed

1/3, 1/6, 1/12, 1/25, 1/50, 1/60, 1/100,  
1/120, 1/150, 1/215, 1/300, 1/425, 1/600,  
1/1000, 1/1250, 1/1750, 1/2500, 1/3500,  
1/6000, 1/10000 s

#### Exposure

Auto, manual (Type1/Type2)

#### Gain

0, 3, 6, 9, 12, 15, 18 dB

#### Minimum illumination

4 lx with F1.6 at 18 dB

### VTR section

#### Recording format

1080/50i, 576/50i (PAL)

#### Play out/Down conversion format

1080/50i, 576/50i (PAL)

#### Tape speed

HDV/DV SP

Max. 18.812 mm/s

DVCAM

Max. 28.218 mm/s

#### Playback/Recording time

HDV/DV SP

Max. 63 min with PHDVM-63DM  
cassette

DVCAM

Max. 41 min with PHDVM-63DM  
cassette

#### Fast forward/Rewind time

Approx. 1 min 45 s with PHDVM-63DM  
cassette (AC adaptor)

Approx. 2 min 40 s with PHDVM-63DM  
cassette (battery pack)

### Input/Output connectors

#### Audio/Video output

A/V OUT jack, 10-pin connector

Composite video: 1 Vp-p,

75  $\Omega$  unbalanced, sync negative

Y: 1 Vp-p, 75  $\Omega$  unbalanced

C: 0.3 Vp-p (burst signal),

75  $\Omega$  unbalanced

Audio: 327 mV input impedance more than

47 k $\Omega$ , output impedance less than 2.2 k $\Omega$

#### Component video output

COMPONENT OUT jack

Y: 1 Vp-p, 75  $\Omega$  unbalanced

Pr/Pb (Cr/Cb): 700 mVp-p,

75  $\Omega$  unbalanced

#### HDV/DV input/output

i.LINK interface (IEEE 1394,

4-pin connector S100)

#### XLR audio input

XLR 3-pin female x 2, 327 mV, -60 dBu:

3 k $\Omega$ , +40 dBu: 10.8 k $\Omega$ , power supply:

approx. 48 V

#### Headphone

Stereo mini jack ( $\phi 3.5$  mm)

#### LANC

Stereo mini-mini jack ( $\phi 2.5$  mm)

#### USB

Mini-B connector

#### HDMI output

HDMI connector

### Built-in output devices

#### LCD viewfinder

0.54-inch type, approx. 252,000 dots,

16:9 aspect ratio

#### LCD monitor

3.5-inch type, Clear Photo LCD plus ,

approx. 211,200 dots, hybrid type,

16:9 aspect ratio

#### Speaker

Diam.16mm

### General

#### Mass

Approx. 1.5 kg (3 lb 6 oz)

(camcorder only)

#### Power requirements

DC 7.2 V (battery pack),

DC 8.4 V (AC adaptor)

#### Power consumption

HDV

Approx. 6.8 W (recording mode  
with LCD viewfinder or monitor on)

DVCAM/DV

Approx. 6.6 W (recording mode  
with LCD viewfinder or monitor on)

#### Operating temperature

0 to 40 °C (32 to 104 °F)

#### Storage temperature

-20 to +60 °C (-4 to +140 °F)

# HVR-A1E HDV Camcorder

## Features

- Adopts HDV 1080i specification of the HDV format that features 1080 effective scanning lines and 1440 horizontal pixels
- Compatible with existing DV tape and new high-grade mini cassette tape; DigitalMaster PHDVM-63DM
- Long recording time of 63 minutes with the DigitalMaster mini cassette tape
- 1/3-inch type, 2.97-megapixel CMOS sensor
- Enhanced Imaging Processor (EIP)
- Optical 10x Carl Zeiss Vario-Sonnar T\* zoom lens
- Electronic Super SteadyShot system
- Full scan mode to capture images with the resolution of approximately two million pixels
- Switchable recording and playback - HDV 1080i/DVCAM/DV (SP)
- Down-conversion playback from 1080i down to 576i and 576P
- Aspect ratio conversion from 16:9 to 4:3
- HD Codec Engine to compress baseband HD signal data at approx. 25 Mb/s with MPEG-2 compression
- Still picture recording to Memory Stick Duo media
- 16:9 widescreen acquisition in DVCAM and DV formats
- i.LINK interface
- 2-channel XLR audio input
- 2-channel independent audio record level control with audio level meter
- Compact and lightweight design
- 16:9, colour/black-and-white switchable LCD viewfinder
- 2.7-inch type, 16:9 widescreen, hybrid colour LCD monitor
- Variety of zoom operations with a zoom lever, a zoom/focus ring and zoom buttons
- Manual and automatic exposure control using the exposure lever
- Tele macro function
- New backlight compensation function
- Marker display
- User assignable function button
- Time code preset
- Histogram indicator for easy evaluation of the brightness of captured images
- Shot Transition function to offer automatic transition of various shooting parameters between shots
- Cinema-like image shooting
- Long operating time; 300 minutes in HDV mode and 340 minutes in DVCAM/DV mode with the NP-QM91D battery
- Expanded focus function for easy confirmation of focus setting during manual focusing
- Peaking function to enhance the outline of the image in the viewfinder for easy manual focusing
- Zebra function for easy manual exposure control
- Quick REC function to shorten the time until the recording starts from stop mode
- Status check function for easy confirmation of various parameters of camera setting menus
- Personal menu function to allows operators to customise the setting menu to display frequently used menu items
- Battery info function to display the battery charge level and remaining recording time
- Super night shot function to capture images in black and white using a built-in infrared light
- Skin tone detail function
- Black stretch function



## Supplied Accessories

- AC-L15 AC Adaptor
- Power cord
- NP-FM50 InfoLITHIUM Rechargeable battery pack
- Lens hood with lens cover
- RMT-831 Wireless Remote Commander unit
- A/V connecting cable with S video
- Component video cable
- USB cable
- Memory Stick Duo (16 MB)
- Memory Stick Duo adaptor
- ECM-NV1 Monaural electret condenser microphone
- XLR Audio adaptor
- Shoulder strap
- Operating instructions

## Optional Accessories

- NP-QM71D InfoLITHIUM Rechargeable Battery Pack
- NP-QM91D Rechargeable Battery Pack
- VCL-HG2037Y 2.0x Tele Conversion Lens
- VCL-HG0737Y 0.7x Wide Conversion Lens
- LCH-HCE Hard Carrying Case
- VMC-30VC Cable 3m Component Video Cable
- VMC-30FS Cable 3m Multi AV Cable (with S Video)
- PHDVM-63DM tape DigitalMaster Mini Cassette Tape
- RM-1BP LANC Remote Controller
- VCT-PG11RMB Tripod with the RM-1BP LANC Remote Controller
- LANC Remote Controller
- UWP-C1 UHF Synthesised Wireless Microphone Package
- ECM-673 Electret Condenser Microphone
- UWP-C1 & C2 UHF Synthesised Wireless Microphone Package

Specifications

**Camera section**

Lens

Carl Zeiss Vario-Sonnar T\* zoom lens,  
 10x (optical), f = 5.1 to 51 mm, f = 40 to  
 400 mm in 16:9 mode and 49.3 to 493 mm  
 in 4:3 mode (full scan mode on)\*  
 f = 41 to 480 mm in 16:9 mode and 50 to  
 590 mm in 4:3 mode (full scan mode off)\*  
 f = 40 to 400 mm in 16:9 mode and 37 to  
 370 mm in 4:3 mode (still picture mode)\*  
 f = 1.8 to 2.1, filter diameter: 37 mm

Focus

Auto, manual, spot focus  
 (touch panel control)

Imaging device

1-chip, 1/3-inch type primary colour  
 CMOS sensor

Picture elements

Approx. 2,969,000 pixels (total)

Shutter speed

1/3, 1/6, 1/12, 1/25, 1/50, 1/60, 1/100,  
 1/120, 1/150, 1/215, 1/300, 1/425, 1/600,  
 1/1000, 1/1250, 1/1750, 1/2500, 1/3500,  
 1/6000, 1/10000 s

Minimum illumination

7 lx with F1.8

**VTR section**

Recording format

1080/50i, 576/50i

Play out/Down conversion format

1080/50i, 576/50i, 576/50P

Tape speed

HDV/DV SP

Max. 18.812 mm/s with  
 PHDVM-63DM cassette

DVCAM

Max. 28.218 mm/s with  
 PHDVM-63DM cassette

Playback/Recording time

HDV/DV SP

Max. 63 min with  
 PHDVM-63DM cassette

DVCAM

Max. 41 min with  
 PHDVM-63DM cassette

Fast forward/Rewind time

Approx. 2 min 40 s with PHDVM-63DM  
 cassette (using a fully charged battery)  
 Approx. 1 min 45 s with PHDVM-63DM  
 cassette (using an AC adaptor)

**Input/Output connectors**

Audio/Video input/output

A/V OUT jack, 10-pin connector

Composite video: 1 Vp-p,  
 75  $\Omega$  unbalanced, sync negative

Y: 1 Vp-p, 75  $\Omega$  unbalanced, sync negative

C: 0.3 Vp-p, 75  $\Omega$  unbalanced

Audio: 327 mV, input impedance more than

47 k $\Omega$ , output impedance less than 2.2 k $\Omega$

Component video output

COMPONENT OUT jack

Y: 1 Vp-p (0.3 V, sync negative),

75  $\Omega$  unbalanced

Pr/Pb (Cr/Cb): 525 mVp-p (75% colour

bar)

HDV/DV input/output

i.LINK interface

(IEEE 1394, 4-pin connector)

XLR audio input

XLR 3-pin female x 2, 327 mV, -60 dBu:

3 k $\Omega$ , +40 dBu: 10.8 k $\Omega$ ,

power supply: approx. 48 V

Headphone

Stereo minijack ( $\varnothing$  3.5 mm) x 1

MIC

Minijack x 1, 0.388 mV, low impedance

with DC 2.5 to 3.0 V, output impedance

6.8 k $\Omega$  ( $\varnothing$  3.5 mm), stereo type

LANC

Stereo mini-minijack ( $\varnothing$  2.5 mm) x 1

USB

Mini-B x 1

**Built-in input/output devices**

LCD viewfinder

0.44-inch type, approx. 252,000

(1120 x 225) pixels, hybrid type,

16:9 aspect ratio

LCD monitor

2.7-inch type, approx. 123,200

(560 x 220) pixels, hybrid type,

16:9 aspect ratio

Microphone

Stereo type, noise reduction on/off

Speaker

$\varnothing$ 16 mm

**General**

Mass

Approx. 670 g (1 lb 7 oz) (camcorder only)

Power requirements

DC 7.2 V (battery pack),

DC 8.4 V (AC adaptor)

Power consumption

HDV

Approx. 5.6 W (recording mode with

LCD viewfinder on)

DVCAM/DV

Approx. 5.1 W (recording mode with

LCD viewfinder on)

Operating temperature

0 to 40°C (32 to 104°F)

Storage temperature

20 to +60 °C (-4 to 140 °F)

\* These values are calculated to be

equivalent to 35 mm film.

# HVR-M15E HDV VTR

## Features

- Adopts HDV 1080i specification of the HDV format that features 1080 effective scanning lines and 1440 horizontal pixels
- Compatible with existing DV tape and new DigitalMaster high-grade videocassette tape
- Switchable recording and playback - HDV 1080i/DVCAM/DV SP and 60i/50i
- Dual-size cassette mechanism to accept both mini and standard cassettes
- Long recording time - a maximum of 276 minutes with the PHDV-276DM DigitalMaster standard cassette tape
- Down-conversion playback capabilities from 1080i down to 480i, 576i, 480P, and 576P
- i.LINK interface
- Time code copy from external devices
- Auto repeat
- Colour bar and 1-kHz audio tone signal output
- External control by the supplied wireless Remote Commander unit
- Built-in tape cleaner for reliable operation
- Compact, unique design - can be placed vertically and horizontally



## Supplied Accessories

- Remote Commander (1)
- AC Adaptor (1)
- Size AA Battery (2)
- Power Cord (1)
- Stand (1)
- Cleaning Cassette (1)
- Operating Instructions (1)

## Optional Accessories

- VMC-IL44 i.LINK Cable (4-pin to 4-pin)
- VMC-IL46 i.LINK Cable (4-pin to 6-pin)
- PHDV/PHDVM DigitalMaster™ Standard and Mini Cassette Tapes

## Specifications

### Recording/Playback performance

- Recording format
  - 1080/60i, 1080/50i, 480/60i (NTSC), 576/50i (PAL)
- Playout/down conversion format
  - 1080/60i, 1080/50i, 480/60i (NTSC), 576/50i (PAL), 480/60P, 576/50P
- Tape speed
  - HDV/DV SP
    - Max. 18.812 mm/s
  - DVCAM
    - Max. 28.218 mm/s
- Playback/recording time
  - HDV/DV SP
    - Max. 276 min with PHDV-276DM cassette
    - Max. 63 min with PHDVM-63DM cassette
  - DVCAM
    - Max. 184 min with PHDV-276DM cassette
    - Max. 41 min with PHDVM-63DM cassette
- Fast forward/rewind time
  - Approx. 2 min with PHDV-276DM cassette

### Input/Output connectors/devices

- Video input/output
  - RCA pin x 2
  - Video signal: 1 Vp-p, 75  $\Omega$  unbalanced, sync negative
- S-video input/output
  - Mini-DIN 4-pin x 2
  - Y: 1 Vp-p, 75  $\Omega$  unbalanced, sync negative
  - C: 0.286 Vp-p (NTSC), 0.3 Vp-p (PAL), 75  $\Omega$  unbalanced,
- Component video output
  - RCA pin x 3
  - Y: 1 Vp-p (0.3 V, sync negative)
  - Pr/Pb (Cr/Cb): 700 mVp-p (100% colour bar), input impedance 75  $\Omega$
- i.LINK
  - 4-pin
- LANC
  - Stereo mini-minijack ( $\varnothing$ 2.5 mm)
- Control S
  - Stereo minijack ( $\varnothing$ 3.5 mm)
- Audio input
  - RCA pin x 2
  - Input level: -10 dBu, input impedance: min. 10 k $\Omega$  unbalanced
  - Max input level: +16 dBu (approx. 5 Vrms) in 60i mode, +14 dBu (approx. 4 Vrms) in 50i mode
- Audio output
  - RCA pin x 2
  - Output level: -10 dBu (full bit -20 dB), impedance 47 k $\Omega$ , unbalanced in 60i mode, -10 dBu (full bit -18 dB), impedance 47 k $\Omega$ , unbalanced in 50i mode
  - Impedance: max. 1 k $\Omega$  unbalanced

### General

- Dimensions (W x H x D)
  - 184 x 69 x 261 mm
  - (7 1/8 x 2 3/4 x 10 3/8 inches)
- Mass
  - Approx. 2.3 kg (5 lb 1 oz)
- Power requirements
  - DC 8.4 V
- Power consumption
  - 12 W (playback mode with LCD monitor on)
- Operating temperature
  - 5 to 40°C (41 to 104°F)
- Storage temperature
  - 20 to +60°C (-4 to 140°F)

# HVR-M25E HDV VTR

## Features

- Adopts HDV 1080i specification of the HDV format that features 1080 effective scanning lines and 1440 horizontal pixels
- Compatible with existing DV tape and new DigitalMaster high-grade videocassette tape
- Switchable recording and playback - HDV 1080i/DVCAM/DV SP and 60i/50i
- Dual-size cassette mechanism to accept both mini and standard cassettes
- Long recording time - a maximum of 276 minutes with the PHDV-276DM DigitalMaster standard cassette tape
- Down-conversion playback capabilities from 1080i down to 480i, 576i, 480P, 576P, and 720P
- Edge Crop Adjust function
- i.LINK interface
- Time code copy from external devices
- Auto Repeat and Custom Repeat functions
- Colour bar and 1-kHz audio tone signal output
- External control by the supplied wireless Remote Commander unit
- Built-in tape cleaner for reliable operation
- Built-in, 2.7-inch\* type, Clear Photo LCD Plus monitor
- HDMI (High Definition Multimedia Interface) output
- DUPLICATE PLUS function for an easy duplication of video and audio along with the time code
- MARKER BURN function to allow the 4:3 marker to be superimposed onto video output
- Time counter
- Time code preset
- Status Check function for easy status or settings check on the LCD monitor
- Assign Buttons function to assign frequently used functions to the buttons on the front panel
- All Scan Mode to display all effective scanning lines in the screen



### Supplied Accessories

- Supplied Accessories
- Remote Commander (1)
- Size AA Battery (2)
- Power Cord (1)
- Cleaning Cassette (1)
- Operating Instructions (1)

### Optional Accessories

- VMC-IL44 i.LINK Cable (4-pin to 4-pin)
- VMC-IL46 i.LINK Cable (4-pin to 6-pin)
- DLC Cables HDMI Cables
- PHDV/PHDVM DigitalMaster™ Standard and Mini Cassette Tapes

### Specifications

#### Recording/Playback performance

- Recording format
  - 1080/60i, 1080/50i, 480/60i (NTSC), 576/50i (PAL)
- Playout/down conversion format
  - 1080/60i, 1080/50i, 480/60i (NTSC), 576/50i (PAL), 480/60P, 576/50P, 720/60P, 720/50P
- Tape speed
  - HDV/DV SP
    - Max. 18.812 mm/s
  - DVCAM
    - Max. 28.218 mm/s
- Playback/recording time
  - HDV/DV SP
    - Max. 276 min with PHDV-276DM cassette
    - Max. 63 min with PHDVM-63DM cassette
  - DVCAM
    - Max. 184 min with PHDV-276DM cassette
    - Max. 41 min with PHDVM-63DM cassette
- Fast forward/rewind time
  - Approx. 2 min with PHDV-276DM cassette

### Input/Output connectors/devices

- Video input/output
  - BNC x 2
  - Video signal: 1 Vp-p, 75  $\Omega$  unbalanced, sync negative
- S-video input/output
  - Mini-DIN 4-pin x 2
  - Y: 1 Vp-p, 75  $\Omega$  unbalanced, sync negative
  - C: 0.286 Vp-p (NTSC), 0.3 Vp-p (PAL), 75  $\Omega$  unbalanced,
- Component video output
  - BNC x 3
  - Y: 1 Vp-p (0.3 V, sync negative)
  - Pr/Pb (Cr/Cb): 700 mVp-p (100% colour bar), input impedance 75  $\Omega$
- i.LINK
  - 4-pin
- HDMI output
  - 19-pin (type A), video: 1080/60i, 1080/50i, 480/60i (NTSC), 576/50i (PAL), 720/60P, 720/50P, 480/60P, 576/50P, audio: PCM 48 kHz/16-bit
- Phones
  - Stereo minijack ( $\varnothing$ 3.5 mm), 8  $\Omega$  loading
- LANC
  - Stereo mini-minijack ( $\varnothing$ 2.5 mm)
- Control S
  - Stereo minijack ( $\varnothing$ 3.5 mm)
- Audio input
  - RCA pin x 2
  - Input level: -10/-2/+4 dBu, input impedance: min. 47 k $\Omega$  unbalanced
  - max. input level: -10: +18 dBu (approx. 6 Vrms), -2: +24 dBu (approx. 12.5 Vrms), +4: +30 dBu (approx. 25 Vrms)

### Audio output

- RCA pin x 2
- Output level: -10 dBu (full bit -20 dB), impedance 47 k $\Omega$ , unbalanced in 60i mode, -10 dBu (full bit -18 dB), impedance 47 k $\Omega$ , unbalanced in 50i mode
- Impedance: max. 1 k $\Omega$  unbalanced

### LCD monitor

- 2.7-inch\* type, approx. 211,200 dots (960 x 220), Clear Photo LCD Plus

### General

- Dimensions (W x H x D)
  - 212 x 88 x 380.7 mm (8 3/8 x 3 1/2 x 15 inches)
- Mass
  - Approx. 4.3 kg (9 lb 8 oz)
- Power requirements
  - AC 220 to 240 V, 50 Hz
- Power consumption
  - 12 W (playback mode with LCD monitor on)
- Operating temperature
  - 5 to 40°C (41 to 104°F)
- Storage temperature
  - 20 to +60°C (-4 to 140°F)

\* Viewable area, measured diagonally

# HVR-1500 HDV VTR

## Features

- Compatible with existing and new DV videocassette tapes
- Switchable recording -HDV 1080i/DVCAM/DV and 60i/50i
- Playback compatibility with DV (25 Mb/s) family formats including DVCPRO 25
- Long recording time - a maximum of 276 minutes with a PHDV-276DM DigitalMaster standard cassette tape in the HDV format and a maximum recording of 184 minutes with a PDV-184N standard cassette tape in the DVCAM format
- Down-conversion capability
- HD-SDI output
- SD-SDI input and output
- AES/EBU interface
- i.LINK interface
- Analog interfaces
- RS-422A control
- HD and SD reference inputs
- Time code Input/Output
- Built-in signal generator
- Quick response mechanism
- Tape and head cleaner for reliable operation
- Built-in 2.7-inch\*\* LCD monitor
- Auto repeat
- Assign button
- Digital slow motion and jog sound (in DVCAM mode)
- Picture search (in HDV mode)
- Picture search using menu keys
- Audio level control
- Compact design (half-rack wide, 3U high)
- AC operation (100 to 240 V, 50/60 Hz)
- Low power consumption (approximate 60 W)
- VITC (vertical interval time code) (DVCAM format only)
- Video processor control via menu
- Closed caption function (DVCAM/DV, NTSC format only)
- SIRCS (Sony integrated remote control system) interface



### Supplied Accessories

- AC Power Cord (1)
- Operational Instructions (1)

### Optional Accessories

- HVBK-1505 Analog Input Board
- RM-280 Editing Controller
- DSRM-10 Remote Control Unit
- VMC-IL46 Cables i.LINK Cable (4-pin to 6-pin)
- RCC-G Cables 9-pin/9-pin Cable
- PHDV/PHDVM Tapes DigitalMaster Standard and Mini Cassette Tapes
- PDV-N Tapes Digital Videocassette Tapes (Non IC type)
- PDV-ME Tapes Digital Videocassette Tapes
- PDV-CL Tapes Video Head Cleaning Cassette Tapes (for DVCAM)

### Specifications

#### Recording/Playback performance

##### Recording format

- 60i system
  - 1080/60i<sup>1</sup>, 480/60i<sup>1</sup> (NTSC)
- 50i system
  - 1080/50i, 576/50i (PAL)

##### Playback & down conversion format

- 60i system
  - 1080/60i<sup>1</sup>, 480/60i<sup>1</sup> (NTSC)
- 50i system
  - 1080/50i, 576/50i (PAL)

##### Tape speed

- HDV/DV SP
  - 60i system: 18.812 mm/s
  - 50i system: 18.831 mm/s

- DVCAM
  - 60i system: 28.193 mm/s
  - 50i system: 28.221 mm/s

##### Playback/recording time

- HDV/DV SP
  - Max. 276 min with PHDV-276DM cassette
  - Max. 63 min with PHDVM-63DM cassette

##### DVCAM

- Max. 184 min with PDV-184N cassette
- Max. 40 min with PDVM-40N cassette

- Fast forward/rewind time
  - Approx. 3 min with PHDV-276DM and PDV-184N cassette

##### Video Input

- Digital video
  - SD-SDI (BNC x1)
    - 60i system: Conforms to Serial Digital Interface (270Mb/s), SMPTE 259M
    - 50i system: Conforms to Serial Digital Interface (270Mb/s), ITU-R BT. 656

##### Analog video

- Ref. video (HD/SD) (BNC x2, loop-through connection)<sup>3</sup>
  - 60i system:
    - HD: bipolar tri-level sync, 0.3 Vp-p, 75 Ω, sync negative
    - SD: black burst or composite sync, 0.286 Vp-p, 75 Ω, sync negative
  - 50i system:
    - HD: bipolar tri-level sync, 0.3 Vp-p, 75 Ω, sync negative
    - SD: black burst or composite sync, 0.3 Vp-p, 75 Ω, sync negative
- Component<sup>2</sup> (BNC x3)<sup>3</sup>
  - 60i system:
    - Y: 1.0 Vp-p, 75 Ω, sync negative
    - R-Y: 0.7 Vp-p, 75 Ω, (75% color bars)
    - B-Y: 0.7 Vp-p, 75 Ω, (75% color bars)
  - 50i system:
    - Y: 1.0 Vp-p, 75 Ω, sync negative
    - R-Y: 0.7 Vp-p, 75 Ω, (100% color bars)
    - B-Y: 0.7 Vp-p, 75 Ω, (100% color bars)

- Composite<sup>2</sup> (BNC x2, loop-through connection)<sup>3</sup>
  - 1.0 Vp-p, 75 Ω, sync negative
- S-Video<sup>2</sup> (BNC x2)<sup>3</sup>
  - 60i system:
    - Y: 1.0 Vp-p, 75 Ω, sync negative
    - C: 0.286 Vp-p, 75 Ω(at burst level)

##### 50i system:

- Y: 1.0 Vp-p, 75 Ω, sync negative
- C: 0.3 Vp-p, 75 Ω (at burst level)

##### Audio Input

- Digital audio
  - AES/EBU (BNC x2)
    - Conforms to AES-3id-1995
- Analog audio<sup>2</sup>
  - Audio (XLR 3-pin female x2)
    - 60i system: +4/0/-6 dBu high impedance, balanced
    - 50i system: +4/0/-3/-6 dBu, high impedance, balanced

##### Video Output

- Digital video
  - HD-SDI (BNC x2)
    - Conforms to Serial Digital Interface (1.485, 1.485/1.001 Gb/s), SMPTE 292M
  - SD-SDI (BNC x2)
    - 60i system: Conforms to Serial Digital Interface (270 Mb/s), SMPTE 259M
    - 50i system: Conforms to Serial Digital Interface (270 Mb/s), ITU-R BT.656
- Analogue video
  - Component (HD) (BNC x3)<sup>4</sup>
    - Y: 1.0 Vp-p, 75 Ω, sync negative
    - R-Y: 0.7 Vp-p, 75 Ω
    - B-Y: 0.7 Vp-p, 75 Ω
  - Component (SD) (BNC x3)<sup>4</sup>
    - 60i system:
      - Y: 1.0 Vp-p, 75 Ω, sync negative
      - R-Y: 0.7 Vp-p, 75 Ω, (75% color bars)
      - B-Y: 0.7 Vp-p, 75 Ω, (75% color bars)
    - 50i system:
      - Y: 1.0 Vp-p, 75 Ω, sync negative
      - R-Y: 0.7 Vp-p, 75 Ω, (100% color bars)
      - B-Y: 0.7 Vp-p, 75 Ω, (100% color bars)
  - Composite (BNC x1)<sup>4</sup>
    - 1.0 Vp-p, 75 Ω, sync negative
  - S-Video (BNC x2)<sup>4</sup>
    - 60i system:
      - Y: 1.0 Vp-p, 75 Ω, sync negative



C: 0.286 Vp-p, 75  $\Omega$  (at burst level)  
 50i system:  
 Y: 1.0 Vp-p, 75  $\Omega$ , sync negative  
 C: 0.3 Vp-p, 75  $\Omega$  (at burst level)  
 Monitor video (BNC x1)  
 Composite, 1.0 Vp-p, 75  $\Omega$ , sync  
 negative, with superimposed text  
 information

**Audio Output**

Digital audio

AES/EBU (BNC x2)

Conforms to AEC-3id-1995

Analog audio

Audio (XLR 3-pin male x2)

60i system: +4/0/-6 dBu, 600 k $\Omega$

loading, low impedance balanced

50i system: +4/0/-3/-6 dBu, 600 k $\Omega$

loading, low impedance,

Monitor (RCA pin x1)

60i system:  $-\infty$  to -11 dBu  $\pm$ 1 dB

(-20 dBFS), 47 k $\Omega$ , unbalanced

50i system: -? to -9 dBu  $\pm$ 1 dB (-18

dBFS), 47 k $\Omega$ , unbalanced

Headphones (JM-60 jack x1)

60i system:  $-\infty$  to -13 dBu (-20 dBFS),

8  $\Omega$ , unbalanced

50i system:  $-\infty$  to -11 dBu (-18 dBFS),

8  $\Omega$ , unbalanced

**i.LINK Interface**

i.LINK 6-pin x1<sup>5</sup>

IEEE 1394-based

**Time Code Input/Output**

TC In

BNC x1

0.5 Vp-p to 18 Vp-p,

3.3 k $\Omega$ , unbalanced

TC Out

BNC x1

2.2 Vp-p  $\pm$ 3 dB (when 600  $\Omega$

terminated), unbalanced

**General**

Mass

Approx. 6.9 kg (15 lb 3 oz)

Dimensions

211(W) x 130 (H) x 420 (D) mm

(8 3/8 x 5 1/8 x 16 5/8 inches)

Power requirement

AC 100 V to 240 V, 50/60 Hz

Power consumption

Approx. 60 W

Operating temperature

5  $^{\circ}$ C to 40  $^{\circ}$ C (41  $^{\circ}$ F to 104  $^{\circ}$ F)

Storage temperature

-20  $^{\circ}$ C to +60  $^{\circ}$ C (-4  $^{\circ}$ F to +140  $^{\circ}$ F)

Operating relative humidity

Less than 80%

Storage relative humidity

Less than 90%

<sup>1</sup> \*60i indicates a field rate of 59.94 Hz.

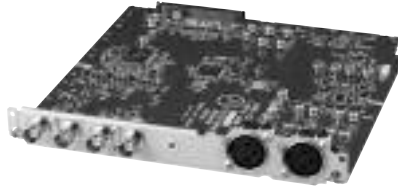
<sup>2</sup> The HVBK-1505 Analog Input Board is required.

<sup>3</sup> Component, composite, and S-Video inputs share the same BNC connectors.

<sup>4</sup> Component, composite, and S-Video outputs share the same connectors.

<sup>5</sup> HDV and DV streams share the same i.LINK connector.

HVBK-1505 - Plug in board



Features

Analog Input Board for HVR-1500 enables analog SD component, composite, or S-video, as well as balanced audio via XLR connectors.

# HVR-DR60 Hard Disk Recording Unit

## Features

•Long recording time of 4.5 hours •Hybrid disk and tape operation for reliable recording and archiving •Direct file access from a computer •SYNCHRO mode •FOLLOW mode •Independent recording •Cache recording •VTR-like controls •Quick review of recordings •Repeat playback •Operational status indication on the HVR-V1 series camcorder's LCD monitor •Tapeless recording •User-free area •HDD smart protection - robust recording and shock resistance •Long operating hours using common camcorder batteries - up to 18 hours with the NP-F970 •Compact and lightweight -81 x 45 x 100 mm in size and 230 g in weight



## Supplied Accessories

i.LINK cable (6-pin to 4-pin, 80 cm) (1)  
Shoe adaptor (1)  
Operating instructions (1)

## Optional Accessories

HVR-A1P HDV Camcorder  
HVR-A1U HDV Camcorder  
HVR-Z1P HDV Camcorder  
DSR-PD170 DVCAM Camcorder  
HVR-Z1U HDV Camcorder  
DSR-PD150P DVCAM Camcorder  
HVR-Z1N HDV Camcorder  
HVR-Z1C HDV Camcorder  
HVR-Z1E HDV Camcorder  
DSR-PD170P DVCAM Camcorder  
DSR-400L DVCAM Camcorder  
DSR-400PL DVCAM Camcorder  
DSR-400PK DVCAM Camcorder  
DSR-450WSPL DVCAM Camcorder  
DSR-400K DVCAM Camcorder  
DSR-450WSL DVCAM Camcorder  
DSR-390K2 DVCAM Camcorder  
DSR-390K1 DVCAM Camcorder

## Specifications

### Hard disk drive

Recording capacity  
60 GB  
Disk size  
1.8 inches

File system  
FAT32

### Interface

i.LINK  
IEEE 1394a, 6-pin connector

### File format

HDV  
MPEG-2-TS (.m2t)  
DVCAM/DV SP  
AVI-Type1 (.AVI), RAW-DV (.DV)

### Built-in output device

LCD monitor  
23.02 x 11.5 mm (picture size),  
128 x 64 dots

### OS compatibility

OS  
Windows(R) 2000 Professional  
(Service Pack 4),  
Windows XP Home Edition  
(Service Pack 2),  
Windows XP Professional  
(Service Pack 2),  
Mac(R) OS X (v10.3)

## General

Mass  
230 g (8 oz)  
Power requirements  
DC 7.2 V (battery pack),  
DC 8.4 V (AC adaptor)  
Power consumption  
2.7 W (in recording mode with  
LCD monitor on)  
Operating temperature  
0 to 40 °C (32 to 104 °F)  
Storage temperature  
-20 to +60 °C (-4 to 140 °F)

PDW-F330L .....	94
PDW-F350L .....	96
PDW-F70 .....	98
PDW-F30 .....	100

# PDW-F330L XDCAM HD Camcorder (without lens)

## Features

- MPEG HD (35/25/18 Mb/s) and DVCAM switchable recording
- Superb picture and sound quality
- 12-bit A/D conversion
- High-performance digital signal processing
- 1/2-inch type HD Power HAD EX CCD
- Long recording time; MPEG HD<sup>(\*)</sup> at 35 Mb/s: 69 min., 25 Mb/s: 92 min., 18 Mb/s: 122 min., DVCAM: 85 min.
- Shock- and dust-resistant disc drive
- 3.5-inch<sup>(\*\*)</sup> type colour LCD screen
- 2/3-inch-type lens can be used via the optional LO-32BMT adaptor<sup>(\*\*\*)</sup>.
- 1.5-inch monochrome viewfinder (DXF-801) is supplied as standard. 2.0-inch monochrome viewfinder (DXF-20W) is also available as an option.
- Thumbnail Search operation
- Expand function
- Scene Selection operation
- Proxy AV (low-resolution audio and video) Data recording
- Metadata recording including essence mark, UMID, Extended UMID
- Progressive mode: 29.97P, 25P and native 23.98P
- Selectable gamma curves (five types)
- Picture cache recording function (up to 12 seconds)
- Interval recording function (MPEG HD Only)
- Slow shutter function
- Turbo gain function (max. 48 dB)
- Freeze Mix function
- Auto Tracing White Balance (ATW) capability
- HD analogue component<sup>(\*)</sup> output, SD analogue component<sup>(\*)</sup> output, SD analogue composite output and i.LINK (DV OUT and File Access Mode) as standard
- Down-conversion output via the SD component, composite, or i.LINK (DV OUT) connector
- Four assignable buttons
- Sony WRR-855 Series wireless microphone receiver can be easily attached to the camcorder via the optional CA-WR855 adaptor
- "Memory Stick" stores camera setup parameters
- Intelligent light system powered from the camcorder's battery
- Built-in optical filter wheel: Clear, 1/4ND, 1/16ND, 1/64ND
- Camera control from RM-B150/B750
- Simple Remote Commander unit is supplied.
- Compact and lightweight
- Low power consumption of 31 W



(\*) In 2-ch audio mode (\*\*) Viewable area measured diagonally (\*\*\*) In this configuration, the resulting focal length will be 1.37 times the actual focal length of the lens. (\*) 1080/23.98P recordings are output as 1080/59.94i signals via 2-3 pull-down conversion. (\*) HD analogue component output and SD analogue component output share the same connectors.

### Supplied Accessories

- DXF-801 1.5-inch monochrome viewfinder (1)
- Electret condenser stereo microphone (1)
- Wind screen (1)
- Lens mount cap (1)
- Shoulder belt (1)
- Frang focal length adjustment test chart (1)
- IR Remote Commander unit (1)
- Operation manual (1)
- PDZ-1 proxy browsing software (1)
- XDCAM proxy viewer software (1)
- PFD23A Professional Disc (1)
- VCT-U14 Tripod Adaptor (1)

### Optional Accessories

- VCT-U14 Tripod Adaptor
- PFD23A Disc Professional Disc
- LO-32BMT 2/3-inch Lens Mount Adaptor
- DXF-20W 2.0-inch Monochrome Viewfinder
- DXF-51 5-inch Monochrome Viewfinder
- BP-GL95 Rechargeable Lithium-ion Battery Pack
- BP-L80S Rechargeable Lithium-ion Battery Pack
- BC-L70 Li-ion Battery Charger
- BC-M150 Ni-MH & Li-ion Battery Charger
- BC-L500 Li-ion Battery Charger
- AC-DN10 AC Adaptor/Charger
- RM-B150 Remote Control Unit
- RM-B750 Remote Control Unit
- CA-WR855 Camera Adaptor
- WRR-855B UHF Synthesized Diversity Tuner
- WRR-862B UHF Synthesized Dual Diversity Tuner

- ECM-674 Electret Condenser Microphone
- ECM-678 Electret Condenser Microphone
- LC-H300 Hard Carrying Case
- LC-DS300SFT Soft Carrying Case
- LCR-1 Camera Rain Cover
- VMC-IL46 Cables i.LINK Cable (4-pin to 6-pin)
- VMC-IL66 Cables i.LINK Cable (6-pin to 6-pin)

## Specifications

### General

#### Mass:

Approx. 3.8 kg (body, 8 lb 6 oz)

#### Power requirements:

DC 12 V +5.0 V/-1.0 V

#### Power consumption

Approx. 31 W

#### Operating temperature:

5 to 40 °C (+32 to +104 °F)

#### Storage temperature:

-20 to +60 °C (-4 to +140 °F)

#### Humidity:

10 to 90% (relative humidity)

#### Continuous operating time:

Approx. 160 min. w/BP-GL95 battery

#### Recording format

##### Video:

DVCAM (25 Mb/s)

MPEG HD (MPEG-2 MP@HL)

HQ mode (VBR, maximum bit rate:

35 Mb/s)

SP mode (CBR 25 Mb/s)

LP mode (VBR, maximum bit rate:

18 Mb/s)

##### Proxy Video:

MPEG-4

##### Audio:

MPEG HD: 4ch or 2ch, 16 bits/48 kHz

DVCAM: 4ch, 16 bits/48 kHz

##### Proxy Audio:

A-law (4ch / 2ch, 8 bit, 8 kHz)

#### Recording/Playback time

##### DVCAM:

Approx. 85 min.

##### MPEG HD (HQ mode):

Audio 2ch: approx. 69 min. /

Audio 4ch: approx. 66 min.

##### MPEG HD (SP mode):

Audio 2ch: approx. 92 min. /

Audio 4ch: approx. 87 min.

##### MPEG HD (LP mode):

Audio 2ch: approx. 122 min. /

Audio 4ch: approx. 113 min.

### Signal inputs

#### Genlock video:

BNC x1, 1.0 Vp-p, 75 Ω

#### Audio input:

XLR-3pin (Female) x2, line /

mic / mic +48 V selectable

#### Mic input:

XLR-5-pin (Female, stereo) x1

### Signal outputs

#### Component (HD/SD analogue) video output:

BNC x3, Y/Pb/Pr, 1.0 Vp-p, 75 Ω

#### Composite video output:

BNC x1, 1.0 Vp-p, 75 Ω

#### Earphone:

Mini-jack x1 (stereo)

#### Audio output (CH-1/CH-2):

Pin-jacks x2, -10 dBu, 47 Ω

### Other inputs/outputs

#### Timecode input:

BNC x1 (input or output, selectable),

(input: 0.5 to 18 Vp-p, 10 kΩ,

output: 1.0Vp-p, 75 Ω)

#### Timecode output:

BNC x1 (input or output, selectable),

(input: 0.5 to 18 Vp-p, 10 kΩ,

output: 1.0 Vp-p, 75 Ω)

#### Lens:

12-pin

#### Remote:

8-pin

#### Light:

2-pin, DC 12 V, max. 50 W

#### DC input:

XLR-4-pin (Male) x1

#### DC output:

4-pin (for wireless microphone receiver),

DC 12 V (MAX 0.2 A)

#### i.LINK:

IEEE 1394, 6-pin x1,

AV/C (DV stream output) or

File Access Mode

### Audio performance

#### Frequency response:

20 Hz to 20 kHz, +0.5 dB/-1.0 dB

#### Dynamic range:

More than 85 dB

#### Distortion:

Less than 0.08% (at 1 kHz, reference level)

#### Crosstalk:

Below measurable limit

#### Wow & flutter:

Below measurable limit

#### Headroom:

20/18/16/12 dB (selectable)

### Camera section

#### Pickup device:

3-chip 1/2-inch type HD Power HAD CCD

#### Effective picture elements:

Approx. 1.56 Mega Pixels (1,440 x 1,080)

#### Optical system:

F1.4 prism

#### Built-in optical filters:

1: Clear, 2: 1/4ND, 3: 1/16ND, 4: 1/64ND

#### Shutter speed

59.94i:

1/100, 1/125, 1/250, 1/500, 1/1000,

1/2000, ECS, SLS

29.97P:

1/40, 1/60, 1/120, 1/125, 1/250, 1/500,

1/1000, 1/2000, ECS, SLS

23.98P:

1/32, 1/48, 1/96, 1/125, 1/250, 1/500,

1/1000, 1/2000, ECS

50i:

1/60, 1/125, 1/250, 1/500, 1/1000,

1/2000, ECS, SLS

25P:

1/33, 1/50, 1/100, 1/125, 1/250, 1/500,

1/1000, 1/2000, ECS, SLS

#### Slow Shutter (SLS):

1 to 8, 16, 32, and 64 frame accumulation

#### Lens mount:

SONY 1/2-inch type bayonet mount

#### Sensitivity (2000 lx, 89.9% reflectance):

F9 (typical)

#### Minimum illumination:

Approx. 0.004 lx (F1.4 lens, +48 dB

turbo gain, with 64 frame accumulation)

#### Gain selection:

-3, 0, 3, 6, 9, 12, 18, 24, 30, 36, 42, 48 dB

#### Smear level:

-120 dB (typical)

#### S/N ratio:

54 dB (typical, HD output)

#### Modulation depth at 21 MHz:

45% (typical)

#### Geometric distortion:

Below measurable level (w/o lens)

### Viewfinder

#### CRT:

1.5-inch type monochrome

#### Indicators:

REC (x2), TALLY, BATT, SHUTTER, GAIN UP

### Built-in LCD monitor

3.5-inch type colour LCD monitor

# PDW-F350L XDCAM HD Camcorder (without lens)

## Features

- MPEG HD (35/25/18 Mb/s) and DVCAM switchable recording
- Superb picture and sound quality
- 12-bit A/D conversion
- High-performance digital signal processing
- 1/2-inch type HD Power HAD EX CCD
- Long recording time; MPEG HD<sup>(\*)</sup> at 35 Mb/s: 69 min., 25 Mb/s: 92 min., 18 Mb/s: 122 min., DVCAM: 85 min.
- Shock- and dust-resistant disc drive
- 3.5-inch<sup>(\*\*)</sup> type colour LCD screen
- 2/3-inch-type lens can be used via the optional LO-32BMT adaptor<sup>(\*\*)</sup>
- 2.0-inch monochrome viewfinder (DXF-20W) is supplied as standard
- Thumbnail Search operation
- Expand function
- Scene Selection operation
- Proxy AV (low-resolution audio and video) Data recording
- Metadata recording including essence mark, UMID, Extended UMID
- Progressive mode: 29.97P, 25P and native 23.98P
- Slow & Quick Motion function (MPEG HD Only)
- Selectable gamma curves (five types)
- Picture cache recording function (up to 12 seconds)
- Interval recording function (MPEG HD Only)
- Slow shutter function
- Turbo gain function (max. 48 dB)
- Freeze Mix function
- Auto Tracing White Balance (ATW) capability
- HD-SDI<sup>(\*\*\*)</sup> output, SD analogue composite output and i.LINK (DV OUT and File Access Mode) as standard
- Down-conversion output via the SD composite, or i.LINK (DV OUT) connector
- Four assignable buttons
- Sony WRR-855 Series wireless microphone receiver can be easily attached to the camcorder via the optional CA-WR855 adaptor
- "Memory Stick" stores camera setup parameters
- Intelligent light system powered from the camcorder's battery
- Built-in optical filter wheel: Clear, 1/4ND, 1/16ND, 1/64ND
- Camera control from RM-B150/B750
- Simple Remote Commander unit is supplied
- Compact and lightweight
- Low power consumption of 32 W

(\*1) In 2-ch audio mode (\*2) Viewable area measured diagonally (\*3) In this configuration, the resulting focal length will be 1.37 times the actual focal length of the lens. (\*4) 1080/23.98P recordings are output as 1080/59.94i signals via 2-3 pull-down conversion.



### Supplied Accessories

- DXF-20W 2.0-inch Monochrome Viewfinder (1)
- Electret condenser stereo microphone (1)
- Wind screen (1)
- Lens mount cap (1)
- Shoulder belt (1)
- Fringe focal length adjustment test chart (1)
- IR Remote Commander unit (1)
- Operation manual (1)
- PDZ-1 proxy browsing software (1)
- XDCAM proxy viewer software (1)
- PFD23A Professional Disc (1)
- VCT-U14 Tripod Adaptor (1)

### Optional Accessories

- DXF-20W 2.0-inch Monochrome Viewfinder
- VCT-U14 Tripod Adaptor
- PFD23A Disc Professional Disc
- LO-32BMT 2/3-inch Lens Mount Adaptor
- DXF-51 5-inch Monochrome Viewfinder
- BP-GL95 Rechargeable Lithium-ion Battery Pack
- BP-L80S Rechargeable Lithium-ion Battery Pack
- BC-L70 Li-ion Battery Charger
- BC-M150 Ni-MH & Li-ion Battery Charger
- BC-L500 Li-ion Battery Charger
- AC-DN10 AC Adaptor/Charger
- RM-B150 Remote Control Unit
- RM-B750 Remote Control Unit
- CA-WR855 Camera Adaptor
- WRR-855B UHF Synthesized Diversity Tuner

- WRR-862B UHF Synthesized Dual Diversity Tuner
- ECM-674 Electret Condenser Microphone
- ECM-678 Electret Condenser Microphone
- LC-H300 Hard Carrying Case
- LC-DS300SFT Soft Carrying Case
- LCR-1 Camera Rain Cover
- VMC-IL46 Cables i.LINK Cable (4-pin to 6-pin)
- VMC-IL66 Cables i.LINK Cable (6-pin to 6-pin)

## Specifications

### General

#### Mass:

Approx. 3.85 kg (body, 8 lb 7 oz)

#### Power requirements:

DC 12 V +5.0 V/-1.0 V

#### Power consumption:

Approx. 31 W (while recording, with viewfinder, colour LCD ON, manual lens)

#### Operating temperature:

-5 to 40 °C (+32 to +104 °F)

#### Storage temperature:

-20 to +60 °C (-4 to +140 °F)

#### Humidity:

10 to 90% (relative humidity)

#### Continuous operating time:

Approx. 160 min. w/BP-GL95 battery

#### Recording format

##### Video:

DVCAM (25 Mb/s)  
MPEG HD (MPEG-2 MP@HL)  
HQ mode (VBR, maximum bit rate :  
35 Mb/s)  
SP mode (CBR 25 Mb/s)  
LP mode (VBR, maximum bit rate :  
18 Mb/s)

##### Proxy Video:

MPEG-4

##### Audio:

MPEG HD: 4ch or 2ch, 16 bits/48 kHz  
DVCAM: 4ch, 16 bits/48 kHz

##### Proxy Audio:

A-law (4ch / 2ch, 8 bit, 8 kHz)

#### Recording/Playback time

##### DVCAM:

Approx. 85 min.

##### MPEG HD (HQ mode):

Audio 2ch: approx. 69 min. /

Audio 4ch: approx. 66 min.

##### MPEG HD (SP mode):

Audio 2ch: approx. 92 min. /

Audio 4ch: approx. 87 min.

##### MPEG HD (LP mode):

Audio 2ch: approx. 122 min. /

Audio 4ch: approx. 113 min.

### Signal inputs

#### Genlock video:

BNC x1, 1.0 Vp-p, 75 Ω

#### Audio input:

XLR-3pin (Female) x2, line / mic /

mic +48 V selectable

#### Mic input:

XLR-5-pin (Female, stereo) x1

### Signal outputs

#### HD-SDI output:

BNC x1, SMPTE 292M (w/embedded audio, MPEG HD mode only)

#### Composite video output:

BNC x1, 1.0 Vp-p, 75 Ω

#### Earphone:

Mini-jack x1 (stereo)

#### Audio output (CH-1/CH-2):

XLR-5-pin (Male, stereo) x1

### Other inputs/outputs

#### Timecode input:

BNC x1, 0.5 to 18 Vp-p, 10 Ω

#### Timecode output:

BNC x1, 1.0 Vp-p, 75 Ω

#### Lens:

12-pin

#### Remote:

8-pin

#### Light:

2-pin, DC 12 V, max. 50 W

#### DC input:

XLR-4-pin (Male) x1

#### DC output:

4-pin (for wireless microphone receiver),

DC 12 V (MAX 0.2 A)

#### i.LINK:

IEEE 1394, 6-pin x1, AV/C

(DV stream output) or File Access Mode

### Audio performance

#### Frequency response:

20 Hz to 20 kHz, +0.5 dB/-1.0 dB

#### Dynamic range:

More than 85 dB

#### Distortion:

Less than 0.08% (at 1 kHz, reference level)

#### Crosstalk:

Below measurable limit

#### Wow & flutter:

Below measurable limit

#### Headroom:

20/18/16/12 dB (selectable)

### Camera section

#### Pickup device:

3-chip 1/2-inch type HD Power HAD CCD

#### Effective picture elements:

Approx. 1.56 Mega Pixels (1,440 x 1,080)

#### Optical system:

F1.4 prism

#### Built-in optical filters:

1: Clear, 2: 1/4ND, 3: 1/16ND, 4: 1/64ND

#### Shutter speed

59.94i:

1/100, 1/125, 1/250, 1/500, 1/1000,

1/2000, ECS, SLS

29.97P:

1/40, 1/60, 1/120, 1/125, 1/250, 1/500,

1/1000, 1/2000, ECS, SLS

23.98P:

1/32, 1/48, 1/96, 1/125, 1/250, 1/500,

1/1000, 1/2000, ECS

50i:

1/60, 1/125, 1/250, 1/500, 1/1000,

1/2000, ECS, SLS

25P:

1/33, 1/50, 1/100, 1/125, 1/250, 1/500,

1/1000, 1/2000, ECS, SLS

#### Slow Shutter (SLS): "Slow & Quick Motion

function ("MPEG HD mode only")

1 to 8, 16, 32, and 64 frame accumulation

23.98P/29.97P:

Selectable from 4 to 60 frame/sec

as recording frame rate

25P:

Selectable from 4 to 50 frame/sec

as recording frame rate

#### Lens mount:

SONY 1/2-inch type bayonet mount

#### Sensitivity (2000 lx, 89.9% reflectance):

F9 (typical)

#### Minimum illumination:

Approx. 0.004 lx (F1.4 lens, +48 dB

turbo gain, with 64 frame accumulation)

#### Gain selection:

-3, 0, 3, 6, 9, 12, 18, 24, 30, 36, 42, 48 dB

#### Smear level:

-120 dB (typical)

#### S/N ratio:

54 dB (typical, HD output)

#### Modulation depth at: 21 MHz

45% (typical)

#### Geometric distortion:

Below measurable level (w/o lens)

### Viewfinder

#### CRT:

2.0-inch type monochrome

#### Indicators:

REC (x2), TALLY, BATT, SHUTTER,

GAIN UP

### Built-in LCD monitor

3.5-inch type colour LCD monitor

# PDW-F70 XDCAM HD Recording Deck

## Features

- MPEG HD recording at 35, 25 and 18 Mb/s via HD-SDI, HD analogue component and RGB input (HD analogue component and RGB input requires the optional PDBK-103 board)
- Also records MXF files (in both MPEG HD and DVCAM formats) via i.LINK (File Access Mode) or Ethernet<sup>(\*)</sup> interface.
- Playback of MPEG HD and DVCAM material
- Proxy AV (low-resolution audio and video) Data recording
- Long recording/playback time; MPEG HD<sup>(2)</sup> at 35 Mb/s: 69 min., 25 Mb/s: 92 min., 18 Mb/s: 122 min.
- Up-conversion recording (require the optional PDBK-104 board): Input from SD-SDI or SD composite connectors can be recorded in the MPEG HD format.
- Down-conversion output: MPEG HD playback can be converted to SD signals and output via the SD-SDI, SD composite and i.LINK (DV OUT) connectors.
- Up-conversion output: DVCAM playback can be converted to 1080i HD signals and output via HD connectors.
- Thumbnail Search operation
- Expand function
- Scene Selection operation
- Search speed (in colour) - JOG: -1 ~ +2 times normal speed, Variable: -1 ~ +2 times normal speed, Shuttle: ±20 times normal speed
- 3.5-inch<sup>(3)</sup> type colour LCD screen
- Repeat playback function
- Simple Remote Commander unit is supplied.
- Gigabit Ethernet capability (requires the optional PDBK-101 board)
- Input and output of 25 Mb/s HDV stream (MPEG-2 TS) (requires the optional PDBK-102 board)
- Ability to write EDL data (Clip List) back onto disc
- Metadata recording
- A wide variety of video interfaces including HD-SDI I/O, HD analogue component output, RGB output, SD-SDI output, SD analogue composite output, i.LINK (DV OUT and File Access Mode) as standard
- Compact and lightweight design; can be placed either horizontally or vertically
- Compatible with the PDJ-A640 XDCAM cart

(\*1) Ethernet interface requires the optional PDBK-101 board.

(\*2) In 2-ch audio mode (\*3) Viewable area measured diagonally



## Supplied Accessories

- Operation manual (1)
- Vertical installation stand (1)
- IR Remote Commander unit (1)
- PDZ-1 proxy browsing software (1)
- XDCAM proxy viewer software (1)

## Optional Accessories

- PFD23A Disc Professional Disc
- PDBK-101 Network Board
- PDBK-102 MPEG-2 TS In/Out Board
- PDBK-103 HD Analogue Input Board
- PDBK-104 SD Input Upconverter Board
- PDBK-A640 Cart Mount Kit
- RM-280 Editing Controller
- RCC-G Cables 9-pin/9-pin Cable
- VMC-IL46 Cables i.LINK Cable (4-pin to 6-pin)
- VMC-IL66 Cables i.LINK Cable (6-pin to 6-pin)



## Specifications

### General

Power requirements:

100 V to 240 V AC, 50/60 Hz

Power consumption:

70 W

Operating temperature:

+5 to +40 °C (+41 to +104 °F)

Storage temperature:

-20 to +60 °C (-4 to +140 °F)

Humidity:

20 to 90% (relative humidity)

Mass:

7.2 kg

Dimensions (W x H x D):

307 x 100 x 411 mm

(12 1/8 x 4 x 16 1/2 inches)

Recording format

Video:

MPEG HD (MPEG-2 MP@HL): HQ mode  
(VBR, maximum bit rate : 35 Mb/s),  
SP mode (CBR, 25 Mb/s), LP mode  
(VBR, maximum bit rate : 18 Mb/s)

Proxy Video:

MPEG-4

Audio:

MPEG HD: 4 ch or 2 ch, 16 bits/48 kHz

Proxy Audio:

A-law (4 ch / 2 ch, 8 bit, 8 kHz)

Playback format

Video:

MPEG HD (MPEG-2 MP@HL): HQ mode  
(VBR, maximum bit rate : 35 Mb/s),  
SP mode (CBR, 25 Mb/s), LP mode  
(VBR, maximum bit rate : 18 Mb/s)

Proxy Video:

MPEG-4

Audio:

MPEG HD: 4 ch or 2 ch, 16 bits/48 kHz

DVCAM: 4 ch, 16 bit/48 kHz

Proxy Audio:

A-law (4 ch / 2 ch, 8 bit, 8 kHz)

Recording/playback time

MPEG HD (HQ mode):

Audio 2ch : approx. 69 min.,

Audio 4ch : approx. 66 min.

MPEG HD (SP mode):

Audio 2ch : approx. 92 min.,

Audio 4ch : approx. 87 min.

MPEG HD (LP mode):

Audio 2ch : approx. 122 min.,

Audio 4ch : approx. 113 min.

DVCAM:

Approx. 85 min. (playback only)

Search speed (in colour)

Jog mode:

-1 ~ +2 times normal speed

Variable mode:

-1 ~ +2 times normal speed

Shuttle mode:

±20 times normal speed

### Signal inputs

Analogue reference input:

BNCx2 (including loop through),

HD Tri-level sync or SD composite sync

(0.3 Vp-p/75 Ω/sync negative)

Analogue composite input

(option: PDBK-104):

BNCx1, RS-170M

Analogue HD component input

(option: PDBK-103):

BNC x4, Y/Pb/Pr/(Sync) or G/B/R/(Sync)

HD-SDI input:

BNCx1, SMPTE 292M

SD-SDI input (option: PDBK-104):

BNCx1, SMPTE 259M

Analogue audio input:

XLR x2 (channel selectable),

+4/0/-3/-6 dBu (selectable),

10 kΩ, balanced

Digital audio input:

AES/EBU, BNCx2, 4 channels

Timecode input:

BNCx1, SMPTE Time code

### Signal outputs

Analogue composite video output:

BNCx1, (1.0 Vp-p/75 Ω/sync negative) ,

RCA-pinx1, (1.0 Vp-p/75 Ω/sync negative)

Monitor output:

D-sub 15-pin (G/B/R or Y/Pb/Pr)

Built-in display:

3.5-inch type colour LCD monitor

HD-SDI output:

BNCx2, SMPTE 292M

SD-SDI output:

BNCx1, SMPTE 259M

Analogue audio output:

XLRx2 (channel selectable),

+4/0/-3/-6 dBu (selectable),

600 Ω load, balanced

Audio monitor output:

RCAX2 (L, R, Mix), -6dBu,

47 kΩ, unbalanced

Headphone output:

Stereo phone jack, -14dBu,

8 Ω, unbalanced

Digital audio output:

AES/EBU, BNCx2, 4 channels

Timecode output:

BNCx1, SMPTE Timecode

### Other inputs/outputs

i.LINK:

IEEE1394, 6-pin x1,

AV/C (DV stream output) or

File Access Mode

i.LINK(HDV 1080i) (option: PDBK-102):

IEEE1394, 6-pin x1, HDV 1080i IN/OUT

Ethernet (option: PDBK-101):

1000Base-T (RJ-45)

RS-422A:

D-sub 9-pin x 1

RS-232C:

D-sub 9-pin x 1

CONTROL:

Mini-jack 4-pin

### Video performance

Sampling frequency:

Y: 74.25MHz, R-Y/B-Y: 37.125MHz

Quantization:

8 bits/sample

## PDW-F30 XDCAM HD Viewing Deck

### Features

- Playback of MPEG HD and DVCAM material
- Records MXF files (in both MPEG HD and DVCAM formats) via i.LINK (File Access Mode) or Ethernet<sup>(\*)</sup> interface.
- Proxy AV (low-resolution audio and video) Data recording
- Long playback time; MPEG HD<sup>(\*\*)</sup> at 35 Mb/s: 69 min., 25 Mb/s: 92 min., 18 Mb/s: 122 min.
- Down-conversion output: MPEG HD playback can be converted to SD signals and output via the SD-SDI, SD composite and i.LINK (DV OUT) connectors.
- Up-conversion output: DVCAM playback can be converted to 1080i HD signals and output via HD connectors.
- Thumbnail Search operation
- Expand function
- Scene Selection operation
- Search speed (in colour) - JOG: -1 ~ +2 times normal speed, Variable: -1 ~ +2 times normal speed, Shuttle: ±20 times normal speed
- 3.5-inch<sup>(\*\*\*)</sup> type colour LCD screen
- Repeat playback function
- Simple Remote Commander unit is supplied.
- Gigabit Ethernet capability (requires the optional PDBK-101 board)
- Input and output of 25 Mb/s HDV stream (MPEG-2 TS) (requires the optional PDBK-102 board)
- Ability to write EDL data (Clip List) back onto disc
- Metadata recording
- Compact and lightweight design; can be placed either horizontally or vertically
- Compatible with the PDJ-A640 XDCAM cart



(\*1) Ethernet interface requires the optional PDBK-101 board.

(\*2) In 2-ch audio mode (\*3) Viewable area measured diagonally

### Supplied Accessories

- Operation manual (1)
- Vertical installation stand (1)
- IR Remote Commander unit (1)
- PDZ-1 proxy browsing software (1)
- XDCAM proxy viewer software (1)

### Optional Accessories

- PFD23A Disc Professional Disc
- PDBK-101 Network Board
- PDBK-102 MPEG-2 TS In/Out Board
- RM-280 Editing Controller
- RCC-G Cables 9-pin/9-pin Cable
- VMC-IL46 Cables i.LINK Cable (4-pin to 6-pin)
- VMC-IL66 Cables i.LINK Cable (6-pin to 6-pin)

## Specifications

### General

#### Power requirements:

100 V to 240 V AC, 50/60 Hz

#### Power consumption:

70 W

#### Operating temperature:

+5 to +40 °C (+41 to +104 °F)

#### Storage temperature:

-20 to +60 °C (-4 to +140 °F)

#### Humidity:

20 to 90% (relative humidity)

#### Mass:

7.2 kg

#### Dimensions (W x H x D):

307 x 100 x 411 mm  
(12 1/8 x 4 x 16 1/2 inches)

#### Recording format

##### Proxy Video:

MPEG-4

##### Proxy Audio:

A-law (4 ch / 2 ch, 8 bit, 8 kHz)

#### Playback format

##### Video:

MPEG HD (MPEG-2 MP@HL):

HQ mode (VBR, maximum bit rate :

35 Mb/s), SP mode (CBR, 25 Mb/s),

LP mode (VBR, maximum bit rate :

18 Mb/s)

##### Proxy Video:

MPEG-4

##### Audio:

MPEG HD: 4 ch or 2 ch, 16 bits/48 kHz,

DVCAM: 4 ch, 16 bit/48 kHz

##### Proxy Audio:

A-law (4 ch / 2 ch, 8 bit, 8 kHz)

#### Recording/playback time

##### MPEG HD (HQ mode):

Audio 2ch : approx. 69 min.,

Audio 4ch : approx. 66 min.

##### MPEG HD (SP mode):

Audio 2ch : approx. 92 min.,

Audio 4ch : approx. 87 min.

##### MPEG HD (LP mode):

Audio 2ch : approx. 122 min.,

Audio 4ch : approx. 113 min.

##### DVCAM:

Approx. 85 min. (playback only)

#### Search speed (in colour)

##### Jog mode:

-1 ~ +2 times normal speed

##### Variable mode:

-1 ~ +2 times normal speed

##### Shuttle mode:

±20 times normal speed

### Signal outputs

#### Analogue composite video output:

BNCx1, (1.0 Vp-p/75 Ω/sync negative),

RCA-pinx1, (1.0 Vp-p/75 Ω/sync negative)

#### Monitor output

D-sub 15-pin (G/B/R or Y/Pb/Pr)

#### Built-in display:

3.5-inch type colour LCD monitor

#### HD-SDI output:

BNCx2, SMPTE 292M

#### SD-SDI output:

BNCx1, SMPTE 259M

#### Analogue audio output:

XLRx2 (channel selectable),

+4/0/-3/-6 dBu (selectable),

600 Ω load, balanced

#### Audio monitor output:

RCAx2 (L, R, Mix), -6dBu,

47 kΩ, unbalanced

#### Headphone output:

Stereo phone jack, -14dBu,

8 Ω, unbalanced

#### Digital audio output:

AES/EBU, BNCx2, 4 channels

#### Timecode output:

BNCx1, SMPTE Timecode

### Other inputs/outputs

#### i.LINK:

IEEE1394, 6-pin x1,

AV/C (DV stream output) or

File Access Mode

#### i.LINK (HDV 1080i) (option: PDBK-102):

IEEE1394, 6-pin x1, HDV 1080i IN/OUT

#### Ethernet (option: PDBK-101):

1000Base-T (RJ-45)

#### RS-422A:

D-sub 9-pin x 1

#### RS-232C:

D-sub 9-pin x 1

### Video performance

#### Sampling frequency:

Y: 74.25MHz, R-Y/B-Y: 37.125MHz

#### Quantization:

8 bits/sample

#### Analogue composite output (DV):

Frequency response : 0 to 4.2 MHz

+1.0/-3.0 dB (525), 0 to 4.8 MHz

+1.0/-3.0 dB (625), S/N(Y) : 53 dB or more,

Y/C delay (K2T) : ±25 ns or less ,

K-factor(K2T) : 2% or less

### Processor adjustment range

#### Video level:

±3 dB

#### Chroma level:

±3 dB

#### Set up/black level:

±30 IRE

#### Chroma phase:

±30 deg

### Audio performance

#### Sampling frequency:

48 kHz

#### Quantization

16 bits/2 channels or 16 bits / 4 channels

#### Frequency response:

20 Hz to 20 kHz +0.5/-1.0 dB

(0 dB at 1 kHz)

#### Dynamic range:

90 dB or more

#### Distortion

0.05% or less (at 1 kHz)

#### Headroom:

20/18/16/12 dB (selectable)

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# HDW-F900R HDCAM Camcorder

## Features

- CineAlta camcorder
- Superb picture quality of the HDCAM format
- 3-chip 2/3-type FIT CCD with 2.2 million pixels
- 12-bit A/D converter for enriched picture tonal reproduction
- High-quality audio recording
- Even with the viewfinder, battery, cassette, microphone, and a small variable or fixed-focal length lens, the total weight is only approximately 5.4 kg (12 lb).
- Dual HD-SDI outputs as standard
- Two independent filter wheels: ND and CC
- Electronic shutter
- Gamma Balance function: RGB Gamma Balance and Black Gamma
- HyperGamma function
- User Gamma Capability for quickly setup and loading the gamma curves being edited by the CVP File Editor gamma creation software
- Multi-matrix function
- TruEye function
- Stop-motion and time-lapse recording with the optional HKDW-703 Picture Cache Board
- Assignable buttons
- Adjustable shoulder pad
- LCD status panel for easy verification of camcorder's status
- Equipped with microphone volume protection cover
- A wide variety of optional accessories from Sony and film-related manufactures for digital cinematography



## Supplied Accessories

Microphone, Super cardioid directional, external power supply type (1)  
 XLR connector cover (4)  
 Shoulder strap (1)  
 Operation guide (1)  
 Operation manual (1)  
 Operation manual CD-ROM (1)

## Optional Accessories

VCT-14, Tripod Adapter  
 HDVF-C35W, HD LCD Colour Viewfinder (does not include microphone holder)  
 HDVF-20A, CRT B/W Viewfinder (includes microphone holder)  
 BP-GL65/GL95/L60S/L80S, Info Li-Ion Battery  
 BC-M150/L70, BC-L500 Battery Charger  
 AC-DN10, AC Adapter  
 BCT-6HD/12HD/22HD/32HD/40HD, HDCAM Tape Cassette  
 BKW-401, Viewfinder Rotation Bracket  
 RM-B750, Remote Control Unit  
 RM-B150, Remote Control Unit  
 WRR-855B, Slot-in Wireless Diversity Receiver  
 WRR-862B, Dual Diversity Microphone Receiver  
 A-8278-057-A, Mounting Bracket for WRR-862B  
 ECM-674/678, Shotgun Microphone  
 CAC-12, Microphone Holder  
 WRT-8B, Belt Pack Transmitter  
 WRT-847B, UHF Handheld Microphone  
 ECM-88B, Lavalier Microphone  
 LC-DN7, Hard Carrying Case  
 LC-DS300SFT, Soft Carrying Case  
 Maintenance Manual  
 HKDW-702, Down Converter Board  
 HKDW-703, Picture Cache Board  
 HKDW-902R, 2-3 Pull-down/Down Converter Board  
 HKDW-905R, Slow Shutter/Image Inverter Board  
 Part No. 1-547-341-11, Fog-proof Filter  
 Part No. 3-174-685-01, 1/8 ND Filter  
 Part No. 3-174-683-01, 1/32 ND Filter  
 Part No. 3-174-682-01, Cross Filter

Part No. 3-186-442-01, Mounting Ring  
 Part No. A-8314-798-A, Viewfinder Eyepiece (High performance x3, with soft cushion)  
 Part No. A-8262-537-A, Viewfinder Eyepiece (High magnification)  
 Part No. A-8262-538-A, Viewfinder Eyepiece (Low magnification)  
 Part No. A-8267-737-A, Viewfinder Eyepiece (Standard magnification with special compensation for aberrations)

The HDW-F900R HDCAM camcorder is supplied without a viewfinder. Either an HDVF-C35W HD Colour LCD viewfinder or HDVF-20A monochrome viewfinder can be used.

## Specifications

### General

#### Mass

5.4 kg (11 lb. 14 oz) with typical ENG lens, cassette and BP-GL95 Battery

#### Power requirement

DC 12 V (+5.0 V/-1.0 V)

#### Power consumption

38 W (With 12 V power supply, REC mode, with HDVF-20A)

#### Operating temperature

0 °C to +40 °C (+32 °F to +104 °F)

#### Storage temperature

-20 °C to +60 °C (-4 °F to +140 °F)

#### Operating humidity

25 % to 85 % (Relative humidity)

#### Continuous operating time

110 min (With BP-GL95)

### Inputs/outputs

#### Genlock video input

BNC, 1.0 Vp-p 75 Ω

#### Time code input

BNC, 0.5 V to 18 Vp-p, 10 kΩ

#### Audio CH1/CH2 input

XLR-3-pin type (Female),  
-60 dBu/-50 dBu /-40 dBu/  
+4 dBu/AES/EBU

#### MIC input

XLR-5-pin type (Female),  
-60 dBu/-50 dBu /-40 dBu  
LPF 14 kHz: -8 dB

#### Test output

BNC (1), 1.0 Vp-p, 75 Ω, unbalanced

#### HD-SDI output

BNC (2), 0.8 Vp-p, unbalanced

#### Audio output

XLR-5-pin type (Male), 0 dBm

#### Time code output

BNC, 1.0 Vp-p, 75 Ω

#### Earphone

Mini-jack, 8 Ω, -∞ to -18 dBs variable

#### DC input

XLR-4-pin type (Male), 11 to 17 V DC

#### DC output

11 to 17 V DC, Max. 100 mA

#### Lens

12-pin

#### Remote

8-pin

### VTR section

#### Recording format

HDCAM

#### Tape speed

Approx. 77.4 mm/s (24P mode)

#### Playback/Recording time

40 min (59.94I, 29.97P), 48 min (50I,25P),  
50 min (24P, 23.98P), with BCT-40HD

#### Fast forward/rewind time

5 min with BCT-40HD

#### Recommended tape

Sony BCT-6HD/12HD/22HD/32HD/40HD

#### Sampling frequency

Y: 74.25 MHz, PB/PR: 37.125 MHz

#### Quantization

12 bit/sample of input-output signals  
(8 bit sample for internal compression  
process)

#### Error correction

Reed-Solomon code

#### Error concealment

Adaptive three dimensional

### Audio performance

#### (with standard HDCAM playback machine)

#### Frequency response

20 Hz to 20 kHz, +0.5 dB/-0.8 dB

#### Dynamic range

More than 85 dB (Emphasis ON)

#### Distortion

0.08 % Max.

#### Cross talk

-70 dB

#### Wow & flutter

Below measurable limit

### Camera section

#### Pickup device

3-chip 2/3-type FIT CCD

#### Picture elements (H x V)

1920 x 1080

#### Optical system

F1.4 prism system

#### Built-in filters

A: 5600 K B: 3200 K C: 4300 K D: 6300 K

1: Clear 2: 1/4 ND 3: 1/16 ND 4: 1/64 ND

#### Shutter speed (1080/24P mode)

1/32, 1/48, 1/50, 1/60, 1/96, 1/125, 1/250,  
1/500, 1/1000 (s)

#### Clear scan

(ECS) 24 to 7000 Hz (Minimum setting  
depends on frame rate selected)

#### Lens mount

Special bayonet mount

#### Sensitivity

f10.0 at 2000 lux, 89.9 % reflective,  
At 24 fps, with a 1/48-second shutter  
speed (equivalent to a 180° film camera  
shutter setting), the exposure index is  
approximately equivalent to 300 ISO.

# HDW-790P HDCAM Camcorder

## Features

- Superb picture quality of the HDCAM format
- 3-chip 2/3-type FIT CCD with 2.2 million pixels
- Switchable between 1080/50i and 1080/25PsF modes
- 12-bit A/D converter for enriched picture tonal reproduction
- High-quality audio recording
- Lightweight, with viewfinder, battery, cassette, microphone, and a small variable or fixed-focal length lens, the total weight is approximately 5.4 kg (12 lb)
- Dual HD-SDI outputs as standard
- Two independent filter wheels: ND and CC
- Electronic shutter
- Gamma Balance function: RGB Gamma Balance and Black Gamma
- HyperGamma function
- Multi-matrix function
- TruEye function
- Stop-motion and time-lapse recording with the optional HKDW-703 Picture Cache Board
- Assignable buttons
- Adjustable shoulder pad
- LCD status panel for easy verification of camcorder's status
- Equipped with microphone volume protection cover
- A wide variety of optional accessories from Sony and film-related manufactures for digital cinematography



The HDW-790P HDCAM camcorder is supplied without a viewfinder. Either an HDVF-C35W HD Colour LCD viewfinder or an HDVF-20A monochrome viewfinder can be used.

## Supplied Accessories

Stereo microphone (super cardioid directional, external power supply type) (1)  
 Shoulder Strap (1)  
 Lens mount securing rubber (1)  
 Operation Manual (1)

## Optional Accessories

HDVF-C35W Multi-format HD Colour LCD Viewfinder  
 BP-GL65 Rechargeable Lithium-ion Battery Pack  
 BP-GL95 Rechargeable Lithium-ion Battery Pack  
 BP-L60S Rechargeable Lithium Ion Battery Pack  
 BP-L80S Rechargeable Lithium-ion Battery Pack  
 AC-DN10 AC Adaptor/Charger  
 AC-DN2B AC Adaptor  
 RM-B750 Remote Control Unit  
 BC-M150 Ni-MH & Li-ion Battery Charger  
 BC-L500 Li-ion Battery Charger  
 CAC-12 Microphone Holder  
 HKDW-702/1 Down Converter Board  
 HKDW-703/1 Picture Cache Board  
 HKDW-905R Slow Shutter/Image Inverter Board  
 BKW-401 Viewfinder Rotation Bracket  
 RM-B150 Remote Control Unit  
 VCT-14 Tripod Adaptor  
 ECM-678 Shotgun Microphone  
 WRT-847 UHF Handheld Transmitter  
 WRR-855B UHF Synthesized Diversity Receiver  
 WRT-8B UHF Synthesized Diversity Transmitter  
 MSA-A "Memory Stick" IC Memory Media  
 BKDW-701 Servo Filter Unit  
 LC-DN7 Carry Case



## Specifications

### General

Power voltage:  
12 +5.0/-1.0

Power consumption:  
38 W (With 12 V power supply, REC mode, with HDVF-20A)

Operating temperature:  
0 °C to 40 °C (32 °F to 104 °F)

Operating humidity:  
25% to 85% (relative humidity)

Storage temperature:  
-20 °C to 60 °C (-4 °F to 140 °F)

Mass:  
5.4 kg (11 lb 14 oz) with typical ENG lens, BCT-40HD cassette, viewfinder, microphone and BP-GL95 battery

### Video Camera Section

Imager:  
2/3-inch type FIT CCD with 2,200,000 pixels

Effective picture elements:  
1920 (H) x 1080 (V)

Imager Configuration:  
RGB 3-CCD

Spectral system:  
F1.4 prism system (with quartz filter)

Built-in filters  
CC filter:  
A: Cross filter  
B: 3200K  
C: 4300K  
D: 6300K  
ND filter:  
1: Clear  
2: 1/4 ND  
3: 1/16 ND  
4: 1/64 ND

Lens mount:  
Special bayonet type

Sensitivity:  
F10 (Typical) 89.9% reflection chart, 2000 lx

Minimum Illumination:  
0.0024 lx (F1.4 lens, +42 dB gain, with 64-frame accumulation)

Smear Level:  
-135 dB (typical)

S/N ratio:  
54 dB (typical)

Shutter speed:  
1/125, 1/250, 1/500, 1/1000, 1/2000 (s) (at 50i format) 1/33, 1/50, 1/100, 1/125, 1/250, 1/500, 1/1000, 1/2000 (s) (at 25PsF format)

### VTR Section

Usable cassette tapes:  
Sony BCT-6HD/12HD/22HD/32HD/40HD

Tape speed:  
Approx. 80.7 mm/s (at 50i/25PsF format)

Record/playback time:  
Max. 48 min. with BCT-40HD

Fast forward time:  
Approx. 5 minutes (using BCT-40HD video cassette)

Rewind time:  
Approx. 5 minutes (using BCT-40HD video cassette)

Continuous recording time:  
Approx. 110 minutes  
(using BP-GL95 Battery Pack)

### Digital video signal

Sampling frequency:  
Y: 74.25 MHz, PB/PR: 37.125 MHz

Quantization:  
10 bits/sample (8 bits/sample for compression processing)

Compression:  
Coefficient recording system

Channel coding:  
S-NRZI PR-IV

Error correction:  
Reed-Solomon code

Error concealment:  
Adaptive three dimensional

### Audio (with standard playback machine)

Frequency response:  
20 Hz to 20 kHz +0.5 dB/-0.8 dB

Dynamic range:  
85 dB min, (emphasis ON)

Distortion:  
0.08% max

Cross talk:  
-70 dB max

Wow and flutter  
Below measurable limit

**Input/output connectors**

Signal inputs:  
Audio IN CH-1/CH-2 (XLR, 3-pin, female):  
-60 dBu/+4 dBu (0 dBu = 0.775 Vrms)

MIC IN (XLR, 5-pin, female):  
-60 dBu/-50 dBu/-40 dBu (LPF ON)

GENLOCK IN (BNC type):  
1.0 Vp-p, 75 Ω

TC IN (BNC type):  
0.5 V to 18 Vp-p, 10 kΩ

### Signal outputs

TEST OUT (BNC type):  
1.0 Vp-p, 75 Ω, unbalanced

VBS/SDI OUT ((2 x BNC type) (only when the HKDW-702/1 is installed):  
75 Ω, unbalanced, VBS OUT: 1.0 Vp-p, SDI OUT: 0.8 Vp-p

HD SDI OUT (2 x BNC type):  
0.8 Vp-p, 75 Ω, unbalanced

AUDIO OUT (XLR, 5-pin, male):  
0 dBm

TC OUT (BNC type):  
1.0 Vp-p, 75 Ω

EARPHONE (minijack)  
8 Ω, -∞ to -18 dBs variable

### Others

DC IN (XLR, 4-pin, male):  
11 to 17 V DC

DC OUT (4-pin, female):  
11 to 17 V DC, maximum current 0.1A

LENS (12-pin)

REMOTE (8-pin)

## HDW-730S HDCAM Camcorder

The HDW-730S is an HDCAM camcorder that offers 1080/50i or 1080/59.94i acquisition. Equipped with a number of unique features to powerfully assist even the harshest shooting environments, plus the outstanding picture performance that all HDCAM camcorders provide, the HDW-730S is the ideal camcorder to support migration to the next generation of ENG, EFP, and general HD acquisition applications.

### Features

- 2.2 million-pixel 2/3-inch type IT Power HAD CCD
- Ultimate Sensitivity (with the HKDW-705 Slow Shutter Board)
- Reduced risk of missing scenes (with the HKDW-703/1 Picture Cache Board)
- Long Recording Time
- Rugged and Ergonomic Design
- Versatile Monitoring Capability
- Shot Mark Handling
- Quick Setup
- Single Optical Filter Wheel
- New version 2 camcorder software increases latitude to give a more film-like dynamic transfer characteristic
- Remote REC start of HDW-S280/1 via HD-SDI (with version 2 software)



### Supplied Accessories

HDVF-20A 2-inch Type HD B/W CRT Viewfinder (1)  
 Shoulder Strap (1)  
 Monaural microphone, Ultra directional (1)  
 Lens mount securing rubber (1)  
 Operation Manual (1)

### Optional Accessories

HDVF-C35W HD Colour LCD Viewfinder  
 BP-GL65 Rechargeable Lithium-ion Battery Pack  
 BP-GL95 Rechargeable Lithium-ion Battery Pack  
 BP-L60S Rechargeable Lithium Ion Battery Pack  
 BP-L80S Rechargeable Lithium-ion Battery Pack  
 AC-DN2B AC Adaptor  
 AC-DN10 AC Adaptor/Charger  
 RM-B750 Remote Control Unit  
 HKDW-705 Slow Shutter Board  
 BC-M150 Ni-MH & Li-ion Battery Charger  
 BC-L500 Li-ion Battery Charger  
 HKDW-702/1 Down Converter Board  
 HKDW-703/1 Picture Cache Board  
 BKW-401 Viewfinder Rotation Bracket  
 RM-B150 Remote Control Unit  
 VCT-14 Tripod Adaptor  
 WRR-855B UHF Synthesized Diversity Receiver  
 WRT-8B UHF Synthesized Diversity Transmitter  
 WRT-847 UHF Handheld Transmitter  
 LMD-9050 Colour LCD Monitor  
 MSA-A "Memory Stick" IC Memory Media  
 LC-DN7 Carry Case  
 ECM-678 Shotgun Microphone

## Specifications

### General

#### Mass:

Approx. 3.7 kg (8 lb 3 oz): Main Body,  
Approx. 5.3 kg (11 lb 14 oz) (with MIC, VF,  
BCT-40HD and BP-GL95)

#### Dimensions:

127 x 206 x 308 mm (5 x 8 1/8 x 12 1/4  
inch)

#### Power requirements:

DC 12V + 5.0 V/-1.0 V

#### Power consumption:

33 W (with 12V power supply, REC mode,  
without VF)

#### Operating temperature:

0 °C to +40 °C (32 °F to + 104 °F)

#### Storage temperature:

-20 °C to + 60 °C (-4 °F to + 140 °F)

#### Humidity:

25% to 85% (relative humidity)

#### Continuous operating time:

Approx. 135 min with BP-GL95

### Input/Output connectors

#### Genlock video input:

BNC type x 1, 1.0 Vp-p, 75 Ω

#### Time code input:

BNC type x 1, 0.5 V to 18 Vp-p, 10 kΩ

#### Mic input:

XLR-3-pin type x 1 (Female), -60 dBu

#### Test output:

BNC type x 1, 1.0 Vp-p, 75 Ω, unbalanced

#### VBS/SDI output (option: HKDW-702/1):

BNC type x 1, 75 Ω

VBS out: 1.0 Vp-p

SDI out: 0.8 Vp-p

#### HD-SDI output:

BNC type (x 1), 0.8 Vp-p, 75 Ω,  
unbalanced

#### Audio output:

XLR-5-pin type x 1 (Male), 0 dBm

#### Time code output:

BNC type x 1, 1.0 Vp-p, 75 Ω

#### Earphone:

Mini Jack x 2, 8 Ω, -∞ to -18 dBs variable

#### Lens:

12-pin

#### Remote:

8-pin

#### Light:

2-pin, DC 12 V, max. 50 W

#### DC input:

XLR-4-pin type (Male), DC 11 V to 17 V

#### DC output

4-pin (for wireless microphone receiver),  
DC 11 V to 17 V, maximum current 0.1 A

### VTR section

#### Recording format:

HDCAM

#### Tape speed:

Approx. 96.7 mm/s (at 30 frames) (at  
59.94i format)

Approx. 80.6 mm/s (at 25 frames) (at 50i  
format)

#### Playback/Recording time:

Max. 40 min. with BCT-40HD (at 59.94i  
format)

Max. 48 min. with BCT-40HD (at 50i  
format)

#### Fast forward/rewind:

Approx. 5 min. with BCT-40HD

#### Recommended tape:

Approx. 5 min. with BCT-40HD

### Digital video performance

#### Sampling frequency:

Y: 74.25 MHz, PB/PR: 37.125 MHz

#### Quantization:

10 bits/sample (8 bits/sample for  
compression processing)

#### Channel coding:

S-NRZI PR-IV

#### Compression:

Coefficient recording system

#### Error correction:

Reed-Solomon code

#### Error concealment:

Adaptive three dimensional

### Audio performance

#### Frequency response:

20 Hz to 20 kHz, + 0.5 dB/-1.0 dB

#### Dynamic range:

More than 85 dB (emphasis ON)

#### Distortion (at 1kHz, emphasis ON, reference level):

Less than 0.08%

#### Cross talk (at 1 kHz, reference level):

Less than -70 dB

#### Wow and flutter:

Below measurable limit

### Camera section (Performance)

#### Pickup device:

3-chip 2/3-inch type IT CCD

#### Effective picture elements:

1920 (H) x 1080 (V)

#### Optical system:

F1.4 prism (Equipped with Quarz Filter)

#### Lens mount:

Special bayonet mount

#### Built-in filters:

1: Clear, 2: 5600K+1/8ND, 3: 5600K,  
4: 5600K+1/64ND

#### Sensitivity (2000 lx, 89.9% reflectance):

F10.0 (typical) Equivalent to ISO 600 or  
more

#### Minimum illumination:

Approx. 0.3 lx (F1.4 lens, +42 dB turbo  
gain)

#### Smear level:

-125 dB

#### S/N ratio:

54 dB (typical)

#### Modulation depth at 5 MHz:

45% +/-5%

#### Horizontal resolution:

1000 TV lines

#### Shutter speed:

1/100, 1/125, 1/250, 1/500, 1/1000, 1/2000  
(s) (at 59.94i format)

1/60, 1/125, 1/250, 1/500, 1/1000, 1/2000  
(s) (at 50i format)

#### Clear Scan:

60 Hz to 4300 Hz (at 59.94i format)

#### Programmable Gain:

-3, 0, 3, 6, 9, 12, 18, 24, 30, 36, 42 dB

### Viewfinder

#### CRT:

2.0-inch monochrome

#### Controls:

BRIGHT, CONTRAST, PEAKING controls  
TALLY, ZEBRA, DISPLAY/ASPECT switches

#### Horizontal resolution:

500 TV lines (16:9, at center)

#### Microphone:

Ultra-directional monaural microphone  
(Detachable)

# HDW-2000 HDCAM VTR

## Features

- Compact and affordable HD videocassette recorder
- High picture quality using HDCAM format
- Built-in down converter
- 1080/59.94i, 1080/50i, 1080/23.98PsF, 1080/24PsF, 1080/25PsF, 1080/29.97PsF record and playback
- Long recording time of up to 124 minutes at 1080/59.94i or 149 minutes at 1080/50i on an L-size cassette
- Versatile interfaces: HD SDI input/output, SDI output, analogue component output, analogue composite (NTSC/PAL) output, digital audio (AES/EBU) input/output, analogue audio input/output and audio monitor output (2-ch, analogue)
- Frame-accurate editing
- Pre-read editing
- High speed colour picture search
- Dynamic Tracking playback
- Digital jog sound
- Audio crossfade function
- Dynamic Motion Control (DMC) playback
- 1080/1035 line conversion
- Shot mark handling
- Selectable picture modes: Squeeze, letter box, and edge crop modes
- Dolby-E/Dolby AC-3 support
- Digital audio and ancillary-data recording
- Low power consumption of 220 W
- User-friendly control panel
- Easy maintenance



## Supplied Accessories

Operation manual (1)  
Installation manual (1)

## Optional Accessories

HKDW-101 Remote Control Panel  
HKDW-102 SDTI (HDCAM) Interface Board  
BKMW-102 Remote Control Unit  
BKMW-103 Control Panel Extension Kit  
RMM-131 Rack Mount Kit  
RCC-G Cables 9-pin/9-pin Cable  
BCT-HD series HDCAM tapes  
BCT-HD12CL Head cleaning videocassette tapes for HDCAM VTRs

## Specifications

### General

Power requirements:

100 to 240 V, 50/60 Hz

Power consumption:

220 W

Operating temperature:

+5 to +40 °C (+41 to +104 °F)

Storage temperature:

-20 to +60 °C (-4 to + 140 °F)

Humidity:

25 to 80% (relative humidity)

Mass:

23 kg (50 lb 11 oz)

Dimensions:

427 (W) x 174 (H) x 544 (D) mm  
(16 7/8 x 6 7/8 x 21 1/2 inches)

Tape speed:

96.7 mm/s (59.94 Hz), 80.6 mm/s (50 Hz)

Digital recording/playback time:

124 minutes (59.94 Hz, with

BCT-124HDLC)

149 minutes (50 Hz, with BCT-124HDLC)

40 minutes (59.94 Hz, with BCT-40HDC)

48 minutes (50 Hz, with BCT-40HDC)

Fast forward/rewind time:

Approx. 3 min with BCT-124HDL cassette

Search speed range

Shuttle mode:

Still to  $\pm 50$  times normal speed  
playback

Variable mode:

-1 to +2 times normal speed playback

Jog mode:

Still to  $\pm 1$  times normal speed playback

Servo lock time:

0.5 s or less (from standby on)

Load/unload time:

6 s or less (both L and S cassette)

### Inputs/outputs

HD-SDI input:

BNC (1), Serial Digital 1.485 Gb/s, SMPTE  
292M

Reference video input:

BNC (2) (with a loop-through), Tri-level  
sync, 0.6 Vp-p, 75  $\Omega$ , sync negative or  
black burst

Digital audio input (CH 1/2, 3/4):

BNC (2), AES/EBU

Analogue audio input (CH 1/2/3/4/Cue):

BNC (2) (with loop-through), AES/EBU

XLR 3-pin type, female (5)

Low off: -60 dBu, high impedance,  
balanced

High off: +4 dBu, high impedance,  
balanced

High on: +4 dBm, 600  $\Omega$  termination,  
balanced

Time code input:

XLR 3-pin type, female, x1, 0.5 to 18 Vp-p,  
10 k $\Omega$ , balanced

HD-SDI output:

BNC (3) (SMPTE 292M including one  
character out), Serial Digital (1.485 Gb/s)

SDI output:

BNC (3) (SMPTE 259M including one  
character out), Serial Digital (270 Mb/s)

Analogue composite output:

BNC (3) (RS-170A, including one character  
out, one WFM out)

Y: 1.0 Vp-p, sync negative, R-Y/B-Y: 0.7 Vp-p,  
75  $\Omega$

Analogue component output:

BNC (3), for 1 set, 1.0 Vp-p, 75  $\Omega$ , sync  
negative

Digital audio output (CH1/2, 3/4):

BNC (2), AES/EBU

Analogue audio output (CH1/2/3/4):

XLR 3-pin type (5), male, +4 dBm (600  $\Omega$   
load), low impedance, balanced

Time code output:

XLR 3-pin type, male (1) (2.2 Vp-p, low  
impedance balanced)

Monitor output (L/R):

XLR 3-pin type, male (2) (+4 dBm at 600  $\Omega$   
load, low impedance, balanced)

Headphones:

JM-60 stereo phone jack ( $-\infty$  to -12 dBu at  
8  $\Omega$  load, unbalanced)

Remote 1 input:

D-sub 9-pin, Sony 9-pin remote interface

Remote 1 output:

D-sub 9-pin, Sony 9-pin remote interface

RS-232C:

D-sub 9-pin

Remote 2 Parallel I/O:

D-sub 50-pin

Video control:

D-sub 9-pin, D-sub 15-pin

Control panel:

D-sub 10-pin, control panel I/O

### Processor adjustment range

Video level:

$\pm 3$  dB/ $\infty$  to +3 dB, selectable

Chroma level:

$\pm 3$  dB/ $\infty$  to +3 dB, selectable

Set up/black level:

$\pm 3$  IRE

Chroma phase/hue:

$\pm 30^\circ$

System sync phase:

$\pm 15 \mu\text{s}$

System SC phase:

$\pm 200$  ns

### Digital video performance

Sampling frequency:

Y: 74.25 MHz, R-Y/B-Y: 37.125 MHz

Quantization:

10 bits/sample (compression 8 bits/sample)

Compression:

Coefficient recording system

Channel coding:

S-I-NRZI PR-IV

Error correction:

Reed-Solomon code

### Analogue component output performance

Bandwidth:

Y: 0 to 5.75 MHz +0.5 dB/-2.0 dB,  
R-Y/B-Y: 0 to 2.75 MHz +0.5 dB/-2.0 dB

S/N ratio:

56 dB or more

K-factor (2T pulse):

1% or less

### Analogue composite output performance

Bandwidth:

Y: 0 to 5.75 MHz +0.5 dB/-2.0 dB,  
R-Y/B-Y: 0 to 2.75 MHz +0.5 dB/-2.0 dB

S/N ratio:

53 dB or more

Differential gain:

2% or less

Differential phase:

2% or less

Y/C delay:

20 ns or less

K-factor (2T pulse):

1% or less

Output SCH phase:

Based upon RS-170A/CCIR R.624-3

### Digital audio performance

Sampling frequency:

48 kHz (synchronized with video)

Quantization:

20 bits/sample

Wow and flutter:

Below measurable level

Headrooms:

20 dB (or 18 dB selectable)

Emphasis (on/off selectable in REC mode):

T1 = 50  $\mu\text{s}$ , T2 = 15  $\mu\text{s}$

### Analogue audio output performance

A/D quantization:

20 bits/sample

D/A quantization:

20 bits/sample

Frequency response:

20 Hz to 20 kHz, +0.5 dB/-1.0 dB  
(0 dB at 1 kHz)

Dynamic range:

More than 95 dB (at 1 kHz emphasis on)

Distortion:

Less than 0.05% (at 1 kHz, emphasis on,  
reference level)

Crosstalk:

Less than -80 dB (at 1 kHz, between any  
two channels)

### Cue track

Sampling frequency:

100 Hz to 12 kHz  $\pm 3$  dB

S/N ratio:

More than 45 dB (at 3% distortion level)

Distortion:

Less than 2% (T.H.D at 1 kHz reference  
level)

Wow and flutter:

Less than 0.2% rms

Erase ratio:

More than 60 dB

# HDW-D2000 HDCAM VTR

## Features

- Compact and affordable HD videocassette recorder
- High picture quality using HDCAM format
- Legacy playback includes Digital Betacam and MPEG IMX tapes
- Built-in up and down converters
- 1080/59.94i, 1080/50i, 1080/23.98PsF, 1080/24PsF, 1080/25PsF, 1080/29.97PsF record and playback
- Long recording time of up to 124 minutes at 1080/59.94i or 149 minutes at 1080/50i on an L-size cassette
- Versatile interfaces: HD SDI input/output, SDI output, analogue component output, analogue composite (NTSC/PAL) output, digital audio (AES/EBU) input/output, analogue audio input/output and audio monitor output (2-ch, analogue)
- Frame-accurate editing
- Pre-read editing
- High speed colour picture search
- Dynamic Tracking playback
- Digital jog sound
- Audio crossfade function
- Dynamic Motion Control (DMC) playback
- 1080/1035 line conversion
- Shot mark handling
- Selectable picture modes: Squeeze, letter box, and edge crop modes
- Dolby-E/Dolby AC-3 support
- Digital audio and ancillary-data recording
- Low power consumption of 220 W
- User-friendly control panel
- Easy maintenance



## Supplied Accessories

- Operation manual (1)
- Installation manual (1)

## Optional Accessories

- HKDW-101 Remote Control Panel
- HKDW-102 SDTI (HDCAM) Interface Board
- BKMW-102 Remote Control Unit
- BKMW-103 Control Panel Extension Kit
- RMM-131 Rack Mount Kit
- RCC-G Cables 9-pin/9-pin Cable
- BCT-HD series HDCAM tapes
- BCT-HD12CL Head cleaning videocassette tapes for HDCAM VTRs

## Specifications

### General

#### Power requirements:

100 to 240 V, 50/60 Hz

#### Power consumption:

220 W

#### Operating temperature:

+5 to +40 °C (+41 to +104 °F)

#### Storage temperature:

-20 to +60 °C (-4 to + 140 °F)

#### Humidity:

25 to 80% (relative humidity)

#### Mass:

23 kg (50 lb 11 oz)

#### Dimensions:

427 (W) x 174 (H) x 544 (D) mm  
(16 7/8 x 6 7/8 x 21 1/2 inches)

#### Tape Speed

##### HDCAM:

96.7 mm/s (59.94 Hz), 80.6 mm/s (50 Hz)

##### Digital Betacam:

96.7 mm/s

##### MPEG IMX:

64.5 mm/s (59.94 Hz), 53.8 mm/s (50 Hz)

#### Digital recording/playback time:

124 minutes (59.94 Hz, with BCT-124HDLC)

149 minutes (50 Hz, with BCT-124HDLC)

40 minutes (59.94 Hz, with BCT-40HDC)

48 minutes (50 Hz, with BCT-40HDC)

#### Fast forward/rewind time:

Approx. 3 min with BCT-124HDL cassette

#### Search speed range

##### Shuttle mode

###### HDCAM:

Still to  $\pm 50$  times normal speed  
playback

###### Digital Betacam:

Still to  $\pm 50$  times normal speed  
playback

###### MPEG IMX:

Still to  $\pm 78$  times normal speed  
playback

#### Variable mode

##### HDCAM:

-1 to +2 times normal speed playback

##### Digital Betacam:

-1 to +3 times normal speed playback

##### MPEG IMX:

-1 to +3 times normal speed playback

##### Jog mode:

Still to  $\pm 1$  times normal speed playback

#### Servo lock time:

0.5 s or less (from standby on)

#### Load/unload time:

6 s or less (both L and S cassette)

### Inputs/outputs

#### HD-SDI input:

BNC (1), Serial Digital 1.485 Gb/s, SMPTE 292M

#### Reference video input:

BNC (2), (with a loop-through), Tri-level sync, 0.6 Vp-p, 75  $\Omega$ , sync negative or black burst

#### Digital audio input (CH 1/2, 3/4):

BNC (2), AES/EBU

#### Analogue audio input (CH 1/2/3/4/Cue):

BNC (2) (with loop-through), AES/EBU  
XLR 3-pin type, female (5)

Low off: -60 dBu, high impedance, balanced

High off: +4 dBu, high impedance, balanced

High on: +4 dBm, 600  $\Omega$  termination, balanced

#### Time code input:

XLR 3-pin type, female (1), 0.5 to 18 Vp-p, 10 k $\Omega$ , balanced

#### HD-SDI output:

BNC (3) (SMPTE 292M including one character out), Serial Digital (1.485 Gb/s)

#### SDI output:

BNC (3) (SMPTE 259M including one character out), Serial Digital (270 Mb/s)

#### Analogue composite output:

BNC (3) (RS-170A, including one character out, one WFM out)

Y: 1.0 Vp-p, sync negative, R-Y/B-Y: 0.7 Vp-p, 75  $\Omega$

#### Analogue component output:

BNC (3, for 1 set), 1.0 Vp-p, 75  $\Omega$ , sync negative

#### Digital audio output (CH1/2, 3/4):

BNC (2), AES/EBU

#### Analogue audio output (CH1/2/3/4):

XLR 3-pin type (5), male, +4 dBm (600  $\Omega$  load), low impedance, balanced

#### Time code output:

XLR 3-pin type, male (1) (2.2 Vp-p, low impedance balanced)

#### Monitor output (L/R):

XLR 3-pin type, male (2) (+4 dBm at 600  $\Omega$  load, low impedance, balanced)

#### Headphones:

JM-60 stereo phone jack ( $-\infty$  to -12 dBu at 8  $\Omega$  load, unbalanced)

#### Remote 1 input:

D-sub 9-pin, Sony 9-pin remote interface

#### Remote 1 output:

D-sub 9-pin, Sony 9-pin remote interface

#### RS-232C:

D-sub 9-pin

#### Remote 2 Parallel I/O:

D-sub 50-pin

#### Video control:

D-sub 9-pin, D-sub 15-pin

#### Control panel:

D-sub 10-pin, control panel I/O

### Processor adjustment range

#### Video level:

$\pm 3$  dB/ $\infty$  to +3 dB, selectable

#### Chroma level:

$\pm 3$  dB/ $\infty$  to +3 dB, selectable

#### Set up/black level:

$\pm 3$  IRE

#### Chroma phase/hue:

$\pm 30^\circ$

#### System sync phase:

$\pm 15 \mu$ s

#### System SC phase:

$\pm 200$  ns

#### Y/C delay:

$\pm 100$  ns

### Digital video performance

#### Sampling frequency:

Y: 74.25 MHz, R-Y/B-Y: 37.125 MHz

#### Quantization:

10 bits/sample (compression 8 bits/sample)

#### Compression:

Coefficient recording system

#### Channel coding:

S-I-NRZI PR-IV

#### Error correction:

Reed-Solomon code

### Analogue component output performance

#### Bandwidth:

Y: 0 to 5.75 MHz +0.5 dB/-2.0 dB,

R-Y/B-Y: 0 to 2.75 MHz +0.5 dB/-2.0 dB

#### S/N ratio:

56 dB or more

#### K-factor (2T pulse):

1% or less

### Analogue composite output performance

#### Bandwidth:

Y: 0 to 5.75 MHz +0.5 dB/-2.0 dB,

R-Y/B-Y: 0 to 2.75 MHz +0.5 dB/-2.0 dB

#### S/N ratio:

53 dB or more

#### Differential gain:

2% or less

#### Differential phase:

2% or less

#### Y/C delay:

20 ns or less

#### K-factor (2T pulse):

1% or less

#### Output SCH phase:

Based upon RS-170A/CCIR R.624-3

### Digital audio performance

#### Sampling frequency:

48 kHz (synchronized with video)

#### Quantization:

20 bits/sample

#### Wow and flutter:

Below measurable level

#### Headrooms:

20 dB (or 18 dB selectable)

#### Emphasis (on/off selectable in REC mode):

T1 = 50  $\mu$ s, T2 = 15  $\mu$ s

### Analogue audio output performance

#### A/D quantization:

20 bits/sample

#### D/A quantization:

20 bits/sample

#### Frequency response:

20 Hz to 20 kHz, +0.5 dB/-1.0 dB  
(0 dB at 1 kHz)

#### Dynamic range:

More than 95 dB (at 1 kHz emphasis on)

#### Distortion:

Less than 0.05% (at 1 kHz, emphasis on, reference level)

#### Crosstalk:

Less than -80 dB (at 1 kHz, between any two channels)

### Cue track

#### Sampling frequency:

100 Hz to 12 kHz  $\pm 3$  dB

#### S/N ratio:

More than 45 dB (at 3% distortion level)

#### Distortion:

Less than 2% (T.H.D at 1 kHz reference level)

#### Wow and flutter:

Less than 0.2% rms

#### Erase ratio:

More than 60 dB

# HDW-M2000P HDCAM VTR

## Features

- Compact and affordable HD videocassette recorder
- High picture quality using HDCAM format
- Legacy playback includes Digital Betacam, MPEG IMX, Betacam SX, Betacam SP and Betacam tapes
- Built-in up and down converters
- 1080/59.94i, 1080/50i, 1080/23.98PsF, 1080/24PsF, 1080/25PsF, 1080/29.97PsF record and playback
- Long recording time of up to 124 minutes at 1080/59.94i or 149 minutes at 1080/50i on an L-size cassette
- Versatile interfaces: HD SDI input/output, SDI output, analogue component output, analogue composite (NTSC/PAL) output, digital audio (AES/EBU) input/output, analogue audio input/output and audio monitor output (2-ch, analogue)
- Frame-accurate editing
- Pre-read editing
- High speed colour picture search
- Dynamic Tracking playback
- Digital jog sound
- Audio crossfade function
- Dynamic Motion Control (DMC) playback
- 1080/1035 line conversion
- Shot mark handling
- Selectable picture modes: Squeeze, letter box, and edge crop modes
- Dolby-E/Dolby AC-3 support
- Digital audio and ancillary-data recording
- Low power consumption of 220 W
- User-friendly control panel
- Easy maintenance



## Supplied Accessories

- Operation manual (1)
- Installation manual (1)

## Optional Accessories

- HKDW-101 Remote Control Panel
- HKDW-102 SDTI (HDCAM) Interface Board
- BKMW-102 Remote Control Unit
- BKMW-103 Control Panel Extension Kit
- RMM-131 Rack Mount Kit
- RCC-G Cables 9-pin/9-pin Cable
- BCT-HD series HDCAM tapes
- BCT-HD12CL Head cleaning videocassette tapes for HDCAM VTRs



## Specifications

### General

Power requirements:  
100 to 240 V, 50/60 Hz

Power consumption:  
220 W

Operating temperature:  
+5 to +40 °C (+41 to +104 °F)

Storage temperature:  
-20 to +60 °C (-4 to + 140 °F)

Humidity:  
25 to 80% (relative humidity)

Mass:  
23 kg (50 lb 11 oz)

Dimensions:  
427 (W) x 174 (H) x 544 (D) mm  
(16 7/8 x 6 7/8 x 21 1/2 inches)

Tape Speed

HDCAM:  
96.7 mm/s (59.94 Hz), 80.6 mm/s (50 Hz)

Digital Betacam:  
96.7 mm/s

MPEG IMX:  
64.5 mm/s (59.94 Hz), 53.8 mm/s (50 Hz)

Betacam SX:  
59.6 mm/s

Betacam SP/Betacam:  
118.6 mm/s (59.94 Hz), 101.5 mm (50 Hz)

Digital recording/playback time:  
124 minutes (59.94 Hz, with BCT-124HDLC)  
149 minutes (50 Hz, with BCT-124HDLC)  
40 minutes (59.94 Hz, with BCT-40HDC)  
48 minutes (50 Hz, with BCT-40HDC)

Fast forward/rewind time:  
Approx. 3 min with BCT-124HDL cassette

Search speed range

Shuttle mode

HDCAM:  
Still to  $\pm 50$  times normal speed  
playback

Digital Betacam:  
Still to  $\pm 50$  times normal speed  
playback

MPEG IMX:  
Still to  $\pm 78$  times normal speed  
playback

Betacam SX:  
Still to  $\pm 78$  times normal speed  
playback

Betacam SP/Betacam:  
Still to  $\pm 35$  times normal speed  
playback (59.94 Hz)  
Still to  $\pm 42$  times normal speed  
playback (50 Hz)

Variable mode

HDCAM:  
-1 to +2 times normal speed playback

Digital Betacam:  
-1 to +3 times normal speed playback

MPEG IMX:  
-1 to +3 times normal speed playback

Betacam SX:  
-1 to +2 times normal speed playback

Betacam SP/Betacam:  
-1 to +3 times normal speed playback

Jog mode:  
Still to  $\pm 1$  times normal speed playback

Servo lock time:  
0.5 s or less (from standby on)

Load/unload time:  
6 s or less (both L and S cassette)

### Inputs/outputs

HD-SDI input:  
BNC (1), Serial Digital 1.485 Gb/s, SMPTE 292M

Reference video input:  
BNC (2), (with a loop-through), Tri-level sync, 0.6 Vp-p, 75  $\Omega$ , sync negative or black burst

Digital audio input (CH 1/2, 3/4):  
BNC (2), AES/EBU

Analogue audio input (CH 1/2/3/4/Cue):  
BNC (2)(with loop-through), AES/EBU  
XLR 3-pin type, female (5)  
Low off: -60 dBu, high impedance, balanced  
High off: +4 dBu, high impedance, balanced  
High on: +4 dBm, 600  $\Omega$  termination, balanced

Time code input:  
XLR 3-pin type, female (1), 0.5 to 18 Vp-p, 10 k $\Omega$ , balanced

HD-SDI output:  
BNC (3) (SMPTE 292M including one character out), Serial Digital (1.485 Gb/s)

SDI output:  
BNC (3) (SMPTE 259M including one character out), Serial Digital (270 Mb/s)

Analogue composite output:  
BNC (3) (RS-170A, including one character out, one WFM out)  
Y: 1.0 Vp-p, sync negative,  
R-Y/B-Y: 0.7 Vp-p, 75  $\Omega$

Analogue component output:  
BNC (3, for 1 set) 1.0 Vp-p, 75  $\Omega$ , sync negative

Digital audio output (CH1/2, 3/4):  
BNC (2), AES/EBU

Analogue audio output (CH1/2/3/4):  
XLR 3-pin type, (5), male, +4 dBm (600  $\Omega$  load), low impedance, balanced

Time code output:  
XLR 3-pin type, male (1) (2.2 Vp-p, low impedance balanced)

Monitor output (L/R):  
XLR 3-pin type, male, (2) (+4 dBm at 600  $\Omega$  load, low impedance, balanced)

Headphones:  
JM-60 stereo phone jack (- $\infty$  to -12 dBu at 8  $\Omega$  load, unbalanced)

Remote 1 input:  
D-sub 9-pin, Sony 9-pin remote interface

Remote 1 output:  
D-sub 9-pin, Sony 9-pin remote interface

RS-232C:  
D-sub 9-pin

Remote 2 Parallel I/O:  
D-sub 50-pin

Video control:  
D-sub 9-pin, D-sub 15-pin

Control panel:  
D-sub 10-pin, control panel I/O

**Processor adjustment range**

Video level:  
 $\pm 3$  dB/ $\infty$  to +3 dB, selectable

Chroma level:  
 $\pm 3$  dB/ $\infty$  to +3 dB, selectable

Set up/black level:  
 $\pm 3$  IRE

Chroma phase/hue:  
 $\pm 30^\circ$

System sync phase:  
 $\pm 15$   $\mu$ s

System SC phase:  
 $\pm 200$  ns

Y/C delay:  
 $\pm 100$  ns

### Digital video performance

Sampling frequency:  
Y: 74.25 MHz, R-Y/B-Y: 37.125 MHz

Quantization:  
10 bits/sample (compression 8 bits/sample)

Compression:  
Coefficient recording system

Channel coding:  
S-I-NRZI PR-IV

Error correction:  
Reed-Solomon code

**Analogue component output performance**

Bandwidth:  
Y: 0 to 5.75 MHz +0.5 dB/-2.0 dB,  
R-Y/B-Y: 0 to 2.75 MHz +0.5 dB/-2.0 dB

S/N ratio:  
56 dB or more

K-factor (2T pulse):  
1% or less

**Analogue composite output performance**

Bandwidth:  
Y: 0 to 5.75 MHz +0.5 dB/-2.0 dB,  
R-Y/B-Y: 0 to 2.75 MHz +0.5 dB/-2.0 dB

S/N ratio:  
53 dB or more

Differential gain:  
2% or less

Differential phase:  
2% or less

Y/C delay:  
20 ns or less

K-factor (2T pulse):  
1% or less

Output SCH phase:  
Based upon RS-170A/CCIR R.624-3

**Digital audio performance**

Sampling frequency:  
48 kHz (synchronized with video)

Quantization:  
20 bits/sample

Wow and flutter:  
Below measurable level

Headrooms:  
20 dB (or 18 dB selectable)

Emphasis (on/off selectable in REC mode):  
T1 = 50  $\mu$ s, T2 = 15  $\mu$ s

**Analogue audio output performance**

A/D quantization:  
20 bits/sample

D/A quantization:  
20 bits/sample

Frequency response:  
20 Hz to 20 kHz, +0.5 dB/-1.0 dB  
(0 dB at 1 kHz)

Dynamic range:  
More than 95 dB (at 1 kHz emphasis on)

Distortion:  
Less than 0.05% (at 1 kHz, emphasis on, reference level)

Crosstalk:  
Less than -80 dB (at 1 kHz, between any two channels)

**Cue track**

Sampling frequency:  
100 Hz to 12 kHz  $\pm 3$  dB

S/N ratio:  
More than 45 dB (at 3% distortion level)

Distortion:  
Less than 2% (T.H.D at 1 kHz reference level)

Wow and flutter:  
Less than 0.2% rms

Erase ratio:  
More than 60 dB

# HDW-M2100P HDCAM Player

## Features

- Compact and affordable HD videocassette player
- High picture quality using HDCAM format
- Legacy playback includes Digital Betacam, MPEG IMX, Betacam SX, Betacam SP and Betacam tapes
- Built-in up and down converters
- 1080/59.94i, 1080/50i, 1080/23.98PsF, 1080/24PsF, 1080/25PsF, 1080/29.97PsF playback
- Long playback time of up to 124 minutes at 1080/59.94i or 149 minutes at 1080/50i on an L-size cassette
- Versatile interfaces: HD SDI, SDI, analogue component, analogue composite (NTSC/PAL), digital audio (AES/EBU), analogue audio, and audio monitor (2-ch, analogue) outputs
- High speed colour picture search
- Dynamic Tracking playback
- Digital jog sound
- Dynamic Motion Control (DMC) playback
- 1080/1035 line conversion
- Shot mark handling
- Selectable picture modes: Squeeze, letter box, and edge crop modes
- Dolby-E/Dolby AC-3 support
- Low power consumption of 220 W
- User-friendly control panel
- Easy maintenance



## Supplied Accessories

- Operation manual (1)
- Installation manual (1)

## Optional Accessories

- HKDW-101 Remote Control Panel
- HKDW-102 SDTI (HDCAM) Interface Board
- BKMW-102 Remote Control Unit
- BKMW-103 Control Panel Extension Kit
- RMM-131 Rack Mount Kit
- RCC-G Cables 9-pin/9-pin Cable
- BCT-HD series HDCAM tapes
- BCT-HD12CL Head cleaning videocassette tapes for HDCAM VTRs

## Specifications

### General

#### Power requirements:

100 to 240 V, 50/60 Hz

#### Power consumption:

220 W

#### Operating temperature:

+5 to +40 °C (+41 to +104 °F)

#### Storage temperature:

-20 to +60 °C (-4 to + 140 °F)

#### Humidity:

25 to 80% (relative humidity)

#### Mass:

23 kg (50 lb 11 oz)

#### Dimensions:

427 (W) x 174 (H) x 544 (D) mm  
(16 7/8 x 6 7/8 x 21 1/2 inches)

#### Tape speed

##### HDCAM:

96.7 mm/s (59.94 Hz), 80.6 mm/s (50 Hz)

##### Digital Betacam:

96.7 mm/s

##### MPEG IMX:

64.5 mm/s (59.94 Hz), 53.8 mm/s (50 Hz)

##### Betacam SX:

59.6 mm/s

##### Betacam SP/Betacam:

118.6 mm/s (59.94 Hz), 101.5 mm (50 Hz)

#### Digital playback time:

124 minutes (59.94 Hz, with

BCT-124HDLC)

149 minutes (50 Hz, with BCT-124HDLC)

40 minutes (59.94 Hz, with BCT-40HDC)

48 minutes (50 Hz, with BCT-40HDC)

#### Fast forward/rewind time:

Approx. 3 min with BCT-124HDL cassette

#### Search speed range

##### Shuttle mode

##### HDCAM:

Still to  $\pm 50$  times normal speed playback

##### Digital Betacam:

Still to  $\pm 50$  times normal speed playback

##### MPEG IMX:

Still to  $\pm 78$  times normal speed playback

##### Betacam SX:

Still to  $\pm 78$  times normal speed playback

##### Betacam SP/Betacam:

Still to  $\pm 35$  times normal speed playback (59.94 Hz)

Still to  $\pm 42$  times normal speed playback (50 Hz)

##### Variable mode

##### HDCAM:

-1 to +2 times normal speed playback

##### Digital Betacam:

-1 to +3 times normal speed playback

##### MPEG IMX:

-1 to +3 times normal speed playback

##### Betacam SX:

-1 to +2 times normal speed playback

##### Betacam SP/Betacam:

-1 to +3 times normal speed playback

#### Jog mode:

Still to  $\pm 1$  times normal speed playback

#### Servo lock time:

0.5 s or less (from standby on)

#### Load/unload time:

6 s or less (both L and S cassette)

### Inputs/outputs

#### Time code input:

XLR 3-pin type, female (1), 0.5 to 18 Vp-p, 10 k $\Omega$ , balanced

#### HD-SDI output:

BNC (3) (SMPTE 292M including one character out), Serial Digital (1.485 Gb/s)

#### SDI output:

BNC (3) (SMPTE 259M including one character out), Serial Digital (270 Mb/s)

#### Analogue composite output:

BNC (3) (RS-170A, including one character out, one WFM out)

Y: 1.0 Vp-p, sync negative, R-Y/B-Y: 0.7 Vp-p, 75  $\Omega$

#### Analogue component output:

BNC (3, for 1 set), 1.0 Vp-p, 75  $\Omega$ , sync negative

#### Digital audio output (CH1/2, 3/4):

BNC (2), AES/EBU

#### Analogue audio output (CH1/2/3/4):

XLR 3-pin type (5), male, +4 dBm (600  $\Omega$  load), low impedance, balanced

#### Time code output:

XLR 3-pin type, male (1) (2.2 Vp-p, low impedance balanced)

#### Monitor output (L/R):

XLR 3-pin type, male (2) (+4 dBm at 600  $\Omega$  load, low impedance, balanced)

#### Headphones:

JM-60 stereo phone jack ( $-\infty$  to -12 dBu at 8  $\Omega$  load, unbalanced)

#### Remote 1 input:

D-sub 9-pin, Sony 9-pin remote interface

#### Remote 1 output:

D-sub 9-pin, Sony 9-pin remote interface

#### RS-232C:

D-sub 9-pin

#### Remote 2 Parallel I/O:

D-sub 50-pin

#### Video control:

D-sub 9-pin, D-sub 15-pin

#### Control panel:

D-sub 10-pin, control panel I/O

### Processor adjustment range

#### Video level:

$\pm 3$  dB/ $\infty$  to +3 dB, selectable

#### Chroma level:

$\pm 3$  dB/ $\infty$  to +3 dB, selectable

#### Set up/black level:

$\pm 3$  IRE

#### Chroma phase/hue:

$\pm 30^\circ$

#### System sync phase:

$\pm 15$   $\mu$ s

#### System SC phase:

$\pm 200$  ns

#### Y/C delay:

$\pm 100$  ns

### Digital video performance

#### Sampling frequency:

Y: 74.25 MHz, R-Y/B-Y: 37.125 MHz

#### Quantization:

10 bits/sample (compression 8 bits/sample)

#### Compression:

Coefficient recording system

#### Channel coding:

S-I-NRZI PR-IV

#### Error correction:

Reed-Solomon code

### Analogue component output performance

#### Bandwidth:

Y: 0 to 5.75 MHz +0.5 dB/-2.0 dB,  
R-Y/B-Y: 0 to 2.75 MHz +0.5 dB/-2.0 dB

#### S/N ratio:

56 dB or more

#### K-factor (2T pulse):

1% or less

### Analogue composite output performance

#### Bandwidth:

Y: 0 to 5.75 MHz +0.5 dB/-2.0 dB,  
R-Y/B-Y: 0 to 2.75 MHz +0.5 dB/-2.0 dB

#### S/N ratio:

53 dB or more

#### Differential gain:

2% or less

#### Differential phase:

2% or less

#### Y/C delay:

20 ns or less

#### K-factor (2T pulse):

1% or less

#### Output SCH phase:

Based upon RS-170A/CCIR R.624-3

### Digital audio performance

#### Sampling frequency:

48 kHz (synchronized with video)

#### Quantization:

20 bits/sample

#### Wow and flutter:

Below measurable level

#### Headrooms:

20 dB (or 18 dB selectable)

#### Emphasis (on/off selectable in REC mode):

T1 = 50  $\mu$ s, T2 = 15  $\mu$ s

### Analogue audio output performance

#### A/D quantization:

20 bits/sample

#### D/A quantization:

20 bits/sample

#### Frequency response:

20 Hz to 20 kHz, +0.5 dB/-1.0 dB  
(0 dB at 1 kHz)

#### Dynamic range:

More than 95 dB (at 1 kHz emphasis on)

#### Distortion:

Less than 0.05% (at 1 kHz, emphasis on, reference level)

#### Crosstalk:

Less than -80 dB (at 1 kHz, between any two channels)

### Cue track

#### Sampling frequency:

100 Hz to 12 kHz  $\pm 3$  dB

#### S/N ratio:

More than 45 dB (at 3% distortion level)

#### Distortion:

Less than 2% (T.H.D at 1 kHz reference level)

#### Wow and flutter:

Less than 0.2% rms

# HDW-1800 HDCAM VTR

## Features

- Most affordable HDCAM studio recorder •HDCAM record and replay •Built-in down converters •1080/59.94i, 1080/50i, 1080/23.98PsF, 1080/24PsF, 1080/25PsF, 1080/29.97PsF record and playback •720/50P output when replaying 1080/25PsF or 1080/50i recordings<sup>\*1</sup>
- Input of HDV data via i.LINK<sup>\*2</sup> •Long playback time of up to 124 minutes at 1080/59.94i or 149 minutes at 1080/50i on an L-size cassette •Versatile interfaces: HD SDI, SDI, analogue composite (NTSC/PAL), digital audio (AES/EBU) •2-ch analogue audio inputs and outputs
- Audio monitor (2-ch, analogue) outputs •High speed colour picture search •Dynamic Tracking playback •Digital jog sound •Dynamic Motion Control (DMC) playback
- Shot mark handling •Selectable picture modes: Squeeze, letter box, and edge crop modes
- Dolby-E/Dolby AC-3 support •Low power consumption of 150 W •User-friendly control panel •Easy maintenance

<sup>\*1</sup> Requires HKDW-104 option

<sup>\*2</sup> Requires HKDW-105 option



## Supplied Accessories

Operation manual (1)

Installation manual (1)

## Optional Accessories

RMM-131 Rack Mount Kit

HKDW-104 Pull-down/720P Board

HKDW-105 i.LINK (HDV) Input Board

RM-280 Editing Controller\*

RMM-131 Rack Mount Kit

RCC-G Cables 9-pin/9-pin Cable

BCT-HD tapes BCT-HD series HDCAM tapes

BCT-HD12CL Head cleaning videocassette tapes for HDCAM VTRs

\* Supplied with a 9-pin to 4-pin remote cable (2 metres) for connection to the HDW-1800. For longer cable runs, a 10-metre cable is available as an option (1-832-104-11.)

## Specifications

### General

Power requirements  
100 to 240 V, 50/60 Hz

Power consumption  
150 W

Operating temperature  
+5 to +40 °C (41 to 104 °F)

Storage temperature  
-20 to +60 °C (-4 to +140 °F)

Humidity  
20 to 90%

Mass  
22 kg (48 lb 8 oz)

Dimensions (W x H x D)  
427 x 174 x 544 mm  
(16 7/8 x 6 7/8 x 21 1/2 inches)

Tape speed  
HDCAM  
96.7 mm/s (59.94i, 29.97PsF),  
80.6 mm/s (50i, 25PsF),  
77.4 mm/s (24PsF, 23.98PsF)

HDCAM record/playback time  
124 minutes (59.94i, 29.97PsF,  
with BCT-124HDL cassette)  
149 minutes (50i, 25PsF,  
with BCT-124HDL cassette)  
155 minutes (24PsF, 23.98PsF,  
with BCT-124HDL cassette)  
40 minutes (59.94i, 29.97PsF,  
with BCT-40HD cassette)  
48 minutes (50i, 25PsF,  
with BCT-40HD cassette)  
50 minutes (24PsF, 23.98PsF,  
with BCT-40HD cassette)

Fast forward/rewind time  
Approx. 3 minutes  
(with BCT-124HDL cassette)

Search speed range

Shuttle mode  
HDCAM  
Still to  $\pm 50$  times normal speed  
playback (59.94i, 29.97PsF),  
Still to  $\pm 58$  times normal speed  
playback (50i, 25PsF),  
Still to  $\pm 60$  times normal speed  
playback (24PsF, 23.98PsF)

Variable mode  
HDCAM  
-1 to +2 times normal speed playback

Jog mode  
Still to  $\pm 1$  times normal speed playback

Servo lock time  
0.6 s or less (59.94i, 29.97PsF,  
from standby on), 0.7 s or less  
(50i, 25PsF, 24PsF, 23.98PsF,  
from standby on)

Load/unload time  
6 s or less (both L and S cassettes)

**Input/Output**

HD-SDI input  
BNC x 1 (SMPTE 292M),  
Serial Digital (1.485 Gb/s)

Reference video input  
BNC x 2 (with a loop-through),  
0.3 Vp-p, 75  $\Omega$ ,  
75  $\Omega$ , sync negative or Black Burst  
or Composite

Digital audio input (CH 1/2, CH 3/4)  
BNC x 2, AES/EBU

Analogue audio input (CH 1/2)  
XLR-3-pin type, female, x 2

Low off:  
-60 dBu, high impedance, balanced

High off:  
+4 dBu, high impedance, balanced

High on:  
-4 dBm, 600  $\Omega$  termination, balanced

Time code input  
XLR-3-pin type, female, x 1  
(0.5 to 18 Vp-p, 10 k $\Omega$ , balanced)

i.LINK(HDV 1080i) input (option: HKDW-105)  
IEEE1394, 6-pin x 1

HD-SDI output  
BNC x 3 (SMPTE 292M including one  
character out), Serial Digital (1.485 Gb/s)

SD-SDI output  
BNC x 3 (SMPTE 259M including one  
character out), Serial Digital (270 Mb/s)

Analogue composite output  
BNC x 3 (RS-170A, including one  
character out, one WFM out), Y: 1.0 Vp-p,  
sync negative, R-Y/B-Y: 0.7 Vp-p, 75  $\Omega$

Digital audio output  
BNC x 2, AES/EBU, (CH 1/2, CH 3/4)

Analogue audio output (CH1/2)  
XLR-3-pin type, x2, male,  
+4 dBm (600  $\Omega$  load),  
low impedance, balanced

Time code output  
XLR-3-pin type, male, x 1  
(2.2 Vp-p, low impedance, balanced)

Monitor output L/R  
XLR-3-pin type, male, x 2  
(+4 dBm at 600  $\Omega$  load,  
low impedance, balanced)

Headphones  
JM-60 Stereo phone jack  
( $\infty$  to -12 dBu at 8  $\Omega$  load, unbalanced)

Remote1 In  
D-sub 9-pin, Sony 9-pin remote interface

Remote1 Out  
D-sub 9-pin, Sony 9-pin remote interface

RS-232C  
D-sub 9-pin

Remote2 Parallel I/O  
D-sub 50-pin

Video control  
D-sub 9-pin

Control panel  
D-sub 15-pin

Others  
"Memory Stick"™ slot

### Processor adjustment range

Video level  
 $\pm 3$  dB/ $\infty$ , to +3 dB, selectable

Chroma level  
 $\pm 3$  dB/ $\infty$  to +3 dB, selectable

Chroma phase/hue  
 $\pm 30^\circ$

System sync phase  
 $\pm 15 \mu$ s

System SC phase  
 $\pm 200$  ns

### Digital video performance

Sampling frequency  
Y: 74.25 MHz, R-Y/B-Y: 37.125 MHz

Quantisation  
S-1 bit/sample (compression: 8 bit/sample)

Compression  
Coefficient recording system

Channel coding  
S-1-NRZI PR-IV

Error correction  
Reed-Solomon code

### Analogue composite output performance

Bandwidth  
0 to 5.75 MHz +0.5 dB/-3.0 dB

S/N ratio  
53 dB or more

Differential gain  
2% or less

Differential phase  
2% or less

Y/C delay  
20 ns or less

K Factor (2T Pulse)  
1% or less

Output SCH phase  
Based upon RS-170A/CCIR R.624-3

### Digital audio performance

Sampling frequency  
48 kHz (Synchronised with video)

Quantisation  
20 bit/sample

Wow & flutter  
Below measurable level

Headrooms  
20 dB (or 18 dB selectable)

Emphasis (ON/OFF selectable in REC mode)  
T1=50  $\mu$ s, T2=15  $\mu$ s (on/off selectable in  
recording mode)

### Analogue audio output performance

A/D quantisation  
20 bit/sample

D/A quantisation  
20 bit/sample

Frequency response  
20 Hz to 20 kHz +0.5 dB/-1.0 dB  
(0 dB at 1 kHz)

Dynamic range  
More than 95 dB (at 1 kHz, emphasis ON)

Distortion  
Less than 0.05%  
(at 1 kHz, emphasis ON, reference level)

Crosstalk  
Less than -80 dB  
(at 1 kHz, between any two channels)

### Cue track

Sampling frequency  
100 Hz to 12 kHz  $\pm 3$  dB

S/N ratio  
More than 45 dB (at 3% distortion level)

Distortion  
Less than 2% (THD at 1 kHz,  
reference level)

Wow & flutter  
Less than 0.2% rms

# HDW-D1800 HDCAM VTR

## Features

- Affordable HD videocassette recorder
- High picture quality using HDCAM format
- Legacy playback of Digital Betacam and MPEG IMX tapes
- Built-in up and down converters
- 1080/59.94i, 1080/50i, 1080/23.98PsF, 1080/24PsF, 1080/25PsF, 1080/29.97PsF recording and playback
- 720/50P output when replaying 1080/25PsF or 1080/50i recordings<sup>\*1</sup>
- Input of HDV data via i.LINK<sup>\*2</sup>
- Long playback time of up to 124 minutes at 1080/59.94i or 149 minutes at 1080/50i on an L-size cassette
- Versatile interfaces: HD SDI, SDI, analogue component, analogue composite (NTSC/PAL), digital audio (AES/EBU)
- 2-ch analogue audio inputs and outputs
- Audio monitor (2-ch, analogue) outputs
- High speed colour picture search
- Dynamic Tracking playback
- Digital jog sound
- Dynamic Motion Control (DMC) playback
- Shot mark handling
- Selectable picture modes: Squeeze, letter box, and edge crop modes
- Dolby-E/Dolby AC-3 support
- Low power consumption of 150 W
- User-friendly control panel
- Easy maintenance

\*1 Requires HKDW-104 option

\*2 Requires HKDW-105 option

## Supplied Accessories

Operation manual (1)

Installation manual (1)

## Optional Accessories

RMM-131 Rack Mount Kit

HKDW-104 Pull-down/720P Board

HKDW-105 i.LINK (HDV) Input Board

RM-280 Editing Controller<sup>\*2</sup>

RMM-131 Rack Mount Kit

RCC-G Cables 9-pin/9-pin Cable

BCT-HD tapes BCT-HD series HDCAM tapes

BCT-HD12CL Head cleaning videocassette tapes for HDCAM VTRs

\* Supplied with a 9-pin to 4-pin remote cable (2 metres) for connection to the HDW-D1800. For longer cable runs, a 10-metre cable is available as an option (1-832-104-11.)



## Specifications

### General

Power requirements  
100 to 240 V, 50/60 Hz

Power consumption  
150 W

Operating temperature  
+5 to +40 °C (41 to 104 °F)

Storage temperature  
-20 to +60 °C (-4 to +140 °F)

Humidity  
20 to 90%

Mass  
22 kg (48 lb 8 oz)

Dimensions (W x H x D)  
427 x 174 x 544 mm  
(16 7/8 x 6 7/8 x 21 1/2 inches)

Tape speed

HDCAM  
96.7 mm/s (59.94i, 29.97PsF),  
80.6 mm/s (50i, 25PsF), 77.4 mm/s  
(24PsF, 23.98PsF)

Digital BETACAM  
96.7 mm/s

MPEG IMX  
64.5 mm/s (525/59.94i),  
53.8 mm (625/50i)

HDCAM record/playback time  
124 minutes (59.94i, 29.97PsF,  
with BCT-124HDL cassette)  
149 minutes (50i, 25PsF,  
with BCT-124HDL cassette)  
155 minutes (24PsF, 23.98PsF,  
with BCT-124HDL cassette)  
40 minutes (59.94i, 29.97PsF,  
with BCT-40HD cassette)  
48 minutes (50i, 25PsF,  
with BCT-40HD cassette)  
50 minutes (24PsF, 23.98PsF,  
with BCT-40HD cassette)

Fast forward/rewind time  
Approx. 3 minutes  
(with BCT-124HDL cassette)

Search speed range

Shuttle mode

HDCAM  
Still to ±50 times normal speed  
playback (59.94i, 29.97PsF),  
Still to ±58 times normal speed  
playback (50i, 25PsF),  
Still to ±60 times normal speed  
playback (24PsF, 23.98PsF)

Digital BETACAM  
Still to ±50 times  
normal speed playback

MPEG IMX  
Still to ±78 times  
normal speed playback

Variable mode

HDCAM  
-1 to +2 times normal speed playback

Digital BETACAM  
-1 to +3 times  
normal speed playback

MPEG IMX  
-1 to +3 times  
normal speed playback

Jog mode  
Still to ±1 times normal speed playback

Servo lock time  
0.6 s or less (59.94i, 29.97PsF,  
from standby on), 0.7 s or less  
(50i, 25PsF, 24PsF, 23.98PsF,

from standby on)  
Load/unload time  
6 s or less (both L and S cassettes)

**Input/output**

HD-SDI input  
BNC x 1 (SMPTE 292M),  
Serial Digital (1.485 Gb/s)

Reference video input  
BNC x 2 (with a loop-through),  
0.3 Vp-p, 75 Ω,  
75 Ω, sync negative or Black Burst  
or Composite

Digital audio input (CH 1/2, CH 3/4)  
BNC x 2, AES/EBU

Analogue audio input (CH 1/2)  
XLR-3-pin type, female, x 2  
Low off:  
-60 dBu, high impedance, balanced  
High off:  
+4 dBu, high impedance, balanced  
High on:  
-4 dBm, 600 Ω termination, balanced

Time code input  
XLR-3-pin type, female, x 1  
(0.5 to 18 Vp-p, 10 kΩ, balanced)

i.LINK(HDV 1080i) input (option: HKDW-105)  
IEEE1394, 6-pin x 1

HD-SDI output  
BNC x 3 (SMPTE 292M including one  
character out), Serial Digital (1.485 Gb/s)

SD-SDI output  
BNC x 3 (SMPTE 259M including one  
character out), Serial Digital (270 Mb/s)

Analogue composite output  
BNC x 3 (RS-170A, including one  
character out, one WFM out), Y: 1.0 Vp-p,  
sync negative, R-Y/B-Y: 0.7 Vp-p, 75 Ω

Digital audio output  
BNC x 4, AES/EBU  
(CH 1/2, CH 3/4, CH 5/6, CH 7/8)

Analogue audio output (CH 1/2)  
XLR-3-pin type, x 2, male,  
+4 dBm (600 Ω load),  
low impedance, balanced

Time code output  
XLR-3-pin type, male, x 1  
(2.2 Vp-p, low impedance, balanced)

Monitor output L/R  
XLR-3-pin type, male, x 2  
(+4 dBm at 600 Ω load,  
low impedance, balanced)

Headphones  
JM-60 Stereo phone jack  
(-∞ to -12 dBu at 8 Ω load, unbalanced)

Remote1 In  
D-sub 9-pin, Sony 9-pin remote interface

Remote1 Out  
D-sub 9-pin, Sony 9-pin remote interface

RS-232C  
D-sub 9-pin

Remote2 Parallel I/O  
D-sub 50-pin

Video control  
D-sub 9-pin

Control panel  
D-sub 15-pin

Others  
\*Memory Stick™ slot

**Processor adjustment range**

Video level  
±3 dB/∞ to +3 dB, selectable

Chroma level  
±3 dB/∞ to +3 dB, selectable

Chroma phase/hue  
±30°

System sync phase  
±15 μs

System SC phase  
±200 ns

**Digital video performance**

Sampling frequency  
Y: 74.25 MHz, R-Y/B-Y: 37.125 MHz

Quantisation  
10 bit/sample (compression: 8 bit/sample)

Compression  
Coefficient recording system

Channel coding  
S-I-NRZI PR-IV

Error correction  
Reed-Solomon code

**Analogue composite output performance**

Bandwidth  
0 to 5.75 MHz +0.5 dB/-3.0 dB

S/N ratio  
53 dB or more

Differential gain  
2% or less

Differential phase  
2% or less

Y/C delay  
20 ns or less

K Factor (2T Pulse)  
1% or less

Output SCH phase  
Based upon RS-170A/CCIR R.624-3

**Digital audio performance**

Sampling frequency  
48 kHz (Synchronised with video)

Quantisation  
20 bit/sample

Wow & flutter  
Below measurable level

Headrooms  
20 dB (or 18 dB selectable)

Emphasis (ON/OFF selectable in REC mode)  
T1=50 μs, T2=15 μs (on/off selectable in  
recording mode)

**Analogue audio output performance**

A/D quantisation  
20 bit/sample

D/A quantisation  
20 bit/sample

Frequency response  
20 Hz to 20 kHz +0.5 dB/-1.0 dB  
(0 dB at 1 kHz)

Dynamic range  
More than 95 dB  
(at 1 kHz, emphasis ON)

Distortion  
Less than 0.05%  
(at 1 kHz, emphasis ON, reference level)

Crosstalk  
Less than -80 dB  
(at 1 kHz, between any two channels)

**Cue track**

Sampling frequency  
100 Hz to 12 kHz ±3 dB

S/N ratio  
More than 45 dB (at 3% distortion level)

Distortion  
Less than 2% (THD at 1 kHz,  
reference level)

Wow & flutter  
Less than 0.2% rms

# HDW-S280/1 HDCAM VTR

## Features

- Compact HD videocassette recorder
- Half rack width chassis
- Legacy playback includes Betacam SX, Betacam SP and Betacam
- 1080/59.94i, 1080/50i, 1080/23.98PsF, 1080/24PsF, 1080/25PsF and 1080/29.97PsF switchable operation
- Record time of up to 48 minutes at 1080/50i on an S-size cassette
- HDSi input
- HDSi, SDI and composite analogue output
- AC, DC and battery operation
- LCD on front panel for picture monitoring
- Low power consumption of 80W
- Built-in up and down converters



## Optional Accessories

- BKP-L55 Battery Adapter
- BP-GL95 Rechargeable Lithium-ion Battery
- BP-GL65 Rechargeable Lithium-ion Battery
- BP-L80S Rechargeable Lithium-ion Battery Pack
- BC-M150 Ni-MH & Lithium-ion Battery Charger
- BC-L500 Lithium-ion Battery Charger
- BCT-HD Series HDCAM tapes
- BCT-HD12CL Head cleaning tape for HDCAM VTRs





## Specifications

### Power requirements:

100 to 240 V, 50/60 Hz

### Power consumption:

60 W (DC operation), 80 W (AC operation)

### Operating temperature:

+5 to +40°C (+41 to +104°F)

### Storage temperature:

-20 to +60°C (-4 to +140°F)

### Humidity:

25 to 80%

### Mass:

6 kg (13 lb 4 oz)

### Dimensions (W x H x D):

210 x 132 x 425 mm  
(8 3/8 x 5 1/4 x 16 3/4 inches)

### HDCAM record/playback time:

40 minutes (59.94 Hz), 48 minutes (50 Hz)  
with BCT-40HD cassette

### Fast-forward/rewind time:

Approx. 4 minutes (fast forward), 3 minutes  
(rewind)

### Shuttle speed:

±10 times normal speed

### Jog speed:

±1 time normal speed

### Servo lock time:

1.0 second or less

### Load/unload time:

7 seconds or less

### Continuous Operating time:

80 minutes with BP-GL95 Battery

### Inputs:

HD-SDI (BNC x1, with loop through),  
Reference (BNC x1, with loop through),  
analogue audio (XLR 3-pin type, female  
x2), time code (BNC x1)

### Outputs:

HD-SDI (BNC x2), SD-SDI (BNC x2),  
analogue composite (BNC x2), analogue  
audio (XLR-3-pin, female x2), audio  
monitor (XLR-3-pin, female x2), headphone  
(JM-60 stereo phone jack, x1),  
time code (BNC x1)

### Remote:

RS-422 (D-sub 9-pin x1), video control  
(D-sub 9-pin x1)

### Others slots:

DC input (XLR-4-pin, male x1), "Memory  
Stick" slot (x1)

### Supplied accessories:

Operation manual, installation manual,  
connector cap

### Optional accessories:

BCT-6HD/12HD/22HD/32HD/40HD HDCAM  
cassette, BCT-HD12CL cleaning tape,  
RCC-5G remote cable, BKP-L551 battery  
adaptor, BP-GL95/GL65 battery pack,  
BC-M150 battery charger

# HKJ-101 i.LINK Interface Board

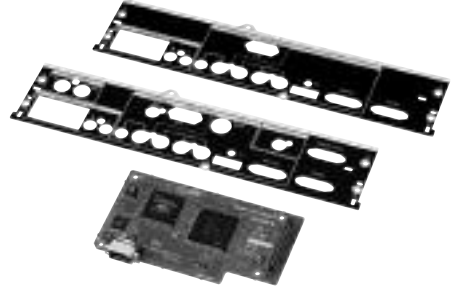
## Features

- Used with the J-H1 or J-H3
- Provides i.LINK connection between J-H1/J-H3 and DV-ready NLE systems and recorders
- HDCAM footage is down-converted to DV 25 Mb/s stream
- Connects video, audio (Max. 4 channels) and control signals

## Applicable Models

J-H1 Compact HDCAM Player

J-H3 Compact HDCAM Videocassette Player

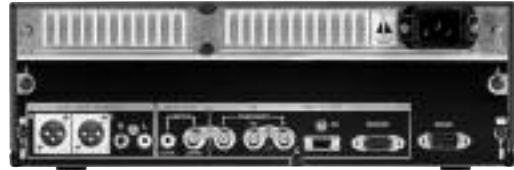


# J-H1 Compact HDCAM Player

The J-H1 is a cost effective, compact and lightweight HDCAM viewer ideal for desk-top use.

## Features

- HDCAM playback capability
- Supports 1080/50i and 1080/59.9i formats
- Accommodates both small and large cassettes
- Versatile output capability for flexible monitoring
- Equipped with HD analogue Y/Pb/Pr component output
- Down conversion built-in
- NTSC or PAL composite video output from both BNC and RCA output connectors
- Equipped with RGB computer display interface (at XGA resolution)
- Optional i.LINK interface board (HKJ-101)
- Shot mark handling



## Supplied Accessories

- Operation manual (CD-ROM) (1)
- Vertical stand (1)

## Optional Accessories

- HKJ-101 i.LINK Interface Board

## Specifications

### General

Power requirements:

AC 100 to 240 V, 50/60 Hz

Power consumption:

50 W

Operating temperature:

+5 to +40°C (+41 to +104°F)

Storage temperature:

-20 to +60 °C (-4 to +140°F)

Humidity:

25 to 80% (relative humidity)

Mass:

7.5 kg (16 lb 9 oz)

Dimensions:

307(W) x 100 (H) x 397 (D) mm  
(12 1/8 x 4 x 15 3/4 inches)

Tape speed

HDCAM:

96.7 mm/s (29.97 Hz)

80.7mm/s (25 Hz)

Playback time

HDCAM:

Max. 124 min (29.97 Hz, with

BCT-124HDL)

Max. 149 min (25 Hz, with BCT-124HDL)

Fast forward/rewind time

Approx. 5 min with BCT-124HD

Search speed range

Shuttle mode:

±21 times normal playback speed

Job mode:

±1 times normal playback speed

Servo lock time:

1 s or less (from standby on)

Load/unload time:

7 s or less

### Input output

Analogue HD video:

BNC (x 3) Y: 0.7 Vp-p, Pb/Pr:

±0.7 Vp-p 75 Ω

EIAJ RC-5237 connector, EIAJ CP-4120 standard

Analogue SD video:

BNC (x 1), Pin jack (x 1), 1.0 Vp-p, 75 Ω

Computer display:

D-sub 15 pin, XGA (1024 x 768 dots, RGB, 0.7 V

i.LINK (optional):

IEEE1394

Audio monitoring:

Pin jack (x 2): -10 dBu at 47 kΩ load, unbalanced

XLR (male x 2): +4 dBm, 600 Ω load, low impedance, balanced

Headphone:

JM-60 stereo phone jack, -∞ to -12 dBu at 8 Ω, unbalanced

RS-232C:

D-sub 9 pin male (x 1)

Wireless remote:

BIRCS

EXT SYNC:

BNC x 2

### HD analogue response

Output level:

Y: 700 mV (±5%), Pb/Pr: 700 mV (±5%),

Sync signal: 300 mV (±5%)

Bandwidth:

Y: 0 to 20 MHz + 1.0 dB/-3.0 dB,

Pb/Pr: 0 to 7 MHz +1.0 dB/-3.0 dB

S/N ratio:

56 dB or more

Output impedance:

Y, Pb, Pr: 75 Ω (±5%)

Y/C delay:

Y, Pb, Pr: ±15 ns or less

### - XGA analogue response -

Output level:

R: 700 mV (±5%), G: 700 mV (±5%),

B: 700 mV (±5%)

Resolution:

XGA

Refresh/rate:

60 Hz

H-frequency:

48.4 kHz

### SD composite response

Output level:

Y: 59.94i: 714 mV (±5%), 50i: 700 mV (±5%)

Sync: 59.94i: 286 mV (±5%), 50i: 300 mV (±5%)

Burst: 59.94i: 286 mV (±5%), 50i: 300 mV (±5%)

Bandwidth:

0.5 to 5.75 MHz + 0.5 dB/-3.0 dB

S/N ratio:

56 dB or more

Y/C delay:

20 ns or less

K Factor (2T pulse):

1.0% or less

### Analogue audio response

Output level:

XLR: +4±0.5 dBm, -20 dBFS, 600 Ω terminated

PIN: +10±0.5 dBu, -20 dBFS, 47 kΩ terminated

Frequency response:

20 Hz to 20 kHz + 1.0 dB/-1.5 dB

Dynamic range:

More than 85 dB (at 1 kHz, emphasis ON)

Distortion:

Less than 0.1% (at 1 kHz/-20 dBFS, emphasis ON)

Wow and flutter:

Less than 0.18%

# J-H3 Compact HDCAM Player

The J-H3 is a cost effective, compact and lightweight HDCAM viewer ideal for desk-top use. The J-H3 is equipped with a number of features to support 24P production applications.

## Features

- HDCAM playback capability
- Supporting 23.98/24/25/29.97PsF and 50i/59.94i formats
- Accommodates both small and large cassettes
- Versatile output capability for flexible monitoring
- Equipped with HD analogue Y/Pb/Pr component output
- Down conversion built-in
- Equipped with HD-SDI and SD-SDI outputs
- NTSC or PAL composite video output from both BNC and RCA output connectors
- Equipped with RGB computer display interface (at XGA resolution)
- Optional i.LINK interface board (HKJ-101)
- Timecode output
- Reference input
- RS-422 and RS-232C remote interface
- LTC output
- Shot mark handling
- TC character superimposing capability



## Supplied Accessories

- Operation manual (CD-ROM) (1)
- Vertical stand (1)

## Optional Accessories

- HKJ-101 i.LINK Interface Board

## Specifications

### General

- Power requirements:
  - AC 100 to 240 V, 50/60 Hz
- Power consumption:
  - 60 W
- Operating temperature:
  - +5 to +40°C (+41 to +104°F)
- Storage temperature:
  - 20 to +60 °C (-4 to +140°F)
- Humidity:
  - 25 to 80% (relative humidity)
- Mass:
  - 7.5 kg (16 lb 9 oz)
- Dimensions:
  - 307(W) x 100 (H) x 397 (D) mm
  - (12 1/8 x 4 x 15 3/4 inches)

### Tape speed

- HDCAM:
  - 96.7 mm/s (29.97 Hz)
  - 80.7 mm/s (25Hz)
  - 77.4 mm/s (24 Hz)

### Playback time

- HDCAM:
  - Max. 124 min (29.97 Hz, with BCT-124HDL)
  - Max. 149 min (25 Hz, with BCT-124HDL)
  - Max. 155 min (24 Hz, with BCT-124HDL)

### Fast forward/rewind time

- Approx. 5 min with BCT-124HD

### Search speed range

- Shuttle mode:
  - ±21 times normal playback speed
- Job mode:
  - ±1 times normal playback speed

### Servo lock time:

- 1 s or less (from standby on)

### Load/unload time:

- 7 s or less

## Input output

- Digital HD video:
  - BNC (x 1), SMPTE-292M
- Digital SD video:
  - BNC (x 1), SMPTE-259M
- Analogue HD video:
  - BNC (x 3) Y: 0.7 Vp-p, Pb/Pr: ±0.7 Vp-p 75 Ω
  - EIAJ RC-5237 connector, EIAJ CP-4120 standard
- Analogue SD video:
  - BNC (x 1), Pin jack (x 1), 1.0 Vp-p, 75 Ω
- Computer display:
  - D-sub 15 pin, XGA (1024 x 768 dots, RGB, 0.7 V
- i.LINK (optional):
  - IEEE1394
- Time code:
  - BNC (x 1), SMPTE-12M
- Audio monitoring:
  - Pin jack (x 2): -10 dBu at 47 kΩ load, unbalanced
  - XLR (male x 2): +4 dBm, 600 Ω load, low impedance, balanced
- Headphone:
  - JM-60 stereo phone jack, ∞ to -12 dBu at 8 Ω, unbalanced
- RS-232C:
  - D-sub 9 pin male (x 1)
- RS-422A:
  - D-sub 9 pin female (x 1), Sony 9-pin remote interface
- Wireless remote:
  - BIRCS
- EXT SYNC:
  - BNC x 2
- HD analogue response**
- Output level:
  - Y: 700 mV (±5%), Pb/Pr: 700 mV (±5%), Sync signal: 300 mV (±5%)
- Bandwidth:
  - Y: 0 to 20 MHz + 1.0 dB/-3.0 dB, Pb/Pr: 0 to 7 MHz + 1.0 dB/-3.0 dB
- S/N ratio:
  - 56 dB or more

## Output impedance:

- Y, Pb, Pr: 75 Ω (±5%)

## Y/C delay:

- Y, Pb, Pr: ±15 ns or less

## XGA analogue response

### Output level:

- R: 700 mV (±5%), G: 700 mV (±5%), B: 700 mV (±5%)

### Resolution:

- XGA

### Refresh/rate:

- 60 Hz

### H-frequency:

- 48.4 kHz

## SD composite response

### Output level:

- Y: 59.94i: 714 mV (±5%), 50i: 700 mV (±5%)
- Sync: 59.94i: 286 mV (±5%), 50i: 300 mV (±5%)
- Burst: 59.94i: 286 mV (±5%), 50i: 300 mV (±5%)

### Bandwidth:

- 0.5 to 5.75 MHz + 0.5 dB/-3.0 dB

### S/N ratio:

- 56 dB or more

### Y/C delay:

- 20 ns or less

### K Factor (2T pulse):

- 1.0% or less

## Analogue audio response

### Output level:

- XLR: +4±0.5 dBm, -20 dBFS, 600 Ω terminated
- PIN: +10±0.5 dBu, -20 dBFS, 47 kΩ terminated

### Frequency response:

- 20 Hz to 20 kHz + 1.0 dB/-1.5 dB

### Dynamic range:

- More than 85 dB (at 1 kHz, emphasis ON)

### Distortion:

- Less than 0.1% (at 1 kHz/-20 dBFS, emphasis ON)

### Wow and flutter:

- Less than 0.18%

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## SRPC-1 HD Video Processor

Used with the SRW-1 HD Digital Video Cassette Recorder, the SRPC-1 HD Video Processor forms the first Sony full-bandwidth HD 4:4:4 (RGB) portable VTR system. Adopting the HDCAM-SR format, the SRW-1/SRPC-1 offers virtually lossless 1080-line high-definition recordings at multiple frame rates on the very latest HDCAM-SR tape media. Offering unprecedented HD image quality, excellent operability, and powerful interfacing capabilities, the SRW-1 and SRPC-1 offer the ideal HD portable VTR system, especially for movie-making, commercial production, and high-end television production applications.

### Features

- High-quality HD field recording
- Double speed recording
- Multi-frame-rate 1080 HD Recording and Playback
- 12 channels of 24 bit audio

### Supplied Accessories

Operational Manual (1)

### Optional Accessories

BCT-HD12CL tapes Head cleaning videocassette

tapes for HDCAM VTRs

RM-B750 Remote Control Unit

BC-M150 Ni-MH & Li-ion Battery Charger

BP-GL95 Rechargeable Lithium-ion Battery Pack

BP-GL65 Rechargeable Lithium-ion Battery Pack

RM-B150 Remote Control Unit

AC-DN2B



## Specifications

### General

- Power requirement:  
DC +12 V (DC +11 to +17 V)
- Operating temperature:  
0 to +40 °C
- Storage temperature  
-20 to +60 °C
- Humidity:  
25 to 80% (relative humidity)
- Mass:  
8.5 kg (18 lb. 12 oz)
- Dimensions (W x H x D):  
279 x 399 x 139 mm (11 x 15 3/4 x 5 5/8 inches)
- Recording format:  
HDCAM-SR
- Recording/Playback time:  
Normal speed recording: 50 min. with BCT-40SR cassette (24P mode)  
Double speed recording: 25 min. with BCT-40SR cassette (24P mode)
- Fast forward/rewind time:  
5 min.
- Fast forward/rewind speed:  
±11 times
- Search speed (Shuttle mode):  
±11 times

### Input/Output signals

- HD serial V/A input:  
BNC x 2, Serial Digital (1.485 Gb/s), SMPTE-292M/SMPTE-372M/BTA-S004/ITU-R.BT709
- HD reference video input:  
BNC x 1, Tri Level Sync, 0.6 Vp-p, 75 Ω, sync negative
- SD reference video input:  
BNC x 1, Black Burst, 0.286 Vp-p, 75 Ω, sync negative
- Digital audio input:  
BNC x 2 (AES/EBU)
- Analogue audio input:  
XLR-3pin x 4 (female)
- Time code input:  
BNC (x 1), 0.5 to 18 Vp-p, 10 kΩ
- HD serial V/A output:  
BNC x 2, serial digital (1.485 Gb/s), SMPTE-292M/SMPTE-372M/BTA-S004/ITU-R.BT709
- HD serial V/A monitor output:  
BNC x 1 (with character out), serial digital (1.485 Gb/s), SMPTE-292M/BTA-S004/ITU-R.BT709
- SD serial V/A monitor output:  
BNC x 1 (with character out), D1 serial digital (270 Mb/s), SMPTE-259M
- Digital audio output (ch1 to ch12):  
D-Sub multi connector
- Analogue audio monitor output  
XLR-3-pin x 2 (male)
- Time code output:  
BNC x 1, 1.0 Vp-p (75 Ω), 2.2 Vp-p (10 kΩ)
- Phones:  
Stereo mini jack x 2 -17 dBu
- Remote input:  
D-sub 9-pin, (female), Sony 9pin remote interface

### Digital video performance

- Sampling frequency:  
Y: 74.25 MHz, Pb/Pr: 37.125 MHz  
G: 74.25 MHz, B: 74.25 MHz,  
R: 74.25 MHz
- Quantization:  
10 bits/sample
- Compression:  
MPEG-4 Studio Profile
- Channel coding:  
S-NRZ
- Error correction:  
Reed-Solomon code

### Digital audio performance

- Sampling frequency:  
48 kHz (synchronized with video)
- Quantization:  
24 bits/sample
- Wow and flutter:  
Below measurable level
- Analogue audio performance  
(Playback with the SRW-5000 VTR)**

- Sampling frequency:  
24 bits/sample
- Frequency response:  
20 Hz to 20 kHz, +0.5 dB/-1.0 dB (reference level)
- Dynamic range:  
More than 100 dB (1 kHz)
- Distortion:  
Less than 0.05% (at 1 kHz, reference level)
- Crosstalk:  
Less than -80 dB (at 1kHz, between any two channels)

## SRW-1 HDCAM-SR Portable VTR

Used with the SRPC-1 HD Video Processor, the SRW-1 HD Digital Video Cassette Recorder forms the first Sony full-bandwidth HD 4:4:4 (RGB) portable VTR system. Adopting the HDCAM-SR format, the SRW-1/SRPC-1 offers virtually lossless 1080-line high-definition recordings at multiple frame rates on the very latest HDCAM-SR tape media. Offering unprecedented HD image quality, excellent operability, and powerful interfacing capabilities, the SRW-1 and SRPC-1 offer the ideal HD portable VTR system, especially for movie-making, commercial production, and high-end television production applications.

### Features

- High-quality HD field recording
- Double speed recording
- Multi-frame-rate 1080 HD Recording and Playback
- 12 channels of 24 bit audio

### Supplied Accessories

Operational Manual (1)

### Optional Accessories

BCT-HD12CL tapes Head cleaning videocassette tapes for HDCAM VTRs

RM-B750 Remote Control Unit

BC-M150 Ni-MH & Li-ion Battery Charger

BP-GL95 Rechargeable Lithium-ion Battery Pack

BP-GL65 Rechargeable Lithium-ion Battery Pack

RM-B150 Remote Control Unit

AC-DN2B

HKSR-102 Additional card to allow SR motion effects, especially with F23 camera.





## Specifications

### General

Power requirement:  
DC +12 V (DC +11 to +17 V)

Operating temperature:  
0 to +40 °C

Storage temperature:  
-20 to +60 °C

Humidity:  
25 to 80% (relative humidity)

Mass:  
8.5 kg (18 lb. 12 oz)

Dimensions (W x H x D):  
279 x 399 x 139 mm (11 x 15 3/4 x 5 5/8 inches)

Recording format:  
HDCAM-SR

Recording/Playback time:  
Normal speed recording: 50 min. with BCT-40SR cassette (24P mode)  
Double speed recording: 25 min. with BCT-40SR cassette (24P mode)

Fast forward/rewind time:  
5 min.

Fast forward/rewind speed:  
±11 times

Search speed (Shuttle mode):  
±11 times

### Input/Output signals

HD serial V/A input:  
BNC x 2, Serial Digital (1.485 Gb/s), SMPTE-292M/SMPTE-372M/BTA-S004/ITU-R.BT709

HD reference video input:  
BNC x 1, Tri Level Sync, 0.6 Vp-p, 75 Ω, sync negative

SD reference video input:  
BNC x 1, Black Burst, 0.286 Vp-p, 75 Ω, sync negative

Digital audio input:  
BNC x 2 (AES/EBU)

Analogue audio input:  
XLR-3-pin x 4 (female)

Time code input:  
BNC (x 1), 0.5 to 18 Vp-p, 10 kΩ

HD serial V/A output:  
BNC x 2, serial digital (1.485 Gb/s), SMPTE-292M/SMPTE-372M/BTA-S004/ITU-R.BT709

HD serial V/A monitor output:  
BNC x 1 (with character out), serial digital (1.485 Gb/s), SMPTE-292M/BTA-S004/ITU-R.BT709

SD serial V/A monitor output:  
BNC x 1 (with character out), D1 serial digital (270 Mb/s), SMPTE-259M

Digital audio output (ch1 to ch12):  
D-Sub multi connector

Analogue audio monitor output:  
XLR-3pin x 2 (male)

Time code output:  
BNC x 1, 1.0 Vp-p (75 Ω), 2.2 Vp-p (10 kΩ)

Phones:  
Stereo mini jack x 2 -17 dBu

Remote input:  
D-sub 9-pin, (female), Sony 9pin remote interface

### Digital video performance

Sampling frequency:  
Y: 74.25 MHz, Pb/Pr: 37.125 MHz  
G: 74.25 MHz, B: 74.25 MHz, R: 74.25 MHz

Quantization:  
10 bits/sample

Compression:  
MPEG-4 Studio Profile

Channel coding:  
S-NRZ

Error correction:  
Reed-Solomon code

### Digital audio performance

Sampling frequency:  
48 kHz (synchronized with video)

Quantization:  
24 bits/sample

Wow and flutter:  
Below measurable level

### Analogue audio performance

#### (Playback with the SRW-5000 VTR)

Sampling frequency:  
24 bits/sample

Frequency response:  
20 Hz to 20 kHz, +0.5 dB/-1.0 dB (reference level)

Dynamic range:  
More than 100 dB (1 kHz)

Distortion:  
Less than 0.05% (at 1 kHz, reference level)

Crosstalk:  
Less than -80 dB (at 1kHz, between any two channels)

## SRW-5000/1 HDCAM-SR VTR

The SRW-5000/1 is a high-end HD digital videocassette recorder that employs the HDCAM-SR format.

Applications range from HDTV to digital cinematography. Key features include high-quality 1080i, 1080P, or 720P recording and playback, a wide array of internal format conversions, including 4:4:4 to 4:2:2, legacy playback of HDCAM and Digital BETACAM tape formats.

### Features

- 1080 recording and playback at multiple frame rates: 23.98P, 24P, 25P, 29.97P, 50i, 59.94i
- 720P recording and playback
- Switchable 4:4:4/4:2:2 recording
- New HDCAM-SR tape format
- High-quality MPEG-4 Studio Profile compression
- 12-channels of 24-bit audio at 48kHz
- Internal format conversion
- Legacy playback
- Long recording time on a single cassette of up to 155 minutes at 1080/24P
- User-friendly controls
- Frame-accurate insert/assemble editing
- High-speed colour picture search
- Dynamic Tracking playback
- Digital-Jog Sound
- Dynamic Motion Control (DMC) playback
- Pre-read editing
- Confidence playback
- Selectable picture modes including squeeze, letter box, and edge crop
- Audio-output channel routing; can route audio to any HD-SDI or SDI output
- Dual-sync operation
- Off-speed playback capability
- Programme play with audio pitch correction
- Built-in Tele-File read/write capability
- Metadata Handling
- Newly designed DT-Head
- New tape formula
- Easy maintenance



### Supplied Accessories

- PSW4 x 16screws, for rack mounting (4)
- CD-ROM (Operation manual & Maintenance manual part 1) (1)
- Memory Stick/PC Card adapter (1)

### Optional Accessories

- HKSR-5001/1 Format Converter Board
- HKSR-5002 Digital BETACAM Processor Board
- HKSR-5003 RGB Processor Boards
- RMM-110 Rack Mount Kit
- BCT-HD12CL tapes Head cleaning videocassette tapes for HDCAM VTRs

## Specifications

### General

Power requirements:  
100 to 240 V AC ( $\pm 10\%$ , 50/60 Hz)

Power consumption:  
230 W

Operating temperature:  
+ 5 °C to +40 °C (+41 °F to +104 °F)

Storage temperature:  
-20 °C to +60 °C (-4 °F to +140 °F)

Operating humidity:  
25% to 80% (relative humidity)

Mass (approx.):  
30 kg (66 lb. 2 oz)

Dimensions (W x H x D excluding protrusions):  
427 x 218 x 544 mm (16 3/4 x 8 5/8 x 21 1/2 inches)

Tape speed:  
94.2 mm/s (24P mode)

Digital recording/Playback time:  
Max. 155 min with BCT-124SR cassette (24P mode)

Fast-forward/rewind time:  
Approx. 3 min with BCT-124SR cassette

Search-speed range:  
 $\pm 50$  times normal playback speed (24P mode)

Servo-lock time:  
1.0 s or less (from standby on)

Load/unload time:  
6.0 s or less

**Input/Output**

HD serial V/A input:  
BNC (x 1 with monitoring loop-through),  
Serial digital (1.485 Gb/s), SMPTE 292M/BTA  
S-004/ITU-R.BT 709

HD/SD reference video input 1:  
BNC (x 1, with loop-through), Tri Level sync,  
0.6 Vp-p, 75  $\Omega$ , sync negative or Black  
Burst, 0.286 Vp-p, 75  $\Omega$ , sync negative

HD/SD reference video input 2 (optional  
HKSR-5001 required):  
BNC (x 1, with loop-through), Black Burst,  
0.286 Vp-p, 75  $\Omega$ , sync negative

Digital-audio input (CH1/2, CH3/4, CH5/6,  
CH7/8, CH9/10, CH11/12):  
BNC (x 6, AES/EBU)

Time-code input:  
XLR-3-pin type, (female x 1), 0.5 to 18 Vp-p,  
10 k $\Omega$ , balanced

HD serial V/A output:  
BNC (x 3, with character out), Serial digital  
(1.485 Gb/s), SMPTE 292M/BTA  
S004/ITU-R.BT 709

Format-converter output (optional HKSR-5001  
required):  
BNC (x 2), with character out

Standard-definition V/A output:  
BNC (x 3, with character out), D1 serial  
digital (270 Mb/s), SMPTE 259M

Analogue I/O down-converted output:  
Composite: BNC (x 1 with character out)  
1.0 Vp-p, 75  $\Omega$ , sync negative)  
SD sync: BNC (x 1, Black Burst, 0.286 Vp-p,  
75  $\Omega$ , sync negative)

Analogue I/O reference output:  
1125 Sync: BNC (x2), Tri Level sync, 0.6  
Vp-p, 75  $\Omega$ , sync negative

Digital-audio output (CH1/2 CH3/4 CH5/6  
CH7/8 CH9/10 CH11/12):  
BNC (x 6), AES/EBU, unbalanced

Analogue-audio output (CH1/2/3/4/Cue):  
XLR-3-pin type, (male x 5), +4 dBm, (with a  
600  $\Omega$  load), low impedance, balanced

Monitor output (L/R):  
XLR-3-pin type, (male x 2), +4 dBm, (with a  
600  $\Omega$  load), low impedance, balanced

Time-code output:  
XLR-3-pin type, (male x 1), 2.2 Vp-p low  
impedance, balanced

Phones:  
JM-60 stereo phone jack, -  $\infty$  to -12 dBu  
(with an 8  $\Omega$  load), unbalanced

Remote 1 input:  
D-sub 9-pin, (female), Sony 9-pin remote  
interface

Remote 1 input/output:  
D-sub 9-pin, (female), Sony 9-pin remote  
interface

RS-232C:  
D-sub 9-pin, (male)

Video control:  
D-sub 9-pin, (female), (for optional  
HKDV-503)

Parallel remote:  
D-sub 50-pin, (female)

Network:  
10Base-T modular jack

**Digital-Video Performance**

Sampling frequency:  
Y: 74.25 MHz, PB/PR: 37.125 MHz

Quantization:  
10 bits/sample

Compression:  
MPEG-4 Studio Profile

Channel coding:  
S-NRZ

Error correction:  
Reed-Solomon code

Error concealment:  
Adaptive three-dimensional

Analogue Composite-Output Performance

Bandwidth  
Y: 0 to 5.75 MHz +5.0 dB/-3.0 dB

S/N ratio:  
56 dB or more

Y/C delay:  
15 ns or less

K Factor (2T Pulse):  
1 % or less

Output SCH phase:  
Based upon RS-170A/CCIR R.624-3

**Digital-Audio Performance**

Sampling frequency:  
48 kHz (synchronized with video)

Quantization:  
24 bits/sample

Wow & flutter:  
Below measurable level

Headroom:  
20 dB (or 18 dB selectable)

**Analogue Audio-Output Performance**

D/A quantization:  
24 bits/sample

Frequency response:  
20 Hz to 20 kHz, +0.5 dB/-1.0 dB (0 dB at  
1 kHz)

Dynamic range:  
More than 100 dB (At 1 kHz)

Distortion:  
Less than 0.05% (At 1 kHz, reference level)

Crosstalk:  
Less than -90 dB (At 1 kHz, between any  
two channels)

De-emphasis:  
T1 = 50  $\mu$ s, T2 = 15  $\mu$ s (auto on/off)

## SRW-5500/1 HDCAM-SR VTR

The SRW-5500/1 is a high-end HD digital videocassette recorder that employs the HDCAM-SR format. This VTR also allows recording and playback of the well-proven HDCAM format. Applications range from HDTV to digital cinematography. Key features include high-quality 1080i, 1080PsF, or 720P recording and playback, a wide array of internal format conversions, including 4:4:4 to 4:2:2, legacy playback of Digital BETACAM tape formats.

### Features

- 1080 recording and playback at multiple frame rates: 23.98PsF, 24PsF, 25PsF, 29.97PsF, 50i, 59.94i in HDCAM and HDCAM-SR formats
- 720P recording and playback (HDCAM-SR only)
- Switchable 4:4:4/4:2:2 recording (option)
- High quality MPEG-4 studio profile compression
- High quality audio recording: 12 channels, 24-bit audio at 48kHz in the HDCAM-SR format
- Internal format conversion including up and down conversion, 4:4:4 to 4:2:2 conversion
- Playback of Digital Betacam format tapes
- Long recording time on a single cassette of up to 155 minutes at 1080/24PsF
- User friendly controls
- Frame accurate insert/assemble editing
- High speed colour picture search
- Dynamic tracking playback
- Digital jog sound
- Dynamic Motion Control (DMC) playback
- Pre-read editing
- Confidence playback
- Selectable picture modes including squeeze, letter box and edge crop
- Audio output channel routing: can route audio to any HD-SDI or SDI output
- Dual-sync operation
- Off-speed playback capability
- Programme play with audio pitch correction
- Built-in tele-file read/write capability
- Metadata handling
- Newly designed DT-Head
- New HDCAM-SR tape formula for high reliability and durability
- Easy maintenance



### Supplied Accessories

- PSW4 x 16 screws for rack mounting (4)
- CD-ROM Operation manual and Maintenance Manual part 1 (1)
- Memory Stick / PC card adaptor (1)

### Optional Accessories

- HKSR-5001/1 Format Converter Board
- HKSR-5002 Digital BETACAM Processor Board
- HKSR-5003 RGB Processor Boards
- RMM-110 Rack Mount Kit
- BCT-HD12CL tapes Head Cleaning
- Videocassette Tapes for HDCAM VTRs
- BCT-HD Series HDCAM Tapes
- BCT-SR Series HDCAM-SR Tapes

## Specifications

### General

Power requirements:  
100 to 240 V AC ( $\pm 10\%$ , 50/60 Hz)

Power consumption:  
230 W (without options)/320 W (with all option boards installed)

Operating temperature:  
+5°C to +40°C (+41°F to +104°F)

Storage temperature:  
-20°C to +60°C (-4°F to +140°F)

Operating humidity:  
25% to 80% (relative humidity)

Mass (approx.):  
30 kg (66 lb 2 oz)

Dimensions (W x H x D excluding protrusions):  
427 x 218 x 544 mm  
(16 7/8 x 8 5/8 x 21 1/2 inches)

Tape speed:  
HDCAM-SR: 94.2 mm/s (24 Hz)  
HDCAM: 77.4 mm/s (24 Hz)  
Digital Betacam: 96.7 mm/s

HDCAM-SR/HDCAM recording/  
Playback time  
155 min with BCT-124SR cassette (24 Hz) with BCT-124SRL

Digital Betacam playback time  
124 minutes with BCT-D124L tape

Fast-forward/rewind time  
Approx. 4 min with BCT-124SR cassette

Search speed range  
Shuttle mode  
HDCAM-SR: Still to  $\pm 50$  times normal playback speed (24 Hz)  
HDCAM: Still to  $\pm 58$  times normal playback speed (25 Hz)  
Digital Betacam: Still to  $\pm 50$  times normal playback speed

Variable mode  
HDCAM-SR: -1 to 2 times normal playback speed  
HDCAM: -1 to 2 times normal playback speed  
Digital Betacam: -1 to 3 times normal playback speed

Jog Mode  
HDCAM-SR: Still to  $\pm 2$  times normal playback speed  
HDCAM: Still to  $\pm 3$  times normal playback speed  
Digital Betacam: Still to  $\pm 3$  times normal playback speed

Dynamic Tracking Range  
-1 to +2 times normal playback speed

Servo-lock time  
1.0 sec or less (from standby on)

Load/unload time  
7.0 sec or less

**Input/Output**

HD-SDI input A  
BNC (1+ 1 for monitoring loop-through),  
Serial digital (1.485 Gb/s),  
SMPTE 292M/BTA S-004/ITU-R.BT 709

HD-SDI input B (optional HKSR-5003 required)  
BNC (1+ 1 for monitoring loop-through),  
Serial digital (1.485 Gb/s),  
SMPTE 292M/BTA S-004/ITU-R.BT 709

HD/SD reference video input 1  
BNC (1+ 1 for loop-through), Tri Level sync,  
0.6 Vp-p, 75  $\Omega$ , sync negative or Black Burst, 0.286 Vp-p, 75  $\Omega$ , sync negative

HD/SD reference video input 2 (optional HKSR-5001 required)  
BNC (1+ 1 for loop-through),  
Tri Level sync, 0.6 Vp-p,  
75  $\Omega$ , sync negative or Black Burst,  
0.286 Vp-p, 75  $\Omega$ , sync negative

Digital-audio input (CH1/2, CH3/4, CH5/6, CH7/8, CH9/10, CH11/12)  
BNC (x6, AES/EBU), unbalanced

Analogue audio input (Cue)  
XLR-3-pin, female x1

Time-code input  
XLR-3-pin type, (female x1), 0.5 to 18 Vp-p,  
10 k $\Omega$ , balanced

HD-SDI output  
BNC (x3, with character out), Serial digital (1.485 Gb/s), SMPTE 292M/BTA S004/ITU-R.BT 709

Format-converter output (optional HKSR-5001 required)  
BNC (x2), with character out

SD-SDI output  
BNC (2+ 1 with character out),  
D1 serial digital (270 Mb/s), SMPTE 259M

Analogue down-converted output  
Composite: BNC (x1 with character out)  
1.0 Vp-p, 75  $\Omega$ , sync negative)  
SD sync: BNC (x1, Black Burst, 0.286 Vp-p,  
75  $\Omega$ , sync negative)

Analogue reference output  
1125 Sync: BNC (x2), Tri Level sync,  
0.6 Vp-p, 75  $\Omega$ , sync negative

Digital-audio output (CH1/2 CH3/4 CH5/6 CH7/8 CH9/10 CH11/12)  
BNC (x6), AES/EBU, unbalanced

Analogue-audio output (CH1/2/3/4/Cue\*)  
XLR-3-pin type, (male x5), +4 dBm,  
(with a 600  $\Omega$  load),  
low impedance, balanced

Monitor output (L/R)  
XLR-3-pin type, (male x2), +4 dBm, (with a 600  $\Omega$  load), low impedance, balanced

Time-code output  
XLR-3-pin type, (male x1),  
2.2 Vp-p low impedance, balanced

Phones  
JM-60 stereo phone jack,  $-\infty$  to 12 dBu (with an 8  $\Omega$  load), unbalanced

Remote 1 input  
D-sub 9-pin, (female),  
Sony 9-pin remote interface

Remote 1 input/output  
D-sub 9-pin, (female),  
Sony 9-pin remote interface

Video control  
D-sub 9-pin, (female),  
(for optional HKDV-900)

Parallel remote  
D-sub 50-pin, (female)

Ethernet  
10Base-T modular jack

**Digital-Video Performance**

Sampling frequency  
HDCAM-SR: Y: 74.25 MHz,  
Pb/Pr: 37.125 MHz, G/B/R: 74.25 MHz  
HDCAM: Y: 74.25 MHz, Pb/Pr: 37.125 MHz

Quantization  
10 bits/sample

Compression  
HDCAM-SR: MPEG-4 Studio Profile  
HDCAM: Coefficient Recording System

Channel coding  
S-NRZ

Error correction  
Reed-Solomon code

Error concealment  
Adaptive three-dimensional

**Analogue Composite-Output Performance**

Bandwidth  
Y: 0 to 5.75 MHz +5.0 dB/-3.0 dB

S/N ratio  
56 dB or more

Y/C delay  
15 ns or less

K Factor (2T Pulse)  
1% or less

Output SCH phase  
Based upon RS-170A/CCIR R.624-3

**Digital-Audio Performance**

Sampling frequency  
48 kHz (synchronized with video)

Quantization  
HDCAM-SR: 24 bits/sample  
HDCAM: 20 bits/sample

Wow & flutter  
Below measurable level

Headroom  
20/18/16/12 dB

**Analogue Audio-Output Performance**

D/A quantization  
24 bits/sample

Frequency response  
20 Hz to 20 kHz, +0.5 dB/-1.0 dB (0 dB at 1 kHz)

Dynamic range  
More than 100 dB (At 1dB at 1 kHz)

Distortion  
Less than 0.05% (At 1 kHz, reference level)

Crosstalk  
Less than -80 dB (At 1 kHz, between any two channels)

De-emphasis  
T1 = 50  $\mu$ s, T2 = 15  $\mu$ s (auto on/off)

# F23 Digital Cinematography Camera

## Features

- Full-bandwidth RGB 4:4:4 HD digital image capturing
- Variable frame rate image capturing -- from 1 fps to 60 fps in 4:2:2 mode and from 1 fps to 30 fps in 4:4:4 mode
- Newly developed three 2/3-inch type progressive CCDs deliver a 1920 x 1080 (H x V) full HD resolution image
- High sensitivity of T10 (at 23.98P mode)
- 14-bit A/D converter
- Multi-format image capturing
- Progressive mode: 1080/23.98P, 24P, 25P, 29.97P, 50P, 59.94P
- Interlace mode: 1080/50i, 59.94i
- Compact and lightweight -- weighing just 5 kg (11 lb) without a viewfinder
- The SRW-1 recorder can dock directly to the top or rear of the F23
- Durable B4 lens mount to withstand frequent lens changes
- Compatible with film camera accessories
- Intuitive controls - "Cine Mode" and "Custom Mode"
- Supplied Assistant Panel provides intuitive remote control of basic camera and VTR operations
- Supplied Interface Box allows flexible connection to a range of peripherals -- two HD-SDI outputs and two-channel analog audio inputs
- Built-in down-conversion output • 12 V and 24 V DC accessory power outputs
- Twin viewfinder operation capability
- Memory Stick storage of camera setup parameters
- Assignable switches
- S-LOG gamma
- Hyper gamma
- Customizable gamma curve by CVPFileEditor software
- Multi-matrix control
- Knee saturation correction
- Low key saturation correction
- Triple skin tone detail control



## Supplied Accessories

- Interface box (1)
- Assistant panel (1)
- Cable for assistant panel (1)
- Assistant panel hangar (1)
- Center handle (1)
- LEMO 8-pin connector (1)
- Operation manual (1)

## Optional Accessories

- HDVF-C35W Multi-format HD Color LCD Viewfinder
- HDVF-C950W Multi-format HD Color LCD Viewfinder
- VFH-990 9-inch Type Viewfinder Sports Hood
- RM-B750 Remote Control Unit
- RM-B150 Remote Control Unit
- MSU-900 Master Setup Unit
- MSU-950 Master Setup Unit
- AC-DN2B AC Adaptor/Charger
- AC-DN10 AC Adaptor/Charger
- BKP-L551 Li-ion Battery Adaptor
- BP-GL95 Rechargeable Lithium-ion Battery Pack
- BC-L500 Li-ion Battery Charger
- BC-M150 Ni-MH & Li-ion Battery Charger
- BC-L70 Li-ion Battery Charger

note : AC-DN2B, AC-DN10, BKP-L551, and BP-GL95 cannot be used in the direct docking configuration of the F23 and SRW-1.

## Specifications

### General

- Mass
  - Approx. 5.0 kg (11 lb)
- Power requirement
  - DC 10.5 V to 17 V
- Power consumption
  - 56 W (without lens, viewfinder, at 23.98PsF mode)
- Operating temperature
  - 0 °C to 40 °C (32 °F to 104 °F)
- Storage temperature
  - 20 °C to +60 °C (-4 °F to +104 °F)

### Camera section

- Pickup device
  - 3-chip 2/3-inch type Progressive CCD
- Aspect ratio
  - 16:09
- Effective picture elements (H x V)
  - 1920 x 1080
- Optical system
  - F1.4 prism system
- Built-in filters
  - A: 3200K, B: 4300K, C: 5600K, D: 6300K, E: ND0.3 (1/2ND)
  - 1: Clear, 2: ND0.6 (1/4ND), 3: ND1.2 (1/16ND), 4: ND1.8 (1/64ND), 5: CAP
- Lens mount
  - Sony bayonet mount (B4)
- Sensitivity (at 2000 lx, 89.9% reflective)
  - T10 (at 23.98PsF)
- Registration
  - Within 0.02% (all zones, without lens)
- Distortion
  - Below measureable level (without lens)

## Setup card

- Memory Stick PRO
- Horizontal resolution
  - 1000 TV lines
- Signal inputs/outputs
  - Genlock video input
    - BNC type x1, 1.0 Vp-p, 75 Ω
  - Audio CH1/CH2 input (with supplied interface box)
    - XLR-3-31 type (Female), line/mic/mic +48 V selectable
- Test output
  - BNC type x1, VBS/HD Y
- Dual-Link HD-SDI output (with supplied interface box)
  - BNC type x2
- Monitor output
  - BNC type x2, HD-SDI (4:2:2)
- DC input
  - Lemo 8-pin (Male) x1, DC 10.5 V to 17 V, DC 20 V to 30 V
- DC input (with supplied interface box)
  - XLR-4-pin type (Male) x1
- DC output
  - DC 12 V: 11-pin x1, max. 4 A
  - DC 24 V: 3-pin x1, max. 5.5 A
- Lens
  - 12-pin x1
- Remote
  - 8-pin x1
- Viewfinder
  - 20-pin x2
- External input/output
  - Lemo 5-pin (Female) x1
- Network
  - RJ-45 type x1, 10BASE-T/100BASE-TX

## HKSR-5001/1 Format Converter Board

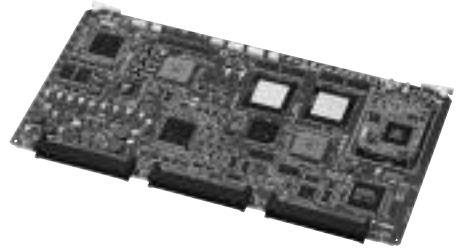
Optional board for the SRW-5000/1 and SRW-5500/1  
HDCAM-SR VTR

### Features

- Provides a wide range of format conversions, both upconversion and downconversion, from HD-SDI (both 1080 & 720) to SDI, and from 4:4:4 to 4:2:2
- 2-3 pull-down conversion capability •1080/720P cross-conversion

### Applicable Models

SRW-5000/1 HDCAM-SR VTR  
SRW-5500/1 HDCAM-SR VTR



## HKSR-5002 Digital Betacam Processor Board

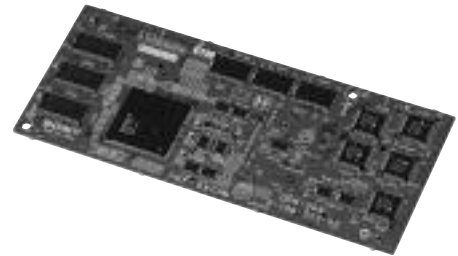
Optional board for the SRW-5000/1 and SRW-5500/1  
HDCAM-SR VTR

### Features

- Provides the SRW-5000/1 and SRW-5500/1 with the capability to playback Digital Betacam tapes for output in both HD and SD

### Applicable Models

SRW-5000/1 HDCAM-SR VTR  
SRW-5500/1 HDCAM-SR VTR



## HKSR-5003 RGB Processor Boards

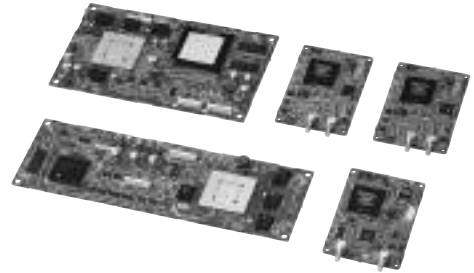
Optional board for the SRW-5000/1 and SRW-5500/1  
HDCAM-SR VTR

### Features

- Provides the SRW-5000/1 and SRW-5500/1 with the capability to record and playback RGB (4:4:4) signals

### Applicable Models

SRW-5000/1 HDCAM-SR VTR  
SRW-5500/1 HDCAM-SR VTR



## HKSR-102 SR Motion processor board

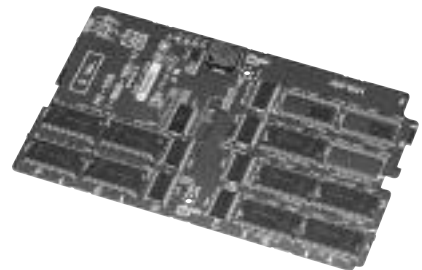
Optional board for the SRW-1 HDCAM SR portable VTR

### Features

- When added to the SRW-1 and the SRW-1 is docked to the F23 digital cinema camera, allows SR Motion effects such as 1 to 60 FPS recording and time-lapse.

### Applicable Models

SRW-1 HD Portable Digital Video Recorder



**SONY**



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# DSR-450WSPL DVCAM Camcorder

## Features

- 2/3-inch type power HAD EX CCD
- Switchable aspect ratio (16:9/4:3)
- 12-bit A/D conversion
- Advanced digital signal processing (ADSP)
- DVCAM/DV selectable recording
- Long recording time: up to 276 minutes at DV (SP) mode and up to 184 minutes at DVCAM mode with a standard-size cassette
- High-Quality audio recordings
- Film-like images with progressive mode
- Digital output to external devices via an i.LINK interface
- Quick FF/REW capabilities
- Rugged and ergonomic design
- Compact and lightweight: approximately 6.5 kg (14 lb 5 oz) including the DXF-801 viewfinder, microphone, BP-GL65 battery, mini-size DVCAM cassette and VCL-917BY lens (supplied with the DSR-400PK package)
- Low power consumption of approximately 17 W (with the DC 12 V power supply, REC mode, viewfinder and LCD monitor off)
- User-friendly menu controls
- Optical ND filter and electric CC filter
- Battery-remaining display on the viewfinder and LCD monitor
- Intelligent light system
- 2.5-inch (\*1) type colour LCD monitor
- Supplied DXF-801 viewfinder
- User assignable function-buttons
- Turbo gain: max. 36 dB
- Slow shutter mode: 1 to 8 to 16 frames accumulation
- Optional camera adaptor for wireless microphone receiver
- Memory stick system stores camera setup parameters
- Adjustable shoulder pad
- Versatile interfaces: SDI output and composite input with the optional boards
- Camera remote control via Sony RM-B150/B750
- TruEye processor
- Adaptive highlight control
- Triple skin tone detail control
- Electronic soft focus
- Selectable gamma table including film-like gamma
- Variable black gamma range
- Auto Tracing White balance (ATW)
- Multi-matrix function
- Colour temperature control
- Interval recording

(\*1) Viewable area measured diagonally.



## Supplied Accessories

DXF-801 Viewfinder with microphone holder (1)  
 VCT-U14 Tripod Adaptor (1)  
 External microphone (1)  
 Shoulder strap (1)

## Optional Accessories

LC-H300 Hard Carrying Case  
 CA-WR855 Camera Adaptor  
 WRR-855B UHF Synthesized Diversity Tuner  
 ECM-678 Electret Condenser Microphone  
 ECM-674 Electret Condenser Microphone  
 DX-51 5-inch Monochrome Viewfinder  
 RM-B750 Remote Control Unit  
 RM-B150 Remote Control Unit  
 BP-GL95 Rechargeable Lithium-ion Battery Pack  
 BP-GL65 Rechargeable Lithium-ion Battery Pack  
 BP-L60S Rechargeable Lithium-ion Battery Pack  
 BC-L70 Li-ion Battery Charger  
 BC-L500 Li-ion Battery Charger

BC-M150 Ni-MH & Li-ion Battery Charger  
 AC-DN10 AC Adaptor/Charger  
 LC-DS300SFT Soft Carrying Case  
 LCR-1 Camera Rain Cover  
 CCFD-L Cables DV Cables (6-pin to 4-pin)  
 CCF-L Cables DV Cables (6-pin to 6-pin)  
 CBK-SC01 Analogue Composite Input Board  
 CBK-SD01 SDI Output Board

## Specifications

### General

- Power requirements
  - DC 12 V (11 to 17V)
- Power consumption
  - Approx. 17 W (with DC 12 V power supply, REC mode, viewfinder off, LCD monitor off)
- Operating temperature
  - 0 to +40 °C (+32 to +104 °F)
- Storage temperature
  - 20 to +60 °C (-4 to +140 °F)
- Operating humidity
  - 25 to 85%
- Mass Approx.
  - 6.5 kg (14 lb 5 oz) (with viewfinder, microphone, BP-GL65 battery, mini-size DVCAM cassette, VCL-917BY lens)
- Continuous operating time
  - Approx. 300 min. with BP-GL95 battery, REC mode

### Signal inputs/outputs

- Video inputs
    - Analogue composite
      - BNC, 1.0 Vp-p, 75 Ω (with the CBK-SC01)
    - Genlock video
      - BNC, 1.0 Vp-p, 75 Ω
  - Audio input (CH-1/2)
    - XLR-3 (2), female, -60 dBu/+4 dBu, 10 kΩ, balanced
  - Microphone input
    - XLR-3, female, -60 dBu
  - Time code input
    - BNC, 0.5 to 18 Vp-p, 10 kΩ
  - Video outputs
    - SDI
      - BNC, 0.8 Vp-p, 75 Ω (with the CBK-SD01)
    - i.LINK
      - i.LINK, 6-pin IEEE 1394-based
  - Analogue composite
    - BNC, 1.0 Vp-p, 75 Ω
  - Audio output
    - (CH-1/2) Pin-jacks (2), -10dBu, 47 kΩ
  - Time code output
    - BNC, 1.0 Vp-p, 75 Ω
  - Monitor output
    - BNC, 1.0 Vp-p, 75 Ω
  - Earphone output
    - Mini-jack
- ### Other inputs/outputs
- Lens
    - 12-pin
  - VF
    - 20-pin
  - Remote
    - 8-pin
  - Wireless microphone
    - 7-pin
  - Light
    - 2-pin, DC 12 V, max. 50 W
  - DC input
    - XLR-4-pin, male, DC 11 to 17 V
  - DC output
    - 4-pin (for wireless microphone receiver), DC 12 V (max. 0.2 A)
  - Battery terminal
    - 5-pin

## Camera Performance

- Pickup device
  - Pickup device
    - 3-chip 2/3-inch type Power HAD EX CCD
- Aspect ratio
  - 16:9/4:3 switchable
- Total picture elements (H x V)
  - 1038 x 1188
- Effective picture elements (H x V)
  - 980 x 1064
- Optical system
  - Spectral system
    - F1.4 prism (with quarts filter)
  - Built-in filters
    - 1: Clear, 2: 1/4ND, 3: 1/16ND, 4: 1/64ND
  - Lens mount
    - 2/3-inch type Sony bayonet mount
- Electrical characteristics
  - Signal system
    - PAL colour system
  - Scan format
    - 625/50i, 625/25P
  - Sync system
    - Internal and External with the VBS or BS signal
  - A/D conversion
    - 12 bits
  - Sensitivity
    - F11 (typical) (2000 lx, 89.9% reflectance)
  - Minimum illumination
    - 0.5 lx (F1.4 lens, +36 dB gain, shutter off), 0.03 lx (with slow shutter mode at 16 frames accumulation)
  - Smear level
    - 140 dB (typical)
  - Video S/N ratio
    - 63 dB (typical)
  - Horizontal resolution
    - 850 TV lines (4:3 mode), 800 TV lines (16:9 mode)
  - Vertical resolution
    - 530 TV lines (with EVS) and 480 TV lines (without EVS) at 625/50i mode
    - 575 TV lines at 625/25P mode
  - Shutter speed
    - 1/60, 1/125, 1/250, 1/500, 1/1000, 1/2000 s at 625/50i mode
    - 1/33, 1/50, 1/100, 1/125, 1/250, 1/500, 1/1000, 1/2000 s at 625/25P mode
- ECS
  - 50 to 6000 Hz at 625/50i mode
  - 25 to 6000 Hz at 625/25P mode
- Slow shutter
  - 1/25, 1/12.5, 1/8.3, 1/6.3, 1/5, 1/4.2, 1/3.6, 1/3.1, 1/1.6 s (1 to 8, 16 frames)
- Gain selection
  - 3, 0, 3, 6, 9, 12, 18, 24, 30, 36 dB (for GAIN LOW, GAIN MID, GAIN HIGH and GAIN TURBO positions)

## Video Performance

- Recording format
  - Video
    - DVCAM/DV (SP) (25 Mb/s)
  - Audio
    - 2 ch/16-bit/48 kHz, 2 ch/12-bit/32 kHz
- Record/playback time
  - DVCAM: 184 min (with the PDV-184ME), DV SP: 276 min (with the PDV-184ME)
- Fast forward time
  - Approx. 45 s (with the PDVM-40ME), approx. 2 min 30 s (with the PDV-184ME)
- Rewind time
  - Approx. 45 s (with the PDVM-40ME), approx. 2 min 30 s (with the PDV-184ME)
- Recommended recording media
  - PDV-184ME/124ME/94ME/64ME/34ME/184N/124N/94N/64N/34N, PDVM-184ME/124ME/94ME/64ME/34ME/184N/124N/94N/64N/34N
- Sampling frequency
  - Y: 13.5 MHz, R-Y/B-Y: 6.75 MHz
- Quantization
  - 8 bits
- Microphone**
  - Frequency response
    - 48 kHz: 20 Hz to 20 kHz +0.5/-1.0 dB, 32 kHz: 20 Hz to 14.5 kHz +0.5/-1.0 dB
  - Dynamic range
    - More than 80 dB
  - Distortion (at 1 kHz, emphasis ON, reference level)
    - Less than 0.12% (at 1 kHz, reference level, 48 kHz)
- Built-in LCD Monitor**
  - Built-in LCD monitor 2.5-inch type colour LCD monitor, resolution: 214,000 (964 x 222) pixels
- Viewfinder**
  - CRT
    - 1.5-inch type monochrome
- Indicators
  - REC TALLY (2), TAKE TALLY, BATT, SHUTTER, GAIN UP
- Horizontal resolution
  - 600 TV lines
- Microphone**
  - Electret condenser microphone (detachable)

# DSR-400PK DVCAM Camcorder

## Features

Three 2/3-inch type Power HAD EX CCDs • 2.5-inch colour LCD monitor • 4:3 aspect ratio • 12-bit A/D conversion • Advanced DSP (Digital Signal Processing) • TruEye precessing for faithful colour reproduction • Skin Tone Detail with auto detection of active area • Playback capability of DV recorded tapes (SP mode only) • Long recording time : up to 184 minutes with a standard-size cassette and 40 minutes with a minisize cassette • Interval recording • Scene file store on Memory Stick for quick and convenient set-up • Assignable buttons • i.LINK (DV) output • INFO battery system with BP-GL95/GL65 batteries for precise battery remain indication • Adjustable shoulder pad (The package includes Fujinon 17x zoom lens)



## Supplied Accessories

DXF-801 Viewfinder  
 Microphone  
 VCT-U14 Tripod Adaptor  
 VCL-917BY Zoom Lens  
 Shoulder strap  
 Lens mount cap  
 Operating instructions  
 VCL-917BY Zoom Lens

## Optional Accessories

LC-H300 Hard Carrying Case  
 CA-WR855 Camera Adaptor  
 WRR-855B UHF Synthesized Diversity Tuner  
 ECM-678 Electret Condenser Microphone  
 ECM-674 Electret Condenser Microphone  
 DX-51 5-inch Monochrome Viewfinder  
 BP-GL95 Rechargeable Lithium-ion Battery Pack  
 BP-GL65 Rechargeable Lithium-ion Battery Pack  
 BP-L60S Rechargeable Lithium-ion Battery Pack  
 BC-L70 Li-ion Battery Charger  
 BC-L500 Li-ion Battery Charger  
 BC-M150 Ni-MH & Li-ion Battery Charger  
 AC-DN10 AC Adaptor/Charger  
 LC-DS300SFT Soft Carrying Case  
 LCR-1 Camera Rain Cover  
 CCFD-L Cables DV Cables (6-pin to 4-pin)  
 CCF-L Cables DV Cables (6-pin to 6-pin)

## DSR-400PL DVCAM Camcorder

### Features

Three 2/3-inch type Power HAD EX CCDs • 2.5-inch colour LCD monitor • 4:3 aspect ratio • 12-bit A/D conversion • Advanced DSP (Digital Signal Processing) • TruEye precessing for faithful colour reproduction • Skin Tone Detail with auto detection of active area • Playback capability of DV recorded tapes (SP mode only) • Long recording time: up to 184 minutes with a standard-size cassette and 40 minutes with a minisize cassette • Interval recording • Scene file store on Memory Stick for quick and convenient set-up • Assignable buttons • i.LINK (DV) output • INFO battery system with BP-GL95/GL65 batteries for precise battery remain indication • Adjustable shoulder pad The package does not include lens)



### Supplied Accessories

DXF-801 Viewfinder  
Microphone  
VCT-U14 Tripod Adaptor  
Shoulder strap  
Lens mount cap  
Operating instructions

### Optional Accessories

LC-H300 Hard Carrying Case  
CA-WR855 Camera Adaptor  
WRR-855B UHF Synthesized Diversity Tuner  
ECM-678 Electret Condenser Microphone  
ECM-674 Electret Condenser Microphone  
DX-51 5-inch Monochrome Viewfinder  
BP-GL95 Rechargeable Lithium-ion Battery Pack  
BP-GL65 Rechargeable Lithium-ion Battery Pack  
BP-L60S Rechargeable Lithium-ion Battery Pack  
BC-L70 Li-ion Battery Charger  
BC-L500 Li-ion Battery Charger  
BC-M150 Ni-MH & Li-ion Battery Charger  
AC-DN10 AC Adaptor/Charger  
LC-DS300SFT Soft Carrying Case  
LCR-1 Camera Rain Cover  
CCFD-L Cables DV Cables (6-pin to 4-pin)  
CCF-L Cables DV Cables (6-pin to 6-pin)

# DSR-250P/1 DVCAM Camcorder

## Features

- Compact and lightweight: 4.4 kg (9 lb 11 oz)
- Newly developed 1/3-inch type CCDs for accurate colour reproduction
- Capable of both interlace scan, for moving images, and progressive scan, for still images or shooting a moving subject<sup>1</sup> and exporting a frame of the image as a still picture
- DSP (Digital Signal Processing)
- 2.5-inch (200,000 dot) colour LCD monitor
- 12x lens<sup>2</sup> with Super SteadyShot system
- New, high-resolution 1.5-inch black & white viewfinder
- 16:9 recording mode available (electronically processed)
- Recording and playback capability with standard and mini-size DVCAM and DV tapes (SP mode only)
- Three XLR audio input connectors for professional microphones (one at front, two at rear)
- Audio dubbing capability (48 kHz/16-bit or 32 kHz/12-bit selectable)
- Long recording time: 184 minutes with a standard-size cassette in DVCAM mode, or 270 minutes in DV SP mode
- Time/date data superimposition on output pictures
- Digital still camera functions with Memory Stick
- Light output (DC 12 V, max. 30 W) and additional DC 12 V out for optional accessories
- Time code preset capability
- i.LINK (DV) interface
- LANC interface for simple editing with a LANC-equipped recorder or editing system
- Supplied RMT-811 Remote Commander

<sup>1</sup> When recording moving images in progressive scan mode, the motion will display some jitter since the picture is read/output every 1/12.5 second.

<sup>2</sup> Digital zoom of 24x or 48x available via menu selection.



## Supplied Accessories

- DXF-801 Electronic Viewfinder (1)
- ECM-NV1 Monaural Microphone (1)
- RMT-811 Remote Commander and R6 Batteries (2)
- Lens Hood (1)
- Lite Hood Cap (1)

## Optional Accessories

- CAC-12 Camera Microphone Holder
- VCT-U14 Tripod Adaptor
- BC-M150 Ni-MH & Li-ion Battery Charger
- BC-L70 Li-ion Battery Charger
- BP-L60S Rechargeable Lithium-ion Battery Pack
- AC-DN2B AC Adaptor
- VMC-IL46 cables 4-pin <-> 6-pin i.LINK Cable
- VMC-IL66 cables 6-pin <-> 6-pin i.LINK Cable
- CCF-L Cables DV Cables (6-pin to 6-pin)
- CCFD-L Cables DV Cables (6-pin to 4-pin)
- VCL-HG0758 Wide Conversion Lens for the DSR-250P/1, DSR-170
- VCL-HG1758 Tele Conversion Lens
- VF-58PK Filter Kit
- ECM-678 Electret Condenser Microphone
- ECM-678 Electret Condenser Microphone (E)
- ECM-674 Electret Condenser Microphone
- ECM-674 Electret Condenser Microphone (E)

## Specifications

### General

Power requirements:

DC 12 V (11 to 17 V)

Power consumption:

10.5 W using the viewfinder

12.1 W using the viewfinder and LCD monitor

Operating temperature:

0 to 40 °C (32 to 104 °F)

Storage temperature:

-20 to 60 °C (-4 to 140 °F)

Dimensions (W x H x D):

241.7 x 251.2 x 508.8 mm (9 5/8 x 10 x 20 1/8 inches) including microphone

Mass (camcorder only):

Approx. 4.4 kg (9 lb 11 oz)

### Camera Parts

Lens:

12:1 Variable Speed (1.2-22 s) zoom lens

F = 6.0 to 72.0 mm; F1.6 to 2.4; Filter

Diameter 58mm

Focus:

Auto/Manual (ring)/Infinity/One push auto

Imaging device:

Three 1/3-inch type CCDs, 450,000 pixels,

Progressive/Interlace Scan

White balance:

Auto/One-push(Memory A/Memory

B)/Outdoor (5800 K)/Indoor (3200 K)

Shutter speed:

1/3, 1/6, 1/12, 1/25, 1/50, 1/60, 1/100,

1/120, 1/150,

1/215, 1/300, 1/425, 1/600, 1/1000, 1/1250,

1/1750,

1/2500, 1/3500, 1/6000, 1/10000 second

Exposure:

Auto/Manual

Minimum illumination:

2 lx

Horizontal resolution:

530 TV lines

Viewfinder:

1.5-inch type Black & White CRT, Zebra

Pattern (DXF-801)

### VTR Parts

Audio signal

Rec: 48 kHz/16-bit, 32 kHz/12-bit

Playback: 48 kHz/16-bit, 32 kHz/12-bit,

32 kHz/16-bit, 44.1 kHz/16-bit

Built-in speaker:

Dynamic Speaker

LCD:

TFT Active Matrix, 2.5-inch, 200,640 dots

(880 x 228)

Tape speed:

Approx. 28.2 mm/s (DVCAM mode)

Approx. 18.8 mm/s (DV SP mode)

Maximum recording time:

184 minutes (DVCAM mode), 270 minutes

(DV SP mode) with PDV-184ME cassette

40 minutes (DVCAM mode), 60 minutes

(DV SP mode) with PDVM-40ME cassette

Video signal:

CCIR Standard, PAL colour system

## Connectors

Video IN/OUT:

RCA pin: (1)

Luminance signal: 1 Vp-p, 75  $\Omega$ ,

unbalanced, sync negative

Monitor OUT:

BNC pin: (1)

Luminance signal: 1 Vp-p, 75  $\Omega$ ,

unbalanced, sync negative

Audio IN/OUT

RCA pin: (2)

245 mV, Output impedance with less than

2.2 k, Input impedance with more than

47 k

S-Video IN/OUT:

Mini-DIN 4 pin: (1)

Luminance signal: 1 Vp-p, 75  $\Omega$ ,

unbalanced, Chrominance signal: 0.3 Vp-p (PAL)

Audio IN:

XLR 3-pin (female) x 3, -60 dBu 6.8 k,

+4 dBu 6.8 k (0 dBu = 0.775 V rms)

DV IN/OUT:

6-pin (with lock): (1)

LANC:

Stereo minimini jack (2.5 mm) : (1)

Headphone:

Stereo mini jack (3.5 mm): (1)

External DC IN:

12 V, XLR 4-pin (male): (1)

DC OUT for Light:

12 V, max. 30 W: (1)

DC OUT:

12 V, 4 pin: (1)

## DSR-PD170P DVCAM Camcorder

The DSR-PD170P is a 1/3-inch type 3CCD Digital Camcorder that uses the DVCAM format. Like its predecessor, the market acclaimed DSR-PD150P, the DSR-PD170P addresses a broad spectrum of applications from video journalism, wedding and event videography, corporate and training productions, up to broadcast newsgathering, areas where picture quality, reliability, and mobility are prime concerns. In addition to inheriting all the attractive features of the DSR-PD150P, the DSR-PD170P offers a range of enhancements for further improved audio and video quality and operability, and adds new accessories to meet even more diverse shooting scenarios. The DSR-PD170P is designed to become a handy tool for professional shooting in a wide range of applications.



### Features

- Three 1/3-inch type CCDs Camera System
- Advanced HAD Technology
- Low Light Shooting
- Optical 12x Zoom Lens
- Optical Super SteadyShot System
- Large 180,000-dot LCD Precision Black & White Viewfinder
- DVCAM Recording
- 16:9 Widescreen Acquisition Mode
- DVCAM/DV Selectable Recording
- 2 Ch. XLR Audio Input and Supplied Directional Microphone
- 16-bit/12-bit PCM Digital Sound and Audio Dub Capability
- Newly Developed Hybrid LCD Monitor with a High Resolution of more than 210,000 Pixels
- Simultaneous Operation of LCD Monitor and Viewfinder
- Large-sized Handle
- On-handle Zoom Lever and Rec. Start/Stop Button
- Supplied Lens Hood with Built-in Lens Cap
- Supplied Wide Conversion Lens and Additional Lens Hood

### Supplied Accessories

AC-L15 AC Adaptor (1)  
 ECM-NV1 Electret Condenser Microphone (1)  
 NP-F330 Info LITHIUM Rechargeable Battery Pack (1)  
 VCL-HG0758 Wide Conversion Lens (1)  
 LSF-S58 Lens Hood for Wide Conversion Lens and Hood Cap (1)  
 Lens Hood with Built-in Lens Cap (1)  
 RMT-811 Remote Commander and R6 Batteries (2)  
 Carrying Belt (1)  
 i.LINK Cable Strap (1)  
 Stereo AV Cable (1)

### Optional Accessories

2NP-F970/B InfoLITHIUM Rechargeable Battery Pack	UWP-C1 UHF Synthesized Wireless Microphone Package (62CE7)
NP-F570 InfoLITHIUM Rechargeable Battery Pack	UWP-C1 UHF Synthesized Wireless Microphone Package (67CE7)
NP-F770 InfoLITHIUM Rechargeable Battery Pack	ECM-678 Electret Condenser Microphone (U)
NP-F970 InfoLITHIUM Rechargeable Battery Pack	ECM-674 Electret Condenser Microphone (U)
AC-VQ1050B Battery Charger	
VCL-HG1758 Tele Conversion Lens	
VF-58PK Filter Kit	
VCT-PG11RMB Tripod with RM-1BP	
RM-1BP LANC Remote Controller	
VMC-IL44 cables 4-pin <-> 4-pin i.LINK Cable	
VMC-IL46 cables 4-pin <-> 6-pin i.LINK Cable	
PDV-ME Digital Videocassette Tapes	
MSA-A "Memory Stick" IC Memory Media	



## Specifications

### General

#### Power Requirements:

DC 7.2 V (Battery), DC 8.4 V (AC adaptor)

#### Power Consumption:

Rec. with LCD viewfinder only:  
4.7 W

Rec. with LCD monitor only:  
5.4 W

Rec. with LCD viewfinder and LCD  
monitor:  
5.7 W

Playback on LCD:  
4.1 W

#### Operating Temperature:

0 to 40 °C (32 to 104 °F)

#### Storage Temperature:

-20 to 60 °C (-4 to 140 °F)

#### Dimensions (W x H x D):

118 x 180 x 393 mm (4 3/4 x 7 1/8 x 15 1/2  
inches) (camcorder only)  
133 x 180 x 456 mm (5 1/4 x 7 1/8 x 18  
inches) including microphone

#### Mass (camcorder only):

Approx. 1.6 kg (3 lb 6 oz)

### Camera Parts

#### Lens:

12:1 Variable Speed (1.2-22 sec.) zoom  
lens (48x digital zoom)  
F =6.0 to 72.0 mm; F1.6 to 2.4; Filter  
Diameter 58 mm

#### Focus:

Auto/Manual (ring)/Infinity/One push auto

#### Imaging Device:

Three 1/3-inch type CCDs  
Gross 450,000 pixels/effective 400,000  
pixels  
Progressive/Interlace Scan

#### White Balance:

Auto/One-push/Outdoor (5800 K)/Indoor  
(3200 K)

#### Shutter Speed:

1/3, 1/6, 1/12, 1/25, 1/50, 1/60, 1/100,  
1/120, 1/150, 1/215  
1/300, 1/425, 1/600, 1/1000, 1/1250,  
1/1750, 1/2500,  
1/3500, 1/6000, 1/10000 second

#### Exposure:

Auto/Manual

#### Minimum Illumination:

1 lx with F1.6 at 18 dB gain

#### Horizontal Resolution:

530 TV lines

#### Viewfinder:

180,000 dot Black & White LCD

#### Horizontal Resolution:

500 TV lines

### VTR Parts

#### Audio Signal

Rec: 48 kHz/16-bit, 32 kHz/12-bit

Playback: 48 kHz/16-bit, 32 kHz/12-bit,  
32 kHz/16-bit, 44.1 kHz/16-bit

#### Built-in Speaker:

Dynamic Speaker,  $\phi$ 20 mm

#### LCD:

Hybrid, 2.5-inch type, 211,200 dots  
(960 x 220)

#### Tape Speed:

Approx. 28.2 mm/s (DVCAM mode)  
Approx. 18.8 mm/s (DV SP mode)

#### Maximum Recording Time:

40 minutes (DVCAM mode)  
60 minutes (DV SP mode, with  
PDVM-40ME)

#### Video Signal:

CCIR Standard, PAL colour system

### Connectors

#### Video IN/OUT

RCA pin: (1)

Luminance signal: 1 Vp-p, 75  $\Omega$ ,  
unbalanced, sync negative

#### Audio IN/OUT

RCA pin: (2), 327 mV

Output impedance with less than 2.2 k $\Omega$

Input impedance with more than 47 k $\Omega$

#### S-Video IN/OUT

Mini-DIN 4 pin :(1)

Luminance signal: 1 Vp-p, 75  $\Omega$ ,  
unbalanced

Chrominance signal: 0.3 Vp-p

#### Audio IN

XLR 3-pin female: (2). -60 dBu, 3 k $\Omega$ ,  
+4 dBu, 10 k $\Omega$  (0 dBu = 0.775 V rms)

#### Digital input/output

i.LINK (DV): 4-pin (1)

#### Others

LANC: Stereo mini jack (2.5 mm): (1)

Headphone: Stereo mini jack (3.5 mm): (1)

External DC IN: (1) 8.4 V for AC-L15 AC  
adaptor

# DSR-2000AP DVCAM Editing Recorder

## Features

- Playback capability of all DV (25 Mb/s) recorded tapes including DV tapes recorded in SP/LP mode and DVCPRO without any mechanical adaptor (SDTI(QSDI) and i.LINK(DV) do not support DVCPRO playback)
- Long recording time: up to 184 minutes with a standard-size cassette and 40 minutes with a mini-size cassette
- Preread editing capability<sup>(\*)</sup> to perform A/B roll editing<sup>(2)</sup> with two VTRs, audio mix/swap and voice over with no delay between video and audio
- Audio cross-fade function
- Four-channel audio editing capability
- Excellent jog audio quality
- VTR-to-VTR editing without external controllers
- Wide range of digital slow speed from -1 to +1 times normal speed
- DMC (Dynamic Motion Control)
- High-speed picture search over a range of 60 times normal speed, in both forward and reverse
- Versatile digital interfaces: SDI, SDTI (QSDI), i.LINK (DV)(option), SDTI-CP (MPEG Out)(option) and AES/EBU digital audio
- Extensive analogue interfaces: composite, component, S-Video and XLR audio
- RS-422A remote control interface
- Frame accurate editing capability
- ClipLink operation
- Full tape dubbing with ClipLink
- Log Data via SDTI (QSDI) and RS-422A interfaces
- 16:9 aspect ID signal recording
- Process control for highly stable video signals
- TC and VITC
- Channel condition monitoring function
- Built-in signal generator
- Closed caption function

(\*1) Not available through SDTI(QSDI) and i.LINK(DV) interfaces

(\*2) MIX and WIPE only

## Supplied Accessories

Operating Instructions (1)

AC Power cord (1)

## Optional Accessories

DSBK-2020 HD Up-conversion Board

RMM-131 Rack Mount Kit

RCC-G Cables 9-pin/9-pin Cable

CCF-L Cables DV Cables (6-pin to 6-pin)

CCFD-L Cables DV Cables (6-pin to 4-pin)

PDV-N Digital Videocassette Tapes

(Non IC type)

PDV-MEM Digital Videocassette Tapes

(Master Tape)

PDV-ME Digital Videocassette Tapes

PDV-CL Video Head Cleaning Cassette

Tapes (for DVCAM)



## Specifications

### General

Power requirements:

AC 100 to 240 V, 50/60 Hz

Power consumption:

110 W

Operating temperature:

5 °C to 40 °C (41 °F to 104 °F)

Storage temperature:

-20 °C to 60 °C (-4 °F to 140 °F)

Operating humidity:

Less than 80%

Storage humidity:

Less than 90%

Mass:

18 kg (39 lb 10 oz)

Dimensions:

427 (W) × 175 (H) × 496.5 (D) mm  
(16 7/8 × 7 × 19 5/8 inches)

Tape speed:

28.221 mm/s

Recording/Playback time

Standard size: 184 min. with

PDV-184ME/184N/184MEM

Mini size: 40 min. with

PDVM-40ME/40N/40MEM

Fast forward/Rewind time:

Standard size: Less than 3 min. with

PDV-184ME/184N/184MEM

Mini size: Less than 1 min. with

PDVM-40ME/40N/40MEM

Search speed

Shuttle mode: Still to ±60 times normal speed in forward and reverse

Digital slow mode: ±1 times normal speed in forward and reverse

### Video Performance

Band width (via analogue component I/O):

Luminance: 25 Hz to 5.5 MHz +1.0/-2.0 dB  
5.75 MHz +0/-3.0 dB (Typical measurement)

Chrominance: 25 Hz to 2.0 MHz +1.0/-2.0 dB

S/N ratio (via analogue component I/O):

More than 55 dB

K-factor (K2T, KP8):

Less than 2.0%

Y/C delay:

Less than 30 ns

### Audio Performance

Frequency response:

2CH mode (48 kHz/16-bit): 20 Hz to 20

kHz +0.5/-1.0 dB

4CH mode (32 kHz/12-bit): 20 Hz to 14.5

kHz +0.5/-1.0 dB

Dynamic range:

More than 90 dB

Distortion (THD + N):

Less than 0.05%

### Input Signals

Video (Analogue)

REF. Video: BNC (2), loop-through connection

Composite, 1.0 Vp-p, 75 Ω, sync negative

Video: BNC (2), loop-through connection

Composite, 1.0 Vp-p, 75 Ω, sync negative

Component: BNC (3)

Y:1.0 Vp-p, 75 Ω, sync negative

R-Y:0.7 Vp-p, 75 Ω (100%)

B-Y:0.7 Vp-p, 75 Ω (100%)

S-Video: DIN 4-pin (1)

Y:1.0 Vp-p, 75 Ω, sync negative

C:0.3 Vp-p, 75 Ω (at burst level)

Video (Digital)

SDI: BNC (2), active-through connection

Conforms to Serial Digital Interface (270 Mb/s), ITU-R BT.656

SDTI (QSDI): BNC (1)

Conforms to SDTI (270 Mb/s), SMPTE 305M/322M

i.LINK (DV): 6-pin (1) \*using optional

DSBK-190 i.LINK/DV Input/Output Board IEEE1394

Audio (Analogue)

Audio: XLR 3-pin, female (4)

-6/0/+4 dBu, 600 Ω on/off/-60 dBu, high impedance

Audio (Digital)

AES/EBU: BNC (2), 75 Ω, unbalanced

Time Code:

BNC (1), 0.5 Vp-p to 18 Vp-p, 3 kΩ, unbalanced

### Output Signals

Video (Analogue)

REF. Vide: BNC (1), 0.3 Vp-p, 75 Ω, sync negative

Video 1/2/3(SUPER): BNC (3)

Composite, 1.0 Vp-p, 75 Ω, sync negative

Component: BNC (3)

Y:1.0 Vp-p, 75 Ω, sync negative

R-Y:0.7 Vp-p, 75 Ω (100%)

B-Y:0.7 Vp-p, 75 Ω (100%)

S-Video: DIN 4-pin (1)

Y:1.0 Vp-p, 75 Ω, sync negative

C:0.3 Vp-p, 75 Ω (at burst level)

Video (Digital)

SDI: BNC (3)

Conforms to Serial Digital Interface (270 Mb/s), ITU-R BT.656

SDTI (QSDI): BNC (1)

Conforms to SDTI (270 Mb/s), SMPTE 305M/322M

i.LINK (DV): 6-pin (1) \*using optional

DSBK-190 i.LINK/DV Input/Output Board IEEE1394

Audio (Analogue)

Audio: XLR 3-pin, male (4)

+4/0/-6 dBu (selectable by menu)

Monitor: RCA (1)

-11 dBu, 47 kΩ, unbalanced (-18 dBFS)

Headphone:JM-60 headphone jack (1)

-∞ to -13 dBu, 8 Ω, unbalanced (-18 dBFS)

Audio (Digital)

AES/EBU: BNC (2), 75 Ω, unbalanced

Time Code

BNC: (1), 2.2 Vp-p, 75 Ω, unbalanced

Remote

RS-422A: D-sub 9-pin, female (2)

Video Control: D-sub 15-pin, male (1)

Control Panel: D-sub 15-pin, female (1)

# DSR-1800AP DVCAM Editing Recorder

## Features

- Superb picture quality of the DVCAM format
- Playback capability of DV (25 Mb/s) recorded tapes including DV tapes recorded in SP mode and DVCPRO tapes without a mechanical adaptor(SDTI (QSDI) and i.LINK (DV interfaces do not support DVCPRO playback.)
- Long recording time: up to 184 minutes with a standard-size cassette and 40 minutes with a mini-size cassette
- Pread playback capability to perform audio mix/swap and over dubbing without any delay between video and audio signals
- Four-channel audio editing capability
- Audio cross-fade function
- Excellent jog audio capability
- DMC (Dynamic Motion Control)
- Digital slow speed from -0.5 to +0.5 times normal speed
- High-speed picture search over a range of 60 times normal speed, in both forward and reverse
- Versatile digital interfaces (The optional boards are required): SDI , SDTI(QSDI), i.LINK (DV) and AES/EBU digital audio.
- Extensive analogue interfaces: composite, component, S-Video and XLR audio
- RS-422A remote control interface
- Frame accurate editing capability
- ClipLink operation
- Full tape dubbing with ClipLink Log Data
- 16:9 aspect ID signal recording
- Video process control of analogue and digital outputs
- TC and VITC
- Channel condition monitoring function
- Built-in signal generator
- Flexible input selection between video and audio\*
- Universal powering system (AC 100 V to 240 V)
- Three-size cassette compartment to ensure compatibility with DV(25Mb/s) recorded tapes of all size and types
- Closed caption function

\* i.LINK cannot be combined with other signal interfaces.

## Supplied Accessories

AC Power cord (1)  
Operating instructions (1)

## Optional Accessories

DSBK-1801 SDI, AES/EBU Input/Output Board  
DSBK-1820 HD Up-conversion Board  
RMM-131 Rack Mount Kit  
RCC-G Cables 9-pin/9-pin Cable  
CCF-L Cables DV Cables (6-pin to 6-pin)  
CCFD-L Cables DV Cables (6-pin to 4-pin)  
PDV-CL Video Head Cleaning Cassette Tapes (for DVCAM)  
PDV-MEM Digital Videocassette Tapes (Master Tape)  
PDV-N Digital Videocassette Tapes (Non IC type)  
PDV-ME Digital Videocassette Tapes



## Specifications

### General

Power requirements:

AC 100 V to 240 V, 50/60 Hz

Power consumption:

100 W (with all options)

Operating temperature:

5 °C to 40 °C (41 °F to 104 °F)

Storage temperature:

-20 °C to 60 °C (-4 °F to 140 °F)

Operating humidity:

Less than 80%

Storage humidity:

Less than 90%

Weight:

13 kg (28 lb 10 oz)

Dimensions (W x H x D):

427 x 174 x 400 mm (16 7/8 x 6 7/8 x 15 3/4 inches)

Tape speed:

28.221 mm/s

Recording/Playback time

Standard size: 184 min. with

PDV-184ME/184N/184MEM

Mini size: 40 min. with

PDVM-40ME/40N/40MEM

Fast forward/Rewind time

Standard size: Less than 3 min. with

PDV-184ME/184N/184MEM

Mini size: Less than 1 min. with

PDVM-40ME/40N/40MEM

Search speed

Shuttle mode: Still to  $\pm 60$  times normal speed

Digital slow mode:  $\pm 0.5$  times normal speed

### Video Performance

Bandwidth (via analogue component I/O)

Luminance: 25 Hz to 5.0 MHz  $\pm 1.0$  dB

Chrominance: 25 Hz to 2.0 MHz +1.0/-2.0 dB

S/N ratio (via analogue component I/O):

More than 55 dB

K-factor (K2T, KPb):

Less than 2%

Y/C delay:

Less than 30 ns

### Audio Performance

Frequency response

2CH mode (48 kHz/16-bit): 20 Hz to 20 kHz +0.5/-1.0 dB

4CH mode (32 kHz/12-bit): 20 Hz to 14.5 kHz +0.5/-1.0 dB

Dynamic range:

More than 90 dB

Distortion (THD + N):

Less than 0.05%

### Inputs Signals

VIDEO (ANALOGUE)

REF. Video :BNC (2), loop-through connection

0.3 Vp-p, 75  $\Omega$ , sync negative

Composite Video: BNC (2), loop-through connection

1.0 Vp-p, 75  $\Omega$ , sync negative

Component :BNC (3)

Y: 1.0 Vp-p, 75  $\Omega$ , sync negative

R-Y: 0.7 Vp-p, 75  $\Omega$  (100%)

B-Y: 0.7 Vp-p, 75  $\Omega$  (100%)

S-Video: DIN 4-pin (1)

Y: 1.0 Vp-p, 75  $\Omega$ , sync negative

C: 0.3 Vp-p, 75  $\Omega$  (at burst level)

VIDEO (DIGITAL)

SDI: BNC (2), active-through connection

\*using optional DSBK-1801

Conforms to Serial Digital Interface (270 Mb/s), ITU-R BT.656

SDTI (QSDI): BNC (1) \*using optional

DSBK-1802

Conforms to SDTI (270 Mb/s), SMPTE 305M/322M

i.LINK (DV): 6-pin (1) \*using optional

DSBK-1803

IEEE 1394

AUDIO (ANALOGUE)

Audio: XLR 3-pin, female (4)

-6/-3/0/+4 dBu (selectable by menu)

-60 dBu (high impedance)/600  $\Omega$

OFF/ON

AUDIO (DIGITAL)

AES/EBU :BNC (2) \*using optional

DSBK-1801

75  $\Omega$ , unbalanced

TIME CODE

BNC (1): 0.5 Vp-p to 18 Vp-p, 3 k $\Omega$

unbalanced

### Output Signals

VIDEO (ANALOGUE)

REF. Video: BNC (1)

0.3 Vp-p, 75  $\Omega$ , sync negative

Video 1/2(SUPER): BNC (2)

Composite, 1.0 Vp-p, 75  $\Omega$ , sync negative

Component :BNC (3)

Y: 1.0 Vp-p, 75  $\Omega$ , sync negative

R-Y: 0.7 Vp-p, 75  $\Omega$  (100%)

B-Y: 0.7 Vp-p, 75  $\Omega$  (100%)

S-Video: DIN 4-pin (1)

Y: 1.0 Vp-p, 75  $\Omega$ , sync negative

C: 0.3 Vp-p, 75  $\Omega$  (at burst level)

VIDEO (DIGITAL)

SDI: BNC (2) \*using optional DSBK-1801

Conforms to Serial Digital Interface (270 Mb/s), ITU-R BT.656

SDTI (QSDI) :BNC (1) \*using optional

DSBK-1802

Conforms to SDTI (270 Mb/s), SMPTE 305M/322M

i.LINK (DV): 6-pin (1) \*using optional

DSBK-1803

IEEE 1394

AUDIO (ANALOGUE)

Audio : XLR 3-pin,male (4)

-6/-3/0/+4 dBu (selectable by menu)

Monitor: RCA (1)

-9 dBu, 47 k $\Omega$ , unbalanced (-18 dBFS)

Headphone: JM-60 headphone jack (1)

$\infty$  to -11 dBu, 8  $\Omega$ , unbalanced (-18 dBFS)

AUDIO (DIGITAL)

AES/EBU: BNC (2) \*using optional

DSBK-1801

75  $\Omega$ , unbalanced

TIME CODE

BNC(1), 2.2 Vp-p, 75  $\Omega$ , unbalanced

REMOTE

RS-422A: D-sub 9-pin, female (1)

Video Control: D-sub 15-pin, male (1)

CONTROL S (SIRCS): Stereo mini jack (1)

# DSR-1600AP DVCAM Editing Player

## Features

- Superb picture quality of the DVCAM format
- Playback capability of DV (25 Mb/s) recorded tapes including DV tapes recorded in SP mode and DVCPRO tapes without a mechanical adaptor (SDTI (QSDI) and i.LINK (DV) interfaces do not support DVCPRO playback)
- Excellent jog audio capability
- DMC (Dynamic Motion Control)
- Wide range of digital slow speed from -0.5 to +0.5 times normal speed
- High-speed picture search over a range of 60 times normal speed, in both forward and reverse
- Versatile digital interfaces (The optional boards are required) : SDI, SDTI(QSDI), i.LINK(DV) and AES/EBU digital audio
- Extensive analogue interfaces: composite, component, S-Video and XLR audio
- RS-422A remote control interface
- Frame accurate editing capability
- ClipLink operation
- Video process control for greater control of both analogue and digital outputs
- TC and VITC
- Channel condition monitoring function
- Universal powering system (AC 100 V to 240 V)
- Three-size cassette compartment to ensure compatibility with DV(25Mb/s) recorded tapes of all size and types
- Closed caption function
- Jog dial on front panel



## Supplied Accessories

- AC power cord (1)
- Operating instructions (1)

## Optional Accessories

- DSBK-1820 HD Up-conversion Board
- DSBK-1601 SDI, AES/EBU Output Board
- RMM-131 Rack Mount Kit
- RCC-G Cables 9-pin/9-pin Cable
- CCF-L Cables DV Cables (6-pin to 6-pin)
- CCFD-L Cables DV Cables (6-pin to 4-pin)
- PDV-N Digital Videocassette Tapes (Non IC type)
- PDV-MEM Digital Videocassette Tapes (Master Tape)
- PDV-ME Digital Videocassette Tapes
- PDV-CL Video Head Cleaning Cassette Tapes (for DVCAM)

## Specifications

### General

#### Power requirements:

AC 100 V to 240 V, 50/60 Hz

#### Power consumption:

70 W (with all options)

#### Operating temperature:

5 °C to 40 °C (41 °F to 104 °F)

#### Storage temperature:

-20 °C to 60 °C (-4 °F to 140 °F)

#### Operating humidity:

Less than 80%

#### Storage humidity:

Less than 90%

#### Weight:

13 kg (28 lb 10 oz)

#### Dimensions (W x H x D):

427 x 174 x 400 mm (16 7/8 x 6 7/8 x 15 3/4 inches)

#### Tape speed:

28.221 mm/s

#### Recording/Playback time

Standard size: 184 min. with

PDV-184ME/184N/184MEM

Mini size: 40 min. with

PDVM-40ME/40N/40MEM

#### Fast forward/Rewind time

Standard size: Less than 3 min. with

PDV-184ME/184N/184MEM

Mini size: Less than 1 min. with

PDVM-40ME/40N/40MEM

#### Search speed

Shuttle mode: Still to  $\pm 60$  times normal speed

Digital slow mode:  $\pm 0.5$  times normal speed

### Video Performance

#### Bandwidth (via analogue component I/O)

Luminance: 25 Hz to 5.0 MHz  $\pm 1.0$  dB

Chrominance: 25 Hz to 2.0 MHz +1.0/-2.0 dB

#### S/N ratio (via analogue component I/O):

More than 55 dB

#### K-factor (K2T, KPb):

Less than 2%

#### Y/C delay:

Less than 30 ns

### Audio Performance

#### Frequency response

2CH mode (48 kHz/16-bit): 20 Hz to 20 kHz +0.5/-1.0 dB

4CH mode (32 kHz/12-bit): 20 Hz to 14.5 kHz +0.5/-1.0 dB

#### Dynamic range:

More than 90 dB

#### Distortion (THD + N):

Less than 0.05%

### Inputs Signals

#### VIDEO (ANALOGUE)

REF. Video: BNC (2), loop-through connection

0.3 Vp-p, 75  $\Omega$ , sync negative

### Output Signals

#### VIDEO (ANALOGUE)

REF. Video: BNC (1)

0.3 Vp-p, 75  $\Omega$ , sync negative

Composite Video 1/2(SUPER): BNC (2)

1.0 Vp-p, 75  $\Omega$ , sync negative

Component: BNC (3)

Y: 1.0 Vp-p, 75  $\Omega$ , sync negative

R-Y: 0.7 Vp-p, 75  $\Omega$  (100%)

B-Y: 0.7 Vp-p, 75  $\Omega$  (100%)

S-Video: DIN 4-pin (1)

Y: 1.0 Vp-p, 75  $\Omega$ , sync negative

C: 0.3 Vp-p, 75  $\Omega$  (at burst level)

#### VIDEO (DIGITAL)

SDI :BNC(2) \*using optional DSBK-1601

Conforms to Serial Digital Interface (270 Mb/s), ITU-R BT.656

SDTI (QSDI): BNC (1) \*using optional

DSBK-1602

Conforms to SDTI (270 Mb/s), SMPTE 305M/322M

i.LINK (DV): 6-pin (1) \*using optional

DSBK-1803

IEEE 1394

#### AUDIO (ANALOGUE)

Audio: XLR 3-pin, male (4)

-6/-3/0/+4 dBu (selectable by menu)

Monitor: RCA (1)

-9 dBu, 47 k $\Omega$ , unbalanced (-18 dBFS)

Headphone: JM-60 headphone jack (1)

$-\infty$  to -11 dBu, 8  $\Omega$ , unbalanced

(-18 dBFS)

#### AUDIO (DIGITAL)

AES/EBU: BNC(2) \*using optional

DSBK-1601

75  $\Omega$ , unbalanced

#### TIME CODE:

BNC (1): 2.2 Vp-p, 75  $\Omega$ , unbalanced

#### REMOTE

RS-422A: D-sub 9-pin, female (1)

Video Control: D-sub 15-pin, male (1)

CONTROL S (SIRCS): Stereo mini jack (1)

# DSR-1500AP DVCAM Editing Recorder

## Features

- Compact, half-rack size
- Superb picture quality of the DVCAM format
- Playback compatibility with DV (25 Mb/s) family formats including consumer DV (SP mode) and DVCPRO without a mechanical adaptor(\*)
- DV format recording capability (SP mode, 10- $\mu$ m track pitch recording) (\*\*)
- Long recording time: max. 184 min (DVCAM mode)/276 min (DV SP mode) with a standard-size cassette, and max. 40 min (DVCAM mode)/60 min (DV SP mode) with a mini cassette
- Versatile digital interfaces: equipped with i.LINK (DV), and optional SDI, SDTI (QSDI) and AES/EBU interfaces
- Extensive range of analogue interfaces: composite, component, S-video and two channels of XLR audio
- Variable speed playback within the range of -0.5 to +0.5 times normal play speed
- High-speed colour picture search: 60 times normal play speed in both forward and reverse
- Menu keys on front panel for frame by frame picture search
- RS-422A remote control interface
- Excellent jog audio quality
- ClipLink operation
- Full tape dubbing including ClipLink Log Data using SDTI (QSDI) and RS-422A interfaces
- 16:9 aspect ID signal recording
- Video process control for both analogue and digital outputs
- TC and VITC
- Built-in signal generator
- Universal powering system: allows the use of AC100 V to 240 V power sources
- Three-size cassette compartment to ensure compatibility with DV(25Mb/s) recorded tapes of all size and types
- Closed caption function

(\*) SDTI (QSDI) interface does not support DVCPRO playback. (\*\*)  
Assemble or insert editing is not possible.



## Supplied Accessories

- AC Power cord (1)
- Operating instructions (1)

## Optional Accessories

- DSBK-1501 Digital Input/Output Board
- DSBK-1505 Analogue Input Board
- DSRM-10 Remote Control Unit
- RCC-G Cables 9-pin/9-pin Cable
- CCF-L Cables DV Cables (6-pin to 6-pin)
- CCFD-L Cables DV Cables (6-pin to 4-pin)
- PDV-MEM Digital Videocassette Tapes (Master Tape)
- PDV-N Digital Videocassette Tapes (Non IC type)
- PDV-CL Video Head Cleaning Cassette Tapes (for DVCAM)
- PDV-ME Digital Videocassette Tapes



## Specifications

### General

#### Power requirements:

AC 100 V to 240 V, 50/60 Hz

#### Power consumption:

55 W (with all options)

#### Operating temperature:

5 °C to 40 °C (41 °F to 104 °F)

#### Storage temperature:

-20 °C to 60 °C (-4 °F to 140 °F)

#### Operating humidity:

Less than 80%

#### Storage humidity:

Less than 90%

#### Mass:

6 kg (13 lb 3 oz)

#### Dimensions (W x H x D):

210 x 130 x 420 mm (8 3/8 x 5 1/8 x 16 5/8 inches)

#### Tape speed:

28.221 mm/s

#### Recording/Playback time

##### DVCAM mode:

Standard size: 184 min. with

PDV-184ME/184N/184MEM

Mini size: 40 min. with

PDVM-40ME/40N/40MEM

##### DV (SP) mode:

Standard size: 276 min. with

PDV-184ME/184N/184MEM

Mini size: 60 min. with

PDVM-40ME/40N/40MEM

#### Fast forward/Rewind time

Standard size: Less than 3 min. with

PDV-184ME/184N/184MEM

Mini size: Less than 1 min. with

PDVM-40ME/40N/40MEM

#### Search speed

Shuttle mode: Still to  $\pm 60$  times normal speed

Digital slow mode:  $\pm 0.5$  times normal speed

### Video Performance

#### Bandwidth (via analogue component I/O)

Luminance: 25 Hz to 5.0 MHz +1.0/-1.5 dB

Chrominance: 25 Hz to 2.0 MHz +1.0/-2.0 dB

#### S/N ratio (via analogue component I/O):

More than 55 dB

#### K-factor (K2T, KPb):

Less than 2%

#### Y/C delay:

Less than 30 ns

### Audio Performance

#### Frequency response

2CH mode (48 kHz/16-bit): 20 Hz to 20 kHz

$\pm 1.0$  dB

4CH mode (32 kHz/12-bit): 20 Hz to 14.5 kHz

$\pm 1.0$  dB

#### Dynamic range:

More than 87 dB

#### Distortion (THD + N):

Less than 0.07%

### Input Signals

#### VIDEO (ANALOGUE)

REF. Video: BNC (2), loop-through connection

0.3 Vp-p, 75  $\Omega$  sync negative

Composite Video: BNC (2), loop-through

connection(\*1) \*Using optional DSBK-1504

1.0 Vp-p, 75  $\Omega$ , sync negative

Component: BNC (3) (\*1) \*Using optional

DSBK-1504

Y: 1.0 Vp-p, 75  $\Omega$ , sync negative

R-Y: 0.7 Vp-p, 75  $\Omega$  (100%)

B-Y: 0.7 Vp-p, 75  $\Omega$  (100%)

S-Video: BNC (2) (\*1) \*Using optional

DSBK-1504

Y: 1.0 Vp-p, 75  $\Omega$ , sync negative

C: 0.3 Vp-p, 75  $\Omega$  (at burst level)

#### VIDEO (DIGITAL)

SDI: BNC (1) (\*2) \*Using optional DSBK-1501

Conforms to Serial Digital Interface

(270 Mb/s), ITU-R BT.656

SDTI (QSDI): BNC (1) (\*2) \*using optional

DSBK-1501

Conforms to SDTI (270 Mb/s), SMPTE

305M/322M

i.LINK (DV): 6-pin (1)

IEEE 1394-based

#### AUDIO (ANALOGUE)

Audio: XLR 3-pin female (2) \*Using optional

DSBK-1504

-6/-3/0/+4 dBu (selectable by menu), high

impedance

#### AUDIO (DIGITAL)

AES/EBU: BNC (2) \*Using optional DSBK-1501

75  $\Omega$ , unbalanced

#### Time Code

BNC (1), 0.5 Vp-p to 18.0 Vp-p, 3 k $\Omega$

unbalanced

### Output Signals

#### VIDEO (ANALOGUE)

Video 1/2/3(SUPER): BNC (3) (\*3)

Composite, 1.0 Vp-p, 75  $\Omega$ , sync negative

Component: BNC (3) (\*3)

Y: 1.0 Vp-p, 75  $\Omega$ , sync negative

R-Y: 0.7 Vp-p, 75  $\Omega$  (100%)

B-Y: 0.7 Vp-p, 75  $\Omega$  (100%)

S-Video: BNC (2) (\*3)

Y: 1.0 Vp-p, 75  $\Omega$ , sync negative

C: 0.3 Vp-p, 75  $\Omega$  (at burst level)

#### VIDEO (DIGITAL)

SDI: BNC (2) (\*4) \*Using optional DSBK-1501

Conforms to Serial Digital Interface

(270 Mb/s), ITU-R BT.656

SDTI (QSDI): BNC (2) (\*4) \*Using optional

DSBK-1501

Conforms to SDTI (270 Mb/s), SMPTE

305M/322M

i.LINK (DV): 6-pin (1)

IEEE 1394-based

#### AUDIO (ANALOGUE)

Audio: XLR 3-pin male (2)

-6/-3/0/+4 dBu (selectable by menu)

Monitor: RCA (1) (\*5)

- $\infty$  to -9 dBu, 47k $\Omega$ , unbalanced

(-18 dBFS)

Headphone: JM-60 headphone jack (1)

- $\infty$  to -11 dBu, 8 $\Omega$ , unbalanced (-18 dBFS)

#### AUDIO (DIGITAL):

BNC (2), AES/EBU, 75  $\Omega$ , unbalanced \*Using

optional DSBK-1501

#### TIME CODE:

BNC (1), 2.2 Vp-p, 75  $\Omega$ , unbalanced

#### REMOTE

RS-422A: D-sub 9-pin, female (1)

Control-S (SIRCS): Stereo mini jack (1)

(\*1): Video, Component and S-Video inputs share the same BNC connectors. (\*2): SDI and SDTI (QSDI) inputs share the same BNC connectors. (\*3): Video, Component and S-Video outputs share the same BNC connectors. (\*4): SDI and SDTI (QSDI) outputs share the same BNC connectors. (\*5): The volume of monitor can be controlled by the PHONE LEVEL control knob.

# DSR-45AP DVCAM Recorder

## Features

- Superb picture quality of the DVCAM format
- Recording and playback capability of the DV format (SP mode only)<sup>(1)</sup>
- Long recording time: up to 184 minutes with a standard-size cassette, 40 minutes with a mini-size cassette in DVCAM mode
- Full range of analogue Video IN/OUT: component, composite, S-video
- Four channel independent Audio In/OUT with XLR connectors for Audio OUT
- i.LINK(DV) interface for simultaneous transfer of audio, video, and command signals
- RS-422A remote control interface<sup>(2)</sup>
- RS-232C interface for basic control from a PC
- LANC and Control S interface
- Time code IN/OUT
- Time code/User bit preset
- Time code IN through DV IN
- Duplication function (Including the duplication of cassette memory data)
- Compact size (half-rack size width, 2U height)
- Low power consumption (22 W during playback)
- Built-in 2.5-inch type colour LCD monitor
- Tape counter
- Wireless remote controller RMT-DS5 supplied



(1) When recording in DV(SP) format, the transition between cut to cut may not be smooth. In addition, when the recording format is switched between DVCAM and DV, the transition may not be recorded smoothly. (2) The DSR-45/45P is not equipped with the synchronization capability, therefore, is recommended to be used only as a source feeder in A/B roll editing.

### Supplied Accessories

- Cleaning cassette (1)
- RMT-DS5 wireless remote controller (1)
- Size AA (R6) battery for remote controller (2)
- Operating instructions (1)
- Interface manual for programmers (RS-232C) (1)
- AC power cord (1)

### Optional Accessories

- VMC-IL44 cables 4-pin <-> 4-pin i.LINK Cable
- VMC-IL46 cables 4-pin <-> 6-pin i.LINK Cable
- DSRM-10 Remote Control Unit

### Specifications

#### General

- System
  - PAL
- Power requirements:
  - AC 100 V to 240 V, 50/60 Hz
- Power consumption:
  - 22 W
- Operating temperature:
  - 5 °C to 40 °C (41 °F to 104 °F)
- Storage temperature:
  - 20 °C to 60 °C (-4 °F to 140 °F)
- Mass:
  - Approx. 4.6 kg (10 lb 2 oz)
- Dimensions:
  - 212 (W) x 98 (H) x 392.8 (D) mm
  - (8 3/8 x 3 7/8 x 15 1/2 inches)
- Tape speed
  - DVCAM mode: 28.2 mm/s
  - DV SP playback mode: 18.8 mm/s
- Recording/Playback time in DVCAM mode:
  - Standard size: 184 min. with PDV-184ME/184N/184MEM
  - Mini size: 40 min. with PDVM-40ME/40N/40MEM

#### Tape rewind time:

- Less than 2 min. with PDV-184ME/184N/184MEM

- Search speed (via DSRM-20 or RMT-DS5):
  - ± x1/10, x1/3, x1, x2, x11, x17 (DVCAM)
  - ± x1/10, x1/3, x1, x2, x11, x24 (DV SP)

#### Signal Inputs

- Video (Analogue)
  - Ref.Video: BNC (1)
  - Black burst: 75 Ω, sync negative
  - Composite: BNC (1)<sup>(1)</sup>
    - 1.0 Vp-p, 75 Ω, unbalanced, sync negative
  - S-Video: Mini DIN 4-pin (1)
    - Y: 1.0 Vp-p, 75 Ω, sync negative
    - C: 0.3 Vp-p (subcarrier), 75 Ω
  - Component: BNC (3)
    - Y: 1.0 Vp-p, 75 Ω, sync negative
    - R-Y/B-Y: 0.7 Vp-p, 75 Ω (with 100% colour bar)

#### Audio (Analogue)

- Audio: Pin jack (4)
- 10/-2/+4 dBu (full bits -18 dB)

#### Signal outputs

- Video (Analogue)
  - Composite: BNC (1)
    - 1.0 Vp-p, 75 Ω, unbalanced, sync negative
  - S-Video: Mini DIN 4-pin (1)
    - Y: 1.0 Vp-p, 75 Ω, unbalanced, sync negative
    - C: 0.3 Vp-p (subcarrier), 75 Ω, unbalanced
  - Component: BNC (3)
    - Y: 1.0 Vp-p, 75 Ω, sync negative
    - R-Y/B-Y: 0.7 Vp-p (with 100% colour bar)
- Monitor: Pin jack (1)
  - Composite, 1.0 Vp-p, 75 Ω, sync negative

#### Audio (Analogue)

- Audio: XLR 3-pin male (4)
  - +4 dBu (full bits -20dB)<sup>(2)</sup>
  - Monitor: Pin jack (1)
  - 2 Vrms (maximum)
- Digital Input/Output
- i.LINK (DV): 4-pin (1), IEEE1394
- Others
- RS-422A: D-sub 9-pin, female (1)
  - RS-232C: D-sub 9-pin, male (1)
  - LANC: Stereo mini-mini jack (1)
  - Control S (SIRCS) IN: Stereo mini jack (1)
  - Headphone: Stereo mini jack (1)

(1) Shared with REF IN (2) The audio output level of the DSR-45 will be reduced by half when connected to an Unbalanced XLR input device.

# DSR-50P DVCAM Portable Recorder

## Features

- Superb picture quality of the DVCAM format
- Playback and Recording capability of DV recorded tapes (SP mode only)
- Long recording time: up to 184 minutes with a standard-size cassette and 40 minutes with a mini-size cassette
- Four-channel independent digital audio recording
- 2.5-inch (200,000 dot) colour LCD monitor
- Duplication options (tape copy, tape copy with original time code, or tape copy with cassette memory data)
- Compact & lightweight design: 3.9 kg (8 lb 9 oz) without battery and tape
- Playback capability of both NTSC and PAL recorded tapes(\*)
- i.LINK (DV) interface providing a single cable connection to simultaneously transfer audio, video and command signals
- 26-pin Camera Connector
- Analogue Component Output
- Timecode IN/OUT

(\*) The output signal level is not standard and therefore recommended for simple monitoring only, with a monitor of the same colour system as the original source.



## Supplied Accessories

- LCD Protection Cover (1)
- Cleaning Cassette (1)

## Optional Accessories

- BC-M150 Ni-NH & Li-ion Battery Charger
- BP-L70 Li-ion Battery Charger
- BP-L60S Rechargeable Lithium-ion Battery Pack
- DSRM-10 Remote Control Unit
- FS-20 Foot switch
- VMC-IL46 cables 4-pin <-> 6-pin i.LINK Cable
- VMC-IL66 cables 6-pin <-> 6-pin i.LINK Cable
- CCF-L Cables DV Cables (6-pin to 6-pin)
- CCFD-L Cables DV Cables (6-pin to 4-pin)

## Specifications

### General

- DC input
  - XLR 4-pin (male), +12 V
- Power consumption
  - 15 W
- Operating temperature
  - 5 to 40 °C (41 to 104 °F)
- Storage temperature
  - 20 to 60 °C (-4 to 140 °F)
- Tape speed
  - Approx. 28.2 mm/sec (DVCAM mode),
  - Approx. 18.8 mm/sec (DV SP mode)

### Recording/Playback time

- 184 minutes (DVCAM mode), 270 minutes (DV SP mode) with PDV-184ME cassette
- 40 minutes (DVCAM mode), 60 minutes (DV SP mode) with PDVM-40ME cassette

### Mass

- 3.9 kg (8 lb 9 oz), excluding battery and tape

### Dimensions

- 247 (W) x 92.5 (H) x 311 (D) mm (9 3/4 x 3 3/4 x 12 1/4 inches), excluding projections
- 279 (W) x 99 (H) x 315 (D) mm (11 x 4 x 12 1/2 inches), including projections

### Video Performance

- Rec mode
  - DVCAM/DV (SP mode only)
- PB mode
  - DVCAM/DV (SP mode only)

### Audio Performance

- Rec mode
  - 48.0 kHz: 16 bit: 2ch / 32.0 kHz: 12 bit: 4ch / automatic (DV IN)
- PB mode
  - 48.0 kHz: 16 bit: 2ch / 32.0 kHz: 12 bit: 4ch /
  - 32.0 kHz: 16 bit: 2ch / 44.1 kHz: 16 bit: 2ch (automatically selected)

### Input terminals

- Video (Analogue)
  - Reference: BNC (1), Black Burst 75 Ω, Sync negative (use Video IN)
  - Composite Video: BNC (1), 1.0 Vp-p, 75 Ω, Sync negative
  - S-Video: 4-pin mini DIN (1)
    - Y: 1.0 Vp-p, 75 Ω, Sync negative
    - C: 0.3 Vp-p (subcarrier burst) 75 Ω
- Audio IN (Analogue)
  - Audio: XLR 3-pin, female (4) (+4 dBu/-20 dBu/-60 dBu), impedance more than 3 kΩ
  - with +48 V phantom power supply (independently switched for each channel)

### Camera IN:

- 26-pin camera connector (1)
  - Composite: 1.0 Vp-p, 75 Ω, Sync negative
  - Component
    - Y: 1.0 Vp-p, 75 Ω, Sync negative
    - B-Y: 0.7 Vp-p, 75 Ω, R-Y: 0.7 Vp-p, 75 Ω

### DV:

- 6-pin (with lock) \*shared with DV OUT connector
- Timecode:
  - BNC (1), 0.5 to 18 Vp-p

### Output terminals

- Video (Analogue)
  - Video OUT 1 (Monitor): Composite, BNC (1)
    - 1.0 Vp-p, 75 Ω, Sync negative
    - Superimpose On/Off
  - Video OUT 2: Composite, BNC (1)
    - 1.0 Vp-p, 75 Ω, Sync negative
  - S-Video, 4-pin mini DIN (1)
    - Y: 1.0 Vp-p, 75 Ω, Sync negative
    - C: 0.3 Vp-p (subcarrier burst) 75 Ω

- Component OUT: BNC (3)
  - Y: 1.0 Vp-p, 75 Ω, Sync negative
  - B-Y/R-Y: 0.7 Vp-p, 75 Ω

### Audio (Analogue)

- RCA pin: (4), -10 dBu, Standard output level -18 dB from full bit
- RCA pin (Monitor): (1)

### DV:

- 6-pin (with lock) \*shared with DV IN connector

### Timecode:

- BNC (1), 2.2 Vp-p, 600 ohms / 1.2 Vp-p, 75 Ω

### Remote

- Control S: Stereo mini jack (1)
- Remote: Stereo mini jack (1) (Edge High / Edge Low / Level High / Level Low)(Tally)
- Control: Stereo minimini jack (compatible with LANC as a player)
- Headphone jack (left side): Stereo standard jack (1)
  - 19 dBu, with Level Control

### Other

- Colour LCD monitor:
  - 2.5 inch, 200,000 dots

# DSR-DR1000AP Video Disc Recorder

## Features

- Hard disc recorder (160 GB) with 3.5-inch large-capacity hard drive
- Up to 12 hours of 25 Mb/s DVCAM/DV video and audio recording
- Compact and lightweight (210 x 130 x 422 mm/ 8 3/8 x 5 1/8 x 16 5/8 inches, 7.5 kg/ 16 lb 10 oz)
- Simultaneous recording and playback capability
- Variable speed playback within a wide range of -2 to +2 times normal speed
- Smooth jog sound capability for easy designation of editing points
- Clip segment playback for continuous playback of designated video segments
- Continuous loop recording allows recording to continue until stopped by operator
- Interval recording to produce recordings over extended periods
- Pre-alarm recording automatically triggers recording to start when an external alarm signal is detected
- VTR-like control panel with Jog/Shuttle dial
- Random access to files
- Synchronous playback via RS-422A
- Versatile interfaces
- i.LINK interface (6-pin) with AV/C and SBP2 protocols
- High-speed file transfer via i.LINK interface using SBP2 protocol
- File transfer of DV video and audio using FTP



## Supplied Accessories

- AC power cord (1)
- RM-LG2 (remote control unit) (1)
- Operation manual (1)
- Warranty card (1)

## Optional Accessories

- RCC-G Cables 9-pin/9-pin Cable
- CCF-L Cables DV Cables (6-pin to 6-pin)
- CCFD-L Cables DV Cables (6-pin to 4-pin)

## Specifications

### General

- Power requirements: AC 100 V to 240 V, 50/60 Hz
- Power consumption: 75 W
- Operating temperature: 5 °C to 40 °C (41 °F to 104 °F)
- Storage temperature: -20 °C to 60 °C (-4 °F to 140 °F)
- Operating humidity: Less than 80%
- Storage humidity: Less than 90%
- Mass: 7.5 kg (16 lb 10 oz)
- Dimensions (W x H x D): 210 x 130 x 422 mm (8 3/8 x 5 1/8 x 16 5/8 inches, without projection)

### Video Performance

- Bandwidth (via analogue component I/O): Luminance: 25 Hz to 5.0 MHz +1.0 Chrominance: 25 Hz to 2.0 MHz +1.0/-2.0 dB
- S/N ratio (via analogue component I/O): More than 54 dB
- K-factor (K2T, KPb): Less than 2%
- Y/C delay: Less than 30 ns

### Audio Performance

- Frequency response: 2CH mode (48 kHz/16-bit): 20 Hz to 20 kHz ±1.0 dB  
4CH mode (32 kHz/12-bit): 20 Hz to 14.5 kHz ±1.0 dB
- Dynamic range: More than 87 dB
- Distortion (THD + N): Less than 0.07% (48 kHz)

### Input Signals

- VIDEO (ANALOGUE)
  - REF. Video: BNC (2) 0.3 Vp-p, 75 Ω sync negative
  - Composite Video: BNC (2), loop-through connection (\*1) 1.0 Vp-p, 75 Ω, sync negative
  - Component: BNC (3) (\*1) Y: 1.0 Vp-p, 75 Ω, sync negative R-Y, B-Y: 0.7 Vp-p, 75 Ω (100% colour bar)
  - S-Video: BNC (2) (\*1) Y: 1.0 Vp-p, 75 Ω, sync negative C: 0.3 Vp-p, 75 Ω (at burst level)

### VIDEO (DIGITAL)

- SDI: BNC (1) Conforms to Serial Digital Interface (270 Mb/s), ITU-R BT.656
- i.LINK (DV): 6-pin (1) IEEE 1394-based

### AUDIO (ANALOGUE)

- Audio: XLR 3-pin female (2) -6/-3/0/+4 dBu (selectable by menu), high impedance

### AUDIO (DIGITAL)

- AES/EBU: BNC (2) 75 Ω, unbalanced

### Time Code

- BNC (1), 0.5 Vp-p to 18.0 Vp-p, 3 kΩ unbalanced

### Output Signals

- VIDEO (ANALOGUE)
  - Video 1/2 (SUPER): BNC (2) (\*2) Composite, 1.0 Vp-p, 75 Ω, sync negative
  - Component: BNC (3) (\*2) Y: 1.0 Vp-p, 75 Ω, sync negative R-Y, B-Y: 0.7 Vp-p, 75 Ω (100% colour bar)
  - S-Video: BNC (2) (\*2) Y: 1.0 Vp-p, 75 Ω, sync negative C: 0.3 Vp-p, 75 Ω (at burst level)
- VIDEO (DIGITAL)
  - SDI: BNC (2) Conforms to Serial Digital Interface (270 Mb/s), ITU-R BT.656
  - i.LINK (DV): 6-pin (1) IEEE 1394-based
- AUDIO (ANALOGUE)
  - Audio: XLR 3-pin male (2) -6/-3/0/+4 dBu (selectable by menu)
  - Monitor: RCA (1) ∞ to -9 dBu, 47 kΩ, unbalanced (-18 dBFS), volume center
  - Headphone: JM-60 headphone jack (1) ∞ to -11 dBu, 8 Ω, unbalanced (-18 dBFS)
- AUDIO (DIGITAL):
  - AES/EBU: BNC (2), 75 Ω, unbalanced
- TIME CODE:
  - BNC (1), 2.2 Vp-p, 600 Ω, unbalanced
- REMOTE
  - RS-422A: D-sub 9-pin, female (2) Control: Mini jack (1)
- Network
  - Ethernet (1): 10Base-T/100Base-TX Ethernet, RJ-45 modular jack

(\*1) Composite, Component and S-Video inputs share the same BNC connectors. (\*2) Composite, Component and S-Video outputs share the same BNC connectors.

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# PDW-510 XDCAM Camcorder (DVCAM Recording)

## Features

- DVCAM recording •Superb picture and sound quality
- 12-bit A/D conversion •High-performance digital signal processing •2/3-inch type 16:9/4:3 widescreen Power HAD EX CCD •Long recording time of 85 min.
- Shock- and dust-resistant disc drive •2.5-inch<sup>1</sup> type colour LCD screen •Thumbnail Search operation •Scene Selection operation •Proxy AV (low-resolution audio and video) Data recording •Metadata recording including Essence Mark, UMID, Extended UMID •Picture cache recording function (up to ten seconds retroactively)
- Progressive mode; NTSC: 29.97P or optional 23.976P<sup>2</sup>
- Slow shutter function •Turbo gain function (max. 48 dB)
- Auto Tracing White Balance (ATW) capability
- Multi-matrix function •Interval recording function
- Analogue composite output as standard •SDI output and analogue composite input as option •Four assignable buttons •Slot to accommodate a Sony WRR-855 Series wireless microphone receiver •Optional Ethernet adaptor
- “Memory Stick” stores camera setup parameters
- Intelligent light system powered from the camcorder’s battery •Built-in optical filter wheels •Camera control from RM-B150/B750 •Compact and lightweight (approx. 5.8 kg including VF, BP-IL75 battery, disc and mic) •Low power consumption of 32 W



<sup>1</sup> Measured diagonally <sup>2</sup> Recording to disc is in 59.94i via 2-3 pull-down

## Supplied Accessories

- Operation manual (1)
- Viewfinder (1)
- Lens cap (1)
- Shoulder belt (1)
- Monaural microphone (1)

## Optional Accessories

- CBK-FC01 Pull-down (24P shooting) Board
- CBK-SC01 Analogue Composite Input Board
- CBK-SD01 SDI Output Board
- CBK-NC01 Ethernet (100Base-TX) Adaptor
- WLL-CA50 Wireless Camera Transmitter (UC)
- WLL-RX55 Wireless Camera Receiver
- RM-B150 Remote Control Unit
- RM-B750 Remote Control Unit
- BP-GL95 Rechargeable Lithium-ion Battery Pack
- BP-L80S Rechargeable Lithium-ion Battery Pack
- BC-L70A Ni-MH & Li-ion Battery Charger
- BC-M150 Ni-MH & Li-ion Battery Charger
- BC-L500 Ni-MH & Li-ion Battery
- AC-DN2B AC Adaptor
- AC-DN10 AC Adaptor/Charger
- VCT-14 Tripod Adaptor
- BKW-401 Viewfinder Rotation Bracket
- PF23A Disc Professional Disc
- Memory Stick IC Memory Media
- CCXA Cable Audio Cable
- VMC-IL46 cables 4-pin <-> 6-pin i.LINK Cable
- VMC-IL66 cables 6-pin <-> 6-pin i.LINK Cable
- DMX-P01 Portable digital mixer
- WRR-855B UHF Synthesised Diversity Tuner (64U)
- WRR-855B UHF Synthesised Diversity Tuner (AU)

- WRR-855B UHF Synthesised Diversity Tuner (68U)
- WRR-855B UHF Synthesised Diversity Tuner (KR)
- WRR-855B UHF Synthesised Diversity Tuner (1416U)
- WRR-855B UHF Synthesised Diversity Tuner (3032U)
- WRR-855B UHF Synthesised Diversity Tuner (6264U)
- WRR-855B UHF Synthesised Diversity Tuner (6668U)
- WRR-861B UHF Synthesised Diversity Tuner (U6264)
- WRR-861B UHF Synthesised Diversity Tuner (U6668)
- WRR-862B UHF Synthesised Dual Diversity Tuner (1416U)
- WRR-862B UHF Synthesised Dual Diversity Tuner (3032U)
- WRR-862B UHF Synthesised Dual Diversity Tuner (6264U)
- WRR-862B UHF Synthesised Dual Diversity Tuner (6668U)

## Specifications

### General

#### Mass:

Approx. 4.1 kg (9 lb)  
5.8 kg (12 lb 12 oz, with VF, Mic,  
Disc, BP-GL95 battery)

#### Power requirements:

DC 12 V +5.0 V/-1.0 V

#### Power consumption:

Approx. 32 W (while recording, with  
viewfinder, colour LCD off)

#### Operating temperature:

-5 to 40 °C (+23 °F to +104 °F)

#### Storage temperature:

-20 to +60 °C (-4 °F to +140 °F)

#### Humidity:

10 to 90% (relative humidity)

#### Continuous operating time:

Approx. 150 min w/BP-GL95  
Approx. 130 min w/BP-L80S

#### Recording format

##### Video:

DVCAM (25 Mb/s)

##### Proxy Video:

MPEG-4

##### Audio:

4 ch/16 bits/48 kHz

##### Proxy Audio:

A-law (4ch, 8 bits, 8 kHz)

#### Recording/playback time

85 min.

### Signal inputs

#### Genlock video:

BNC x1, 1.0 Vp-p, 75 Ω

#### Time code input:

BNC x1, 0.5 to 18 Vp-p, 10 kΩ

#### Audio input:

XLR-3-31 x2, line / mic / mic+48V /  
AES/EBU selectable

#### Mic input:

XLR-3-31 x1

### Signal outputs

#### Video output:

BNC x1, 1.0 Vp-p, 75 Ω

#### Video test output:

BNC x1, 1.0 Vp-p, 75 Ω

#### Time code output:

BNC x1, 1.0 Vp-p, 75 Ω

#### Earphone:

Mini-jack x2 (front: monaural, rear:  
stereo/monaural)

#### Audio output (CH-1/CH-2):

XLR 5-pin male (stereo)

### Other inputs/outputs

#### Lens:

12-pin

#### Remote:

8-pin

#### Light:

2-pin, DC 12 V, max. 50 W

#### DC input:

XLR 4-pin (for the optional)

#### DC output:

4-pin (for wireless microphone receiver), DC  
12 V (MAX 0.2A)

#### Camcorder adapter:

40-pin

#### i.LINK:

IEEE1394, DV IN/OUT or file access mode,  
6-pin x1

### Audio performance

#### Frequency response:

20 Hz to 20 kHz, +0.5 dB/-1.0 dB

#### Dynamic range:

More than 85 dB

#### Distortion:

Less than 0.08% (at 1 kHz, reference level)

#### Crosstalk:

Less than -70 dB (at 1 kHz, reference level)

#### Wow & flutter:

Below measurable limit

#### Head room:

20 dB (ex-factory setting)

### Camera section

#### Pickup device:

3-chip 2/3-inch type 16:9 widescreen Power  
HAD EX CCD

#### Total picture elements:

1038(H) x 1008(V)

#### Effective picture elements:

980 (H) x 494 (V)

#### Optical system:

F1.4 prism

#### Built-in optical filters:

1 : 3200K, 2: 5600K+1/8ND, 3: 5600K, 4:  
5600K+1/64ND

#### Shutter speed:

1/100, 1/125, 1/250, 1/500, 1/1000, 1/2000  
(s)

#### Slow shutter:

1/2 to 1/30 (s) (1 to 8 and 16 frame  
accumulation)

#### Lens mount:

2/3" 48 bayonet mount

#### Sensitivity (2000 lx, 89.9% reflectance):

F11 (typical)

#### Minimum illumination:

Approx. 0.13 lx (F1.4 lens, +48 dB turbo  
gain, shutter off)

#### Gain selection:

-3 dB, -0 dB, 3 dB, 6 dB, 9 dB, 12 dB,  
18 dB, 24 dB, 30 dB, 36 dB, 42 dB, 48 dB

#### Smear level:

-140 dB (typical)

#### S/N ratio:

65 dB (typical)

#### Vertical resolution

400 TV Lines/450 TV Lines(EVS)

#### Registration:

0.05% (all zones, w/o lens)

#### Geometric distortion:

Below measurable level (w/o lens)

#### Modulation depth at 5 MHz:

70% (16:9, typical)/55% (4:3, typical)

### Viewfinder

#### CRT:

2.0-inch type monochrome

#### Controls:

BRIGHT, CONTRAST, PEAKING controls,  
TALLY, ZEBRA, DISPLAY switches

#### Horizontal resolution:

450 TV lines (16:9)

#### Microphone:

Ultra-directional (detachable)

### Built-in LCD monitor

#### LCD:

2.5-inch type colour LCD monitor

### "Eco Info"

Halogenated flame retardants are not used  
in printed wiring boards.

# PDW-510P XDCAM Camcorder (DVCAM Recording)

## Features

- DVCAM recording •Superb picture and sound quality
- 12-bit A/D conversion •High-performance digital signal processing
- 2/3-inch type 16:9/4:3 widescreen Power HAD EX CCD
- Long recording time of 85 min. •Shock- and dust-resistant disc drive
- 2.5-inch<sup>(\*)</sup> type colour LCD screen
- Thumbnail Search operation •Scene Selection operation
- Proxy AV (low-resolution audio and video) Data recording
- Metadata recording including Essence Mark, UMID, Extended UMID
- Picture cache recording function (up to ten seconds retroactively)
- Progressive mode: 25P
- Slow shutter function •Turbo gain function (max. 48 dB)
- Auto Tracing White Balance (ATW) capability
- Multi-matrix function •Interval recording function
- Analogue composite output as standard
- SDI output and analogue composite input as option
- Four assignable buttons •Slot to accommodate a Sony WRR-855 Series wireless microphone receiver
- Optional Ethernet adaptor
- “Memory Stick” stores camera setup parameters
- Intelligent light system powered from the camcorder’s battery
- Built-in optical filter wheels
- Camera control from RM-B150/B750
- Compact and lightweight (approx. 5.8 kg including VF, battery, disc and mic)
- Low power consumption of 32 W

(\*1) Measured diagonally

(\*2) Recording to disc is in 59.94i via 2-3 pull-down



## Supplied Accessories

- Operation manual (1)
- Viewfinder (1)
- Lens cap (1)
- Shoulder belt (1)
- Monaural microphone (1)

## Optional Accessories

- CBK-SC01 Analogue Composite Input Board
- CBK-SD01 SDI Output Board
- CBK-NC01 Ethernet (100Base-TX) Adaptor
- WLL-CA50 Wireless Camera Transmitter (CER)
- WLL-RX55 Wireless Camera Receiver
- RM-B150 Remote Control Unit
- RM-B750 Remote Control Unit
- BP-GL95 Rechargeable Lithium-ion Battery Pack
- BP-L80S Rechargeable Lithium-ion Battery Pack
- BC-L70A Ni-MH & Li-ion Battery Charger
- BC-M150 Ni-MH & Li-ion Battery Charger
- BC-L500 Ni-MH & Li-ion Battery
- AC-DN2B AC Adaptor
- AC-DN10 AC Adaptor/Charger
- BKW-401 Viewfinder Rotation Bracket
- VCT-14 Tripod Adaptor
- PFD23A Disc Professional Disc
- Memory Stick IC Memory Media
- CCXA Cable Audio Cable
- VMC-IL46 cables 4-pin <-> 6-pin i.LINK Cable
- VMC-IL66 cables 6-pin <-> 6-pin i.LINK Cable
- DMX-P01 Portable digital mixer
- WRR-855B UHF Synthesised Diversity Tuner (AU)

- WRR-855B UHF Synthesised Diversity Tuner (21CE7)
- WRR-855B UHF Synthesised Diversity Tuner (33CE7)
- WRR-855B UHF Synthesised Diversity Tuner (62CE7)
- WRR-855B UHF Synthesised Diversity Tuner (67CE7)
- WRR-862B UHF Synthesised Dual Diversity Tuner (21CE7)
- WRR-862B UHF Synthesised Dual Diversity Tuner (33CE7)
- WRR-862B UHF Synthesised Dual Diversity Tuner (62CE7)
- WRR-862B UHF Synthesised Dual Diversity Tuner (67CE7)
- PDW-RMT500 Camera Control Software



## Specifications

### General

#### Mass:

Approx. 4.1 kg (9 lb)  
5.8 kg (12 lb 12 oz, with VF, Mic,  
Disc, BP-GL95 battery)

#### Power requirements:

DC 12 V +5.0 V/-1.0 V

#### Power consumption:

Approx. 32 W (while recording, with  
viewfinder, colour LCD off)

#### Operating temperature:

-5 to 40 °C (+23 °F to +104 °F)

#### Storage temperature:

-20 to +60 °C (-4 °F to +140 °F)

#### Humidity:

10 to 90% (relative humidity)

#### Continuous operating time:

Approx. 150 min w/BP-GL95  
Approx. 130 min w/BP-L80S

#### Recording format

##### Video:

DVCAM (25 Mb/s)

##### Proxy Video:

MPEG-4

##### Audio:

4 ch/16 bits/48 kHz

##### Proxy Audio:

A-law (4ch, 8 bits, 8 kHz)

#### Recording/playback time

85 min.

### Signal inputs

#### Genlock video:

BNC x1, 1.0 Vp-p, 75 Ω

#### Time code input:

BNC x1, 0.5 to 18 Vp-p, 10 kΩ

#### Audio input:

XLR-3-31 x2, line / mic / mic+48V /  
AES/EBU selectable

#### Mic input:

XLR-3-31 x1

### Signal outputs

#### Video output:

BNC x1, 1.0 Vp-p, 75 Ω

#### Video test output:

BNC x1, 1.0 Vp-p, 75 Ω

#### Time code output:

BNC x1, 1.0 Vp-p, 75 Ω

#### Earphone:

Mini-jack x2 (front: monaural, rear:  
stereo/monaural)

#### Audio output (CH-1/CH-2):

XLR 5-pin male (stereo)

### Other inputs/outputs

#### Lens:

12-pin

#### Remote:

8-pin

#### Light:

2-pin, DC 12 V, max. 50 W

#### DC input:

XLR 4-pin

#### DC output:

4-pin (for wireless microphone receiver), DC  
12 V (MAX 0.2A)

#### Camcorder adapter:

40-pin

#### i.LINK:

IEEE1394, DV IN/OUT or file access mode,  
6-pin x1

### Audio performance

#### Frequency response:

20 Hz to 20 kHz, +0.5 dB/-1.0 dB

#### Dynamic range:

More than 85 dB

#### Distortion:

Less than 0.08% (at 1 kHz, reference level)

#### Crosstalk:

Less than -70 dB (at 1 kHz, reference level)

#### Wow & flutter:

Below measurable limit

#### Head room:

20 dB (ex-factory setting)

### Camera section

#### Pickup device:

3-chip 2/3-inch type 16:9 widescreen Power  
HAD EX CCD

#### Total picture elements:

1038(H) x 1188(V)

#### Effective picture elements:

980(H) x 582(V)

#### Optical system:

F1.4 prism

#### Built-in optical filters:

1 : 3200K, 2: 5600K+1/8ND, 3: 5600K, 4:  
5600K+1/64ND

#### Shutter speed:

1/60, 1/125, 1/250, 1/500, 1/1000,  
1/2000 (s)

#### Slow shutter:

1/2 to 1/25 (s) (1 to 8 and 16 frame  
accumulation)

#### Lens mount:

2/3" 48 bayonet mount

#### Sensitivity (2000 lx, 89.9% reflectance):

F11 (typical)

#### Minimum illumination:

Approx. 0.13 lx (F1.4 lens, +48 dB turbo  
gain, shutter off)

#### Gain selection:

-3 dB, -0 dB, 3 dB, 6 dB, 9 dB, 12 dB,  
18 dB, 24 dB, 30 dB, 36 dB, 42 dB, 48 dB

#### Smear level:

-140 dB (typical)

#### S/N ratio:

63 dB (typical)

#### Vertical resolution

480 TV Lines/530 TV Lines(EVS)

#### Registration:

0.05% (all zones, w/o lens)

#### Geometric distortion:

Below measurable level (w/o lens)

#### Modulation depth at 5 MHz:

70% (16:9, typical)/55% (4:3, typical)

### Viewfinder

#### CRT:

2.0-inch type monochrome

#### Controls:

BRIGHT, CONTRAST, PEAKING controls,  
TALLY, ZEBRA, DISPLAY switches

#### Horizontal resolution:

450 TV lines (16:9)

#### Microphone:

Ultra-directional (detachable)

### Built-in LCD monitor

#### LCD:

2.5-inch type colour LCD monitor

### "Eco Info"

Halogenated flame retardants are not used  
in printed wiring boards.

# PDW-530 XDCAM Camcorder (MPEG IMX/DVCAM Recording)

## Features

- MPEG IMX (50/40/30 Mb/s) and DVCAM switchable recording
- Superb picture and sound quality
- 12-bit A/D conversion
- High-performance digital signal processing
- 2/3-inch type 16:9/4:3 widescreen Power HAD EX CCD
- Long recording time; MPEG IMX at 30 Mb/s: 68 min., 40 Mb/s: 55 min., 50 Mb/s: 45 min., DVCAM: 85 min.
- Shock- and dust-resistant disc drive
- 2.5-inch<sup>(\*)</sup> type colour LCD screen
- Thumbnail Search operation
- Scene Selection operation
- Proxy AV (low-resolution audio and video) Data recording
- Metadata recording including essence mark, UMID, Extended UMID
- Picture cache recording function (up to ten seconds retroactively)
- Progressive mode; NTSC: 29.97P or optional 23.976P<sup>(\*\*)</sup>
- Slow shutter function
- Turbo gain function (max. 48 dB)
- Auto Tracing White Balance (ATW) capability
- Multi-matrix function
- Interval recording function
- Analogue composite output as standard
- SDI output and analogue composite input as option
- Four assignable buttons
- Slot to accommodate a Sony WRR-855 Series wireless microphone receiver
- Optional Ethernet adaptor
- "Memory Stick" stores camera setup parameters
- Intelligent light system powered from the camcorder's battery
- Dual optical filter wheels for ND and CC
- i.LINK (DV stream) output from MPEG IMX playback
- Camera control from RM-B150/B750
- Compact and lightweight (approx. 5.8 kg including VF, BP-IL75 battery, disc and mic)
- Low power consumption of 32 W

(\*1) Measured diagonally (\*2) Recording to disc is in 59.94i via 2-3 pull-down



## Supplied Accessories

- Operation manual (1)
- Viewfinder (1)
- Lens cap (1)
- Shoulder belt (1)
- Monaural microphone (1)

## Optional Accessories

- CBK-FC01 Pull-down (24P shooting) Board
- CBK-SC01 Analogue Composite Input Board
- CBK-SD01 SDI Output Board
- CBK-NC01 Ethernet (100Base-TX) Adaptor
- WLL-RX55 Wireless Camera Receiver
- WLL-CA50 Wireless Camera Transmitter (UC)
- RM-B150 Remote Control Unit
- RM-B750 Remote Control Unit
- BP-GL95 Rechargeable Lithium-ion Battery Pack
- BP-L80S Rechargeable Lithium-ion Battery Pack
- BC-L70A Ni-MH & Li-ion Battery Charger
- BC-M150 Ni-MH & Li-ion Battery Charger
- BC-L500 Ni-MH & Li-ion Battery
- AC-DN2B AC Adaptor
- AC-DN10 AC Adaptor/Charger
- BVF-VC10W 1.35-inch Type Colour Viewfinder
- BKW-401 Viewfinder Rotation Bracket
- VCT-14 Tripod Adaptor
- PFD23A Disc Professional Disc
- Memory Stick IC Memory Media
- VMC-IL46 cables 4-pin <-> 6-pin i.LINK Cable
- VMC-IL66 cables 6-pin <-> 6-pin i.LINK Cable
- CCXA Cable Audio Cable

- DMX-P01 Portable digital mixer
- WRR-855B UHF Synthesised Diversity Tuner (64U)
- WRR-855B UHF Synthesised Diversity Tuner (AU)
- WRR-855B UHF Synthesised Diversity Tuner (68U)
- WRR-855B UHF Synthesised Diversity Tuner (KR)
- WRR-855B UHF Synthesised Diversity Tuner (1416U)
- WRR-855B UHF Synthesised Diversity Tuner (3032U)
- WRR-855B UHF Synthesised Diversity Tuner (6264U)
- WRR-855B UHF Synthesised Diversity Tuner (6668U)
- WRR-861B UHF Synthesised Diversity Tuner (U6264)
- WRR-861B UHF Synthesised Diversity Tuner (U6668)
- WRR-862B UHF Synthesised Dual Diversity Tuner (1416U)
- WRR-862B UHF Synthesised Dual Diversity Tuner (3032U)
- WRR-862B UHF Synthesised Dual Diversity Tuner (6264U)
- WRR-862B UHF Synthesised Dual Diversity Tuner (6668U)

## Specifications

### General

#### Mass:

Approx. 4.1 kg (9 lb)  
5.8 kg (12 lb 12 oz, with VF, Mic,  
Disc, BP-GL95 battery)

#### Power requirements:

DC 12 V +5.0 V/-1.0 V

#### Power consumption:

Approx. 32 W (while recording, with  
viewfinder, colour LCD off)

#### Operating temperature:

-5 to 40 °C (+23 °F to +104 °F)

#### Storage temperature:

-20 to +60 °C (-4 °F to +140 °F)

#### Humidity:

10 to 90% (relative humidity)

#### Continuous operating time:

Approx. 150 min w/BP-GL95  
Approx. 130 min w/BP-L80S

#### Recording format

##### Video:

MPEG IMX (50/40/30 Mb/s), DVCAM  
(25 Mb/s)

##### Proxy Video:

MPEG-4

##### Audio:

MPEG IMX: 4 ch/16 bits/48 kHz or  
4 ch/24 bits/48 kHz  
DVCAM: 4 ch/16 bits/48 kHz

##### Proxy Audio:

A-law (4ch, 8 bits, 8 kHz)

#### Recording/playback time

##### MPEG IMX:

50 Mb/s: 45 min., 40 Mb/s: 55 min.,  
30 Mb/s: 68 min.

##### DVCAM:

85 min.

### Signal inputs

#### Genlock video:

BNC x1, 1.0 Vp-p, 75 Ω

#### Time code input:

BNC x1, 0.5 to 18 Vp-p, 10 kΩ

#### Audio input:

XLR-3-31 x2, line / mic / mic+48V /  
AES/EBU selectable

#### Mic input:

XLR-3-31 x1

### Signal outputs

#### Video output:

BNC x1, 1.0 Vp-p, 75 Ω

#### Video test output:

BNC x1, 1.0 Vp-p, 75 Ω

#### Time code output:

BNC x1, 1.0 Vp-p, 75 Ω

#### Earphone:

Mini-jack x2 (front: monaural, rear:  
stereo/monaural)

#### Audio output (CH-1/CH-2):

XLR 5-pin male (stereo)

### Other inputs/outputs

#### Lens:

12-pin

#### Remote:

8-pin

#### Light:

2-pin, DC 12 V, max. 50 W

#### DC input:

XLR 4-pin (for the optional)

#### DC output:

4-pin (for wireless microphone receiver), DC  
12 V (MAX 0.2A)

#### Camcorder adapter:

40-pin

#### i.LINK:

IEEE1394, DV IN/OUT or file access mode,  
6-pin x1

### Audio performance

#### Frequency response:

20 Hz to 20 kHz, +0.5 dB/-1.0 dB

#### Dynamic range:

More than 85 dB

#### Distortion:

Less than 0.08% (at 1 kHz, reference level)

#### Crosstalk:

Less than -70 dB (at 1 kHz, reference level)

#### Wow & flutter:

Below measurable limit

#### Head room:

20 dB (ex-factory setting)

### Camera section

#### Pickup device:

3-chip 2/3-inch type 16:9 widescreen Power  
HAD EX CCD

#### Total picture elements:

1038(H) x 1008(V)

#### Effective picture elements:

980(H) x 494(V)

#### Optical system:

F1.4 prism

#### Built-in optical filters:

1 : Clear, 2: 1/4ND, 3: 1/16ND, 4: 1/64ND  
A: CROSS, B: 3200K, C: 4300K, D: 6300K

#### Shutter speed:

1/100, 1/125, 1/250, 1/500, 1/1000,  
1/2000 (s)

#### Slow shutter:

1/2 to 1/30 (s) (1 to 8 and 16 frame  
accumulation)

#### Lens mount:

2/3" 48 bayonet mount

#### Sensitivity (2000 lx, 89.9% reflectance):

F11 (typical)

#### Minimum illumination:

Approx. 0.13 lx (F1.4 lens, +48 dB turbo  
gain, shutter off)

#### Gain selection:

-3 dB, -0 dB, 3 dB, 6 dB, 9 dB, 12 dB,  
18 dB, 24 dB, 30 dB, 36 dB, 42 dB, 48 dB

#### Smear level:

-140 dB (typical)

#### S/N ratio:

65 dB (typical)

#### Vertical resolution

400 TV Lines/450 TV Lines(EVS)

#### Registration:

0.05% (all zones, w/o lens)

#### Geometric distortion:

Below measurable level (w/o lens)

#### Modulation depth at 5 MHz:

70% (16:9, typical)/55% (4:3, typical)

### Viewfinder

#### CRT:

2.0-inch type monochrome

#### Controls:

BRIGHT, CONTRAST, PEAKING controls,  
TALLY, ZEBRA, DISPLAY switches

#### Horizontal resolution:

450 TV lines (16:9)

#### Microphone:

Ultra-directional (detachable)

### Built-in LCD monitor

#### LCD:

2.5-inch type colour LCD monitor

#### "Eco Info"

Halogenated flame retardants are not used  
in printed wiring boards.

# PDW-530P XDCAM Camcorder (MPEG IMX/DVCAM Recording)

## Features

- MPEG IMX (50/40/30 Mb/s) and DVCAM switchable recording
- Superb picture and sound quality
- 12-bit A/D conversion
- High-performance digital signal processing
- 2/3-inch type 16:9/4:3 widescreen Power HAD EX CCD
- Long recording time; MPEG IMX at 30 Mb/s: 68 min., 40 Mb/s: 55 min., 50 Mb/s: 45 min., DVCAM: 85 min.
- Shock- and dust-resistant disc drive
- 2.5-inch<sup>(\*)</sup> type colour LCD screen
- Thumbnail Search operation
- Scene Selection operation
- Proxy AV (low-resolution audio and video) Data recording
- Metadata recording including Essence Mark, UMID, Extended UMID
- Picture cache recording function (up to ten seconds retroactively)
- Progressive mode: 25P
- Slow shutter function
- Turbo gain function (max. 48 dB)
- Auto Tracing White Balance (ATW) capability
- Multi-matrix function
- Interval recording function
- Analogue composite output as standard
- SDI output and analogue composite input as option
- Four assignable buttons
- Slot to accommodate a Sony WRR-855 Series wireless microphone receiver
- Optional Ethernet adaptor
- “Memory Stick” stores camera setup parameters
- Intelligent light system powered from the camcorder's battery
- Dual optical filter wheels for ND and CC
- i.LINK (DV stream) output from MPEG IMX playback
- Camera control from RM-B150/B750
- Compact and lightweight (approx. 5.8 kg including VF, BP-IL75 battery, disc and mic)
- Low power consumption of 32 W



(\*1) Measured diagonally (\*2) Recording to disc is in 59.94i via 2-3 pull-down

## Supplied Accessories

- Operation manual (1)
- Viewfinder (1)
- Lens cap (1)
- Shoulder belt (1)
- Monaural microphone (1)

## Optional Accessories

- CBK-SC01 Analogue Composite Input Board
- CBK-SD01 SDI Output Board
- CBK-NC01 Ethernet (100Base-TX) Adaptor
- WLL-CA50 Wireless Camera Transmitter (CER)
- WLL-RX55 Wireless Camera Receiver
- RM-B150 Remote Control Unit
- RM-B750 Remote Control Unit
- BP-GL95 Rechargeable Lithium-ion Battery Pack
- BP-L80S Rechargeable Lithium-ion Battery Pack
- BC-L70A Ni-MH & Li-ion Battery Charger
- BC-M150 Ni-MH & Li-ion Battery Charger
- BC-L500 Ni-MH & Li-ion Battery
- AC-DN2B AC Adaptor
- AC-DN10 AC Adaptor/Charger
- VCT-14 Tripod Adaptor
- BKW-401 Viewfinder Rotation Bracket
- PFD23A Disc Professional Disc
- Memory Stick IC Memory Media
- CCXA Cable Audio Cable
- VMC-IL46 cables 4-pin <-> 6-pin i.LINK Cable
- VMC-IL66 cables 6-pin <-> 6-pin i.LINK Cable
- DSR-DU1 Video Disc Unit
- CA-DU1 Camera Adaptor
- DMX-P01 Portable digital mixer

- WRR-855B UHF Synthesised Diversity Tuner (AU)
- WRR-855B UHF Synthesised Diversity Tuner (21CE7)
- WRR-855B UHF Synthesised Diversity Tuner (33CE7)
- WRR-855B UHF Synthesised Diversity Tuner (62CE7)
- WRR-855B UHF Synthesised Diversity Tuner (67CE7)
- WRR-862B UHF Synthesised Dual Diversity Tuner (21CE7)
- WRR-862B UHF Synthesised Dual Diversity Tuner (33CE7)
- WRR-862B UHF Synthesised Dual Diversity Tuner (62CE7)
- WRR-862B UHF Synthesised Dual Diversity Tuner (67CE7)
- PDW-RMT500 Camera Control Software

## Specifications

### General

#### Mass:

Approx. 4.1 kg (9 lb)  
5.8 kg (12 lb 12 oz, with VF, Mic,  
Disc, BP-GL95 battery)

#### Power requirements:

DC 12 V +5.0 V/-1.0 V

#### Power consumption:

Approx. 32 W (while recording, with  
viewfinder, colour LCD off)

#### Operating temperature:

-5 to 40 °C (+23 °F to +104 °F)

#### Storage temperature:

-20 to +60 °C (-4 °F to +140 °F)

#### Humidity:

10 to 90% (relative humidity)

#### Continuous operating time:

Approx. 150 min w/BP-GL95  
Approx. 130 min w/BP-L80S

#### Recording format

##### Video:

MPEG IMX (50/40/30 Mb/s), DVCAM  
(25 Mb/s)

##### Proxy Video:

MPEG-4

##### Audio:

MPEG IMX: 4 ch/16 bits/48 kHz or  
4 ch/24 bits/48 kHz  
DVCAM: 4 ch/16 bits/48 kHz

##### Proxy Audio:

A-law (4ch, 8 bits, 8 kHz)

#### Recording/playback time

##### MPEG IMX:

50 Mb/s: 45 min., 40 Mb/s: 55 min.,  
30 Mb/s: 68 min.

##### DVCAM:

85 min.

### Signal inputs

#### Genlock video:

BNC x1, 1.0 Vp-p, 75 Ω

#### Time code input:

BNC x1, 0.5 to 18 Vp-p, 10 kΩ

#### Audio input:

XLR-3-31 x2, line / mic / mic+48V /  
AES/EBU selectable

#### Mic input:

XLR-3-31 x1

### Signal outputs

#### Video output:

BNC x1, 1.0 Vp-p, 75 Ω

#### Video test output:

BNC x1, 1.0 Vp-p, 75 Ω

#### Time code output:

BNC x1, 1.0 Vp-p, 75 Ω

#### Earphone:

Mini-jack x2 (front: monaural, rear:  
stereo/monaural)

#### Audio output (CH-1/CH-2):

XLR 5-pin male (stereo)

### Other inputs/outputs

#### Lens:

12-pin

#### Remote:

8-pin

#### Light:

2-pin, DC 12 V, max. 50 W

#### DC input:

XLR 4-pin

#### DC output:

4-pin (for wireless microphone receiver), DC  
12 V (MAX 0.2A)

#### Camcorder adapter:

40-pin

#### i.LINK:

IEEE1394, DV IN/OUT or file access mode,  
6-pin x1

### Audio performance

#### Frequency response:

20 Hz to 20 kHz, +0.5 dB/-1.0 dB

#### Dynamic range:

More than 85 dB

#### Distortion:

Less than 0.08% (at 1 kHz, reference level)

#### Crosstalk:

Less than -70 dB (at 1 kHz, reference level)

#### Wow & flutter:

Below measurable limit

#### Head room:

20 dB (ex-factory setting)

### Camera section

#### Pickup device:

3-chip 2/3-inch type 16:9 widescreen Power  
HAD EX CCD

#### Total picture elements:

1038(H) x 1188(V)

#### Effective picture elements:

980(H) x 582(V)

#### Optical system:

F1.4 prism

#### Built-in optical filters:

1 : Clear, 2: 1/4ND, 3: 1/16ND, 4: 1/64ND  
A: CROSS, B: 3200K, C: 4300K, D: 6300K

#### Shutter speed:

1/60, 1/125, 1/250, 1/500, 1/1000,  
1/2000 (s)

#### Slow shutter:

1/2 to 1/25 (s) (1 to 8 and 16 frame  
accumulation)

#### Lens mount:

2/3" 48 bayonet mount

#### Sensitivity (2000 lx, 89.9% reflectance):

F11 (typical)

#### Minimum illumination:

Approx. 0.13 lx (F1.4 lens, +48 dB turbo  
gain, shutter off)

#### Gain selection:

-3 dB, -0 dB, 3 dB, 6 dB, 9 dB, 12 dB,  
18 dB, 24 dB, 30 dB, 36 dB, 42 dB, 48 dB

#### Smear level:

-140 dB (typical)

#### S/N ratio:

63 dB (typical)

#### Vertical resolution

480 TV Lines/530 TV Lines(EVS)

#### Registration:

0.05% (all zones, w/o lens)

#### Geometric distortion:

Below measurable level (w/o lens)

#### Modulation depth at 5 MHz:

70% (16:9, typical)/55% (4:3, typical)

### Viewfinder

#### CRT:

2.0-inch type monochrome

#### Controls:

BRIGHT, CONTRAST, PEAKING controls,  
TALLY, ZEBRA, DISPLAY switches

#### Horizontal resolution:

450 TV lines (16:9)

#### Microphone:

Ultra-directional (detachable)

### Built-in LCD monitor

#### LCD:

2.5-inch type colour LCD monitor

#### "Eco Info"

Halogenated flame retardants are not used  
in printed wiring boards.

# PDW-1500 XDCAM Compact Deck (Recording and Playback)

## Features

- MPEG IMX/DVCAM recording and playback •Two optical heads allows transfer speeds of 2.5x for MPEG IMX (at 50 Mb/s) and 5x for DVCAM streams •Proxy AV (low-resolution audio and video) Data recording
- High-speed transfer of Proxy AV Data at 50-times speed
- Ability to write EDL data (Clip List) back onto disc
- Metadata recording •Long recording/playback time; MPEG IMX at 30 Mb/s: 68 min., 40 Mb/s: 55 min., 50 Mb/s: 45 min., DVCAM: 85 min. •A variety of interfaces including SDI I/O, analogue composite I/O, digital audio I/O, analogue audio I/O, time code I/O, headphone output, audio monitor output, Gigabit Ethernet, i.LINK (DV IN/OUT or file access mode<sup>(\*)</sup>) •Thumbnail Search operation •Scene Selection operation •Search speed (in colour) - JOG: -1 to +2 times normal speed, Shuttle: ±50 times normal speed •Audio clip insertion
- i.LINK (DV stream) output from MPEG IMX playback

(\*1) For connection with third party products using this mode, please contact your nearest Sony office.

## Supplied Accessories

- Operation manual (1)
- Quick manual (1)
- PDZ-1 proxy browsing software (1)
- Proxy viewer

## Optional Accessories

- PFD23A Disc Professional Disc
- RCC-G Cables 9-pin/9-pin Cable
- VMC-IL46 cables 4-pin <-> 6-pin i.LINK Cable
- VMC-IL66 cables 6-pin <-> 6-pin i.LINK Cable



XDCAM

## Specifications

### General

Power requirements:

AC 100 to 240 V, 50/60 Hz

Power consumption:

75 W

Operating temperature:

+5 to +40°C (+41 to +104°F)

Storage temperature:

-20 to +60°C (-4 to +140°F)

Operating humidity:

10 to 90% (relative humidity)

Mass:

7.4 kg (16 lb 5 oz)

Dimensions (W x H x D):

210 x 130 x 415 mm

(8 3/8 x 5 1/8 x 16 3/8 inches)

Recording format

Video:

MPEG IMX (50/40/30 Mb/s), DVCAM (25 Mb/s)

Proxy Video:

MPEG-4

Audio:

MPEG IMX: 8 ch/16 bit/48 kHz or

4 ch/24 bit/48 kHz

DVCAM: 4 ch/16 bit/48 kHz

Proxy Audio:

A-law (8/4 ch, 8 bit, 8 kHz)

Playback format

Video:

MPEG IMX (50/40/30 Mb/s), DVCAM (25 Mb/s)

Proxy Video:

MPEG-4

Audio:

MPEG IMX: 8 ch/16 bit/48 kHz or

4 ch/24 bit/48 kHz

DVCAM: 4 ch/16 bit/48 kHz

Proxy Audio

A-law (8/4 ch, 8 bit, 8 kHz)

Recording/playback time

MPEG IMX:

50 Mb/s: 45 min., 40 Mb/s: 55 min.,

30 Mb/s: 68 min.

DVCAM:

85 min.

Search speed (in colour)

Jog mode:

-1 time to 2 times normal playback speed

Shuttle mode:

±50 times normal playback speed

### Signal inputs

Analogue reference input:

BNC x2 (including loop through), 1.0 Vp-p,

75 Ω, sync negative

Analogue composite input:

BNC x2 (including loop through), 1.0 Vp-p,

75 Ω, sync negative

SDI input:

BNC x1, SMPTE 259M, (ITU-R BT656-3),

270 Mb/s

Analogue audio input:

XLR x2 (channel selectable), -9 dBu to

28 dBu, 10 kΩ, balanced

Digital audio input:

AES/EBU, BNC x2, 4 channels

Time code input:

BNC x1

### Signal outputs

Analogue composite video output:

BNC x2 (including one character out),

1.0 Vp-p, 75 Ω, sync negative

SDI output:

BNC x2 (including one character out),

SMPTE 259M (ITU-R BT656-3), 270 Mb/s

Analogue audio output:

XLR x2 (ch. selectable), +4 dBu, 600 Ω load,

low impedance, balanced

Audio monitor output:

RCA x1 (L, R, Mix), -6 dBu, 47 kΩ,

unbalanced

Digital audio output:

BNC x2, 4 channels

Headphone output:

Jack x1, -16 dBu, 8 Ω, unbalanced

Time code output:

BNC x1

### Other inputs and outputs

i.LINK:

IEEE 1394, DV IN/OUT or file access mode,

6-pin x 1

Ethernet:

1000Base-T (RJ-45 x1)

RS-422A:

D-sub 9-pin x1 (VTR protocol)

### Video performance

Sampling frequency:

Y: 13.5 MHz, R-Y/B-Y: 6.75 MHz

Quantisation:

10 bits/sample

Error correction:

Reed Solomon Code

Analogue composite input to analogue

composite output

Bandwidth:

30 Hz to 4.5 MHz +0.5/-1.5 dB (NTSC)

25 Hz to 5.5 MHz +0.5/-1.5 dB (PAL)

S/N ratio:

53 dB or more

Differential gain:

2% or less

Differential phase:

2° or less

Y/C delay:

20 ns or less

K-factor (2T pulse):

2% or less

### Processor adjustment range

Video level:

±3 dB

Chroma

±3 dB

Set up/black level:

±15 IRE/±105 mV

Chroma phase/hue:

±30°

System sync phase:

±15 ms

System SC phase:

±200 ns

### Audio performance

Frequency response:

20 Hz to 20 kHz +0.5/-1.0 dB (0 dB at 1 kHz)

Dynamic range:

More than 90 dB

Distortion:

Less than 0.05% (at 1 kHz)

Head room:

20 dB (18 dB selectable)

### "Eco Info"

Halogenated flame retardants are not used in cabinets and in printed wiring boards.

# PDW-D1 XDCAM Drive

## Features

- Low-cost, lightweight XDCAM drive
- Interfaces are i.LINK (File Access Mode) and i.LINK AVC
- DC 12V or AC

## Supplied Accessories

- Setup software for Windows PC
- PDZ-1 Software
- XDCAM Proxy Viewer
- Manual

## Optional Accessories

- PFD23A Professional Disc
- VMC-IL4615/4635 i.LINK Cable (4-pin to 6-pin, 1.5m/3.5m)
- VMC-IL6615/6635 i.LINK Cable (6-pin to 6-pin, 1.5m/3.5m)
- BKP-L551 Battery Adaptor
- BP-GL95 Rechargeable Lithium-ion Battery Pack
- BP-L80S Rechargeable Lithium-ion Battery Pack

## Specifications

### Power requirements

AC 100 to 240 V, 50/60Hz, DC (with battery)

### Power consumption

25W

### Operating temperature

0 to 40 °C

### Storage temperature

-20 to +60 °C

### Humidity

20 to 90 % (relative humidity)

### Mass

3.0kg (6lb 9oz)

### Dimensions (W x H x D)

78 x 182 x 257 mm  
(3 1/8 x 7 1/4 x 10 1/8 inches)

### AVC Recording format:

#### Video

DVCAM (25Mb/s)

#### Proxy Video

MPEG-4

#### Audio

4ch/16bit/48kHz

#### Proxy Audio

A-law (4ch, 8bit, 8kHz)

### Playback format

#### Video

MPEG IMX  
(50/40/30Mb/s), DVCAM(25Mb/s)

#### Proxy Video

MPEG-4

#### Audio

MPEG IMX:  
8ch/16bit/48kHz or 4ch/24bit/48kHz

#### DVCAM:

4ch/16bit/48kHz

#### Proxy Audio

A-law(4/8ch, 8bit, 8kHz)

### Recording/playback time

#### MPEG IMX:

50Mb/s: 45 min

40Mb/s: 55 min

30Mb/s: 68 min

#### DVCAM:

85 min

### File Access Mode Recording format:

#### Video

MPEG IMX (50/40/30Mb/s),  
DVCAM (25Mb/s)

#### Proxy Video

MPEG-4

#### Audio

MPEG IMX:  
8ch/16bit/48kHz or 4ch/24bit/48kHz

DVCAM:4ch/16bit/48kHz

#### Proxy Audio

A-law(4/8ch, 8bit, 8kHz)

Note: through i.LINK AVC, IMX format is down-converted to DV format.





# PDW-V1 XDCAM Mobile Deck (Playback and File Recording)

## Features

- Playback of MPEG IMX/DVCAM recordings
- High-resolution AV files (MPEG IMX/DVCAM) and Proxy AV (low-resolution audio and video) files can be recorded via its Ethernet interface or i.LINK (file access mode<sup>(\*)</sup>) interface<sup>(\*\*)</sup>
- High-speed transfer of proxy AV data at 30-times speed
- Long playback time; MPEG IMX at 30 Mb/s: 68 min., 40 Mb/s: 55 min., 50 Mb/s: 45 min., DVCAM: 85 min.
- Metadata recording
- Ability to write EDL data (Clip List) back onto disc
- Compact, lightweight design
- Allows transfer speeds of 1.25x for MPEG IMX (at 50 Mb/s) and 2.5x for DVCAM streams (equipped with one optical head)
- 3.5 inch<sup>(\*\*\*)</sup> type colour LCD screen for monitoring pictures and black-and-white LCD screen for displaying information such as time codes, audio meters and disc capacity
- Thumbnail Search operation
- Scene Selection operation
- Analogue RGB output capability for direct connection to computer displays
- AC/battery-powered operation
- Built-in audio speaker
- Network connectivity (100Base-TX)
- Search speed (in colour) - JOG: -1 to 1 times normal speed, Shuttle:  $\pm 20$  times normal speed
- i.LINK (DV stream) output from MPEG IMX playback

(\*1) For connection with third party products using this mode, please contact your nearest Sony office. (\*2) The PDW-V1 does not support synchronous video/audio input. (\*3) Viewable area measured diagonally



## Supplied Accessories

Operation manual (1)  
 PDZ-1 proxy browsing software (1)  
 Shoulder belt (1)  
 Proxy viewer

## Optional Accessories

PF23A Disc Professional Disc  
 BP-GL95 Rechargeable Lithium-ion Battery Pack  
 BP-L80S Rechargeable Lithium-ion Battery Pack  
 BC-L70A Ni-MH & Li-ion Battery Charger  
 BC-M150 Ni-MH & Li-ion Battery Charger  
 BC-L500 Ni-MH & Li-ion Battery  
 VMC-IL46 cables 4-pin <-> 6-pin i.LINK Cable  
 VMC-IL66 cables 6-pin <-> 6-pin i.LINK Cable

## Specifications

### General

Power requirements:  
 AC 100 to 240 V, 50/60 Hz, DC (with battery)

Power consumption:  
 43 W

Operating temperature:  
 +0 to +40°C (+32 to +104°F)

Storage temperature:  
 -20 to +60°C (-4 to +140°F)

Humidity:  
 10 to 90% (relative humidity)

Storage humidity:  
 Less than 90%

Mass:  
 3.5 kg (7.7 lb)

Dimensions (W x H x D):  
 210 x 90 x 320 mm  
 (8 3/8 x 3 5/8 x 12 5/8 inches)

### Recording format

Proxy Video:  
 MPEG-4  
 Proxy Audio  
 A-law (8/4 ch, 8 bit, 8 kHz)

### Playback format

Video:  
 MPEG IMX (50/40/30 Mb/s), DVCAM (25 Mb/s)

Proxy Video:  
 MPEG-4

Audio:  
 MPEG IMX: 8 ch/16 bit/48 kHz or 4 ch/24 bit/48 kHz  
 DVCAM: 4 ch/16 bit/48 kHz

Proxy Audio:  
 A-law (8/4ch, 8 bit, 8 kHz)

### Playback time

MPEG IMX:  
 50 Mb/s: 45 min., 40 Mb/s: 55 min.,  
 30 Mb/s: 68 min.

### DVCAM:

85 min.

### Search speed (in colour)

Jog mode:  
 $\pm 1$  times normal playback speed

Shuttle mode:  
 $\pm 20$  times normal playback speed

### Signal outputs

Analogue composite video:  
 BNC x1 (character out), 1.0 Vp-p, 75  $\Omega$ , sync negative

SDI output:  
 BNC x1 (character out), SMPTE 259M (ITU-R BT656-3), 270 Mb/s

Analogue RGB output:  
 D-sub 15-pin x1

### Audio monitor output:

RCA x2 (L/R), -6 dBu, 47 k $\Omega$ , unbalanced

### Headphone output:

Jack x1, -16 dBu, 8  $\Omega$ , unbalanced

### Other inputs/outputs

i.LINK:  
 IEEE 1394, DV IN/OUT or file access mode, 6-pin x 1

Ethernet:  
 100Base-TX (RJ-45 x1)

### Video performance

Sampling frequency:  
 Y: 13.5 MHz, R-Y/B-Y: 6.75 MHz

Quantisation:  
 10 bits/sample

Error correction:  
 Reed Solomon Code

### "Eco Info"

Halogenated flame retardants are not used in printed wiring boards.

# PDW-R1 XDCAM Field Recorder (Playback and Recording)

## Features

- Recording of MPEG IMX/DVCAM recordings
- MPEG IMX/DVCAM recording and playback
- High-resolution AV files (MPEG IMX/DVCAM) and Proxy AV (low-resolution audio and video) files can be transferred via its Ethernet interface or i.LINK (file access mode<sup>(\*)</sup>) interfaces
- High-speed transfer of proxy AV data at 30-times speed (via its i.LINK (file access mode) interface).
- Long recording time; MPEG IMX at 30 Mb/s: 68 min., 40 Mb/s: 55 min., 50 Mb/s: 45 min., DVCAM: 85 min.
- Metadata recording
- Ability to write EDL data (Clip List) back onto disc
- Compact, lightweight design
- Allows transfer speeds of 1.25x for MPEG IMX (at 50 Mb/s) and 2.5x for DVCAM streams (equipped with one optical head via its i.LINK (file access mode) interface)
- 3.5 inch<sup>(\*\*)</sup> type colour LCD screen for monitoring pictures and black-and-white LCD screen for displaying information such as time codes, audio meters and disc capacity
- Thumbnail Search operation
- Scene Selection operation
- AC/DC/battery-powered operation
- Built-in audio speaker
- Network connectivity (100Base-TX)
- Search speed (in colour) - JOG: -1 to 1 times normal speed, Shuttle: +20 times normal speed
- i.LINK (DV stream) output from MPEG IMX playback



(\*1) For connection with third party products using this mode, please contact your nearest Sony office. (\*2) Viewable area measured diagonally

## Supplied Accessories

Operation manual (1)  
PDZ-1 proxy browsing software (1)  
Proxy viewer

## Optional Accessories

PFD23A Disc Professional Disc  
BP-GL95 Rechargeable Lithium-ion Battery Pack  
BP-L80S Rechargeable Lithium-ion Battery Pack  
BC-L70A Ni-MH & Li-ion Battery Charger  
BC-M150 Ni-MH & Li-ion Battery Charger  
BC-L500 Ni-MH & Li-ion Battery  
VMC-IL46 cables 4-pin <-> 6-pin i.LINK Cable  
VMC-IL66 cables 6-pin <-> 6-pin i.LINK Cable

## Specifications

### General

Power requirements:  
AC 100 to 240 V, 50/60 Hz,  
DC (with battery), EXT-DC  
Operating temperature:  
+0 to +40°C (+32 to +104°F)  
Storage temperature:  
-20 to +60°C (-4 to +140°F)  
Humidity:  
10 to 90% (relative humidity)  
Storage humidity:  
Less than 90%

Mass:  
4.0kg  
Dimensions (W x H x D):  
230 x 100 x 352 mm

### Recording format

Proxy Video:  
MPEG-4  
Proxy Audio  
A-law (8/4 ch, 8 bit, 8 kHz)

### Recording and Playback format

Video:  
MPEG IMX (50/40/30 Mb/s),  
DVCAM (25 Mb/s)

Proxy Video:  
MPEG-4  
Audio:  
MPEG IMX: 8 ch/16 bit/48 kHz or  
4 ch/24 bit/48 kHz  
DVCAM: 4 ch/16 bit/48 kHz

Proxy Audio:  
A-law (8/4ch, 8 bit, 8 kHz)

Playback time  
MPEG IMX:  
50 Mb/s: 45 min., 40 Mb/s: 55 min.,  
30 Mb/s: 68 min.

DVCAM:  
85 min.

Search speed (in colour)  
Jog mode:  
+1 times normal playback speed  
Shuttle mode:  
+20 times normal playback speed

### Signal inputs

Ref. Video:  
BNC x1 , 1.0 Vp-p, 75 Ω, sync negative  
Analogue composite video:  
BNC x1 , 1.0 Vp-p, 75 Ω, sync negative  
SDI:  
BNC 1 , SMPTE 259M (ITU-R BT656-3),  
270 Mb/s

Analogue Audio:  
XLR x 2(channel selectable),  
+4/0/-3/-6dBu(selectable from menu)  
10 kΩ, balanced

Digital Audio(AES/EBU):

BNC x2, 4 channels

Time code:

BNC x1

### Signal outputs

Analogue composite video:  
BNC x1 (character out),  
1.0 Vp-p, 75 Ω, sync negative

### SDI output:

BNC x1, SMPTE 259M (ITU-R BT656-3),  
270 Mb/s  
BNC x1 (character out), SMPTE 259M  
(ITU-R BT656-3), 270 Mb/s

### Audio output

XLR x 2 (channel selectable),  
+4/0/-3/-6 dBu (selectable from menu)  
600 Ω load, low impedance, balanced  
Digital Audio(AES/EBU) output 1/2, 3/4  
BNC x2, 4channels

### Audio monitor output:

XLR output can be switched to monitor by  
SetupMenu  
Headphone output:

Jack x1, ∞ - -13 dBu, 8 Ω, unbalanced

### Other inputs/outputs

i.LINK:  
IEEE 1394, DV IN/OUT or file access mode,  
6-pin x 1

Ethernet:  
100Base-TX (RJ-45 x1)

RS-422A:  
D-sub 9-pin x1(VTR protocol)

### DC out

4-pin, Supplies power of 12V DC to the  
BVR-3 or RM-280 Remote control unit.

### Video performance

Sampling frequency:  
Y: 13.5 MHz, R-Y/B-Y: 6.75 MHz

Quantisation:  
10 bits/sample

Error correction:  
Reed Solomon Code

### "Eco Info"

Halogenated flame retardants are not used in  
printed wiring boards.

## CBK-FC01 Pull-down (24P shooting) Board

### Features

- Provides progressive modes of 23.976P to offer a film-like effect

\*Recording to disc is in 59.94i via 2-3 pull-down.

Note: Only applicable for NTSC versions, PDW-510P & PDW-530P containing 25P function as standard.

### Applicable Models

PDW-510 NTSC version XDCAM Camcorder  
(DVCAM Recording)  
PDW-530 NTSC version XDCAM Camcorder  
(MPEG IMX/DVCAM Recording)



## CBK-NC01 Ethernet (100Base-TX) Adaptor

### Features

- Allows PDW-530/530P//510/510P camcorders to connect to an Ethernet network

### Applicable Models

PDW-510 NTSC version XDCAM Camcorder  
(DVCAM Recording)  
PDW-510P PAL version XDCAM Camcorder  
(DVCAM Recording)  
PDW-530 NTSC version XDCAM Camcorder  
(MPEG IMX/DVCAM Recording)  
PDW-530P PAL version XDCAM Camcorder  
(MPEG IMX/DVCAM Recording)

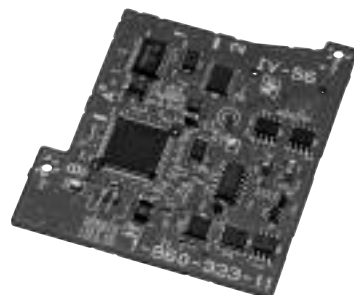


## CBK-SC01 Analogue Composite Input Board

Analogue composite input board for PDW-530/530P/510/510P camcorders

### Applicable Models

PDW-510 NTSC version XDCAM Camcorder  
(DVCAM Recording)  
PDW-510P PAL version XDCAM Camcorder  
(DVCAM Recording)  
PDW-530 NTSC version XDCAM Camcorder  
(MPEG IMX/DVCAM Recording)  
PDW-530P PAL version XDCAM Camcorder  
(MPEG IMX/DVCAM Recording)



## CBK-SD01 SDI Output Board

SDI output board for PDW-530/530P/510/510P,  
DVW-970/970P, MSW-970/ 970P camcorders

### Applicable Models

PDW-510 NTSC version XDCAM Camcorder  
(DVCAM Recording)

PDW-510P PAL version XDCAM Camcorder  
(DVCAM Recording)

PDW-530 NTSC version XDCAM Camcorder  
(MPEG IMX/DVCAM Recording)

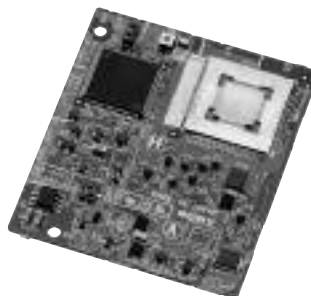
PDW-530P PAL version XDCAM Camcorder  
(MPEG IMX/DVCAM Recording)

DVW-970 Digital Betacam Camcorder

DVW-970P Digital Betacam Camcorder

MSW-970 MPEG IMX Camcorder

MSW-970P MPEG IMX Camcorder



# PDJ-C1080 Professional Disc Cart Machine

Equally suitable for both transmission and storage applications. The PDJ-C1080 Professional Disc Cart Machine combines the robustness of cart based AV payout with the advantages of the networkable non-linear XDCAM optical disc-based storage media.

## Features

The PDJ-C1080 Professional Disc Cart is an automatic changer system for optical disc cartridges that features multiple video decks (PDW-1500 Professional Disc Recorders) and disc cartridge shelves called "bin units". The PDJ-C1080 has the capacity for up to 4 PDW-1500 decks, with bins to hold up to 80 discs included in the standard product. In other words, capacity is provided to load up to 113 hours of program material making this an ideal solution for automated payout & recording applications.

By using standard VCC protocol for control, the PDJ-C1080 has been designed as a "drop-in" replacement for existing flexicart systems, requiring minimal re-programming to interface with popular automation systems and reducing disruption to existing workflows.



XDCAM

## Supplied Accessories

- Operation Manual (1)
- Installation Manual (1)
- Anchor plate (1 set)
- Eye bolt (4)

## Optional Accessories

- PDW-1500 Professional Disc Recorder
- PFD23 Optical Disc Cartridge
- RCC-5G Remote Cable (5 m)

## Performance

- Number of storable optical disc cartridges: up to 80
- Number of mountable video decks: up to 4
- Remote control interface: RS-232C, RS-422A (VCC cart control protocol)
- Parallel I/O interface: D-sub 50-pin

## Specifications

### General

- Power requirements: 100 to 240 V AC, 50/60Hz
- Current drain 9 to 3.75 A (not including video decks)
- Peak inrush current
  - Power ON, current probe method: 60 A (100V), 95 A (240V)
  - Hot switching inrush current, measured in accordance with European standard EN55103-1: 45 A (230V)
- Dimensions: 450 x 1830 x 900 mm (w/h/d) (17 3/4 x 72 3/4 x 35 1/2 inches) (not including projecting parts)
- Mass: approx. 170 kg (374 lb 1 oz) (not including video decks and optional disc cartridges)

### Environmental conditions

- Operating temperature: 5°C to 35°C (41°F to 95°F)
- Storage temperature: -20°C to +55°C (-4°F to +131°F)
- Operating humidity: 20% to 90% (at 25°C/77°F, no condensation)
- Storage humidity: less than 75% (at 55°C/131°F or less)

### Barcodes

- Optical disc cartridges to be used in this Disc Cart are controlled using barcodes of the following specifications:
- Code Code 39
- Print format 16 characters x 3 lines
- Narrow bar width: 0.19 mm
- Character format ASCII codes

# PDJ-A640 Professional Disc Cart Machine

With increased storage capacity and the flexibility to operate in both SD and HD, the PDJ-A640 Professional Disc Cart Machine can be used for a variety of applications including near-line archive storage, automatic ingest to production systems, and disc distribution etc.

## Features

The PDJ-A640 Professional Disc Cart is an automatic changer system for optical disc cartridges that features multiple XDCAM video decks and disc cartridge shelves called "bin units". The PDJ-A640 has the capacity for up to 4 XDCAM decks; models supported are PDW-1500 (SD) and PDW-F70 (HD). Up to 640 discs can be installed in the unit to provide a storage capacity of up to 1,300 hours of program material making this an ideal solution for near-line storage and archival.



## Supplied Accessories

Operation Manual (1)  
Installation Manual (1)  
Eye bolt (4)

## Optional Accessories

PDW-1500/PDW-F70 Professional Disc Recorder  
PDBK-A640 Professional Disc Cart Kit for PDW-F70  
PFD23 Optical Disc Cartridge  
RCC-5G Remote Control Cable (5 m)  
AC Power Cords  
*For Great Britain:*  
1-777-823-12 (250V/10A, approx. 2.0 m)  
*For European countries except Great Britain:*  
1-551-631-15 (250V/10A, approx. 2.0 m)

## Specifications

### General

Power requirements  
100 to 240 V AC, 50/60 Hz  
Current drain  
4 to 1.7 A (not including video decks)  
Peak inrush current  
(1) Power ON, current probe method:  
65 A (100 V), 95 A (240 V)  
(2) Hot switching inrush current,  
measured in accordance with  
European standard EN55103-1:  
50 A (230 V)  
Dimensions:  
680 x 1950 x 1000 mm (w/h/d)  
(26 7/8 x 76 7/8 x 39 3/8 inches)  
Mass  
approx. 330 kg (727 lb 8 oz)  
(not including video decks and  
optical disc cartridges)

## Performance/capacity

Number of storable optical disc cartridges  
up to 640  
Number of mountable video decks  
up to 4

## Input connectors

REF.VIDEO  
BNC type 2, Black Burst or  
Composite Video  
(1.0 Vp-p/75 Ω/ unbalanced)  
LTC IN  
BNC type 1  
(0 to 8 dBs/3.3 kΩ/ unbalanced)

## Control connectors

RS-422A  
D-sub 9-pin, female 1  
RS-232C  
D-sub 25-pin, female 1  
DECK1 to 4  
D-sub 9-pin, female 4  
GPI  
D-sub 50-pin, female 1 (network) RJ-45 1,  
10BASE-T/100BASETX

## Environmental conditions

Operating temperature  
5 °C to 35 °C (41 °F to 95 °F)  
Storage temperature  
-20 °C to +55 °C (-4 °F to +131 °F)  
Operating humidity  
20% to 90% (at 25 °C/77 °F,  
no condensation)  
Storage humidity less than 75%  
(at 55 °C/131 °F or less)

## Barcodes

Optical disc cartridges to be used in this Disc Cart are controlled using barcodes of the following three-line type or single-line type:  
Code  
Code 39  
Print format  
16 characters 3 lines  
Narrow bar width: 0.19 mm  
Character format  
ASCII codes

## PDJ-CS10 Cart Interface Software

Configured with PDJ-CS10 Cart Interface Software, the PDJ-C1080 and PDJ-A640 can interface with MXF-compliant editing and asset management systems from other leading vendors. Professional Discs resident in the PDJ-C1080 or PDJ-A640 appear to external systems via standard FTP or CIFS protocols as a shared network drive. The contents of each Professional Disc appear as a subfolder of the shared drive. The PDJ-CS10 software application provides powerful disc capacity management, automatically storing clips to an available Professional Disc of the appropriate video format and with available free disc space.

### Quick restores from archived content

Restoring content from the near-line archive is quicker than with tape. The ultra-reliable robotic loader can select the required disc in less than 30 seconds, and content can be restored from disc to the main news production system twice as fast as real time. The result? A 10-minute piece can be restored from archive and available to on-line users for editing in just over 5 minutes.

### Simple, web-based management interface

All file management and system functions – including Disc ID, Title, Bin Number, File and Last Access date – can be reviewed via an easy-to-use browser based interface. This allows the cart operator to quickly search for and identify Professional Discs, with tracking of both near-line discs resident in the PDJ-C1080 or PDJ-A640 robots as well as discs moved off-line to shelf storage.



### System Requirements

The following environment is recommended for PDJ-CS10.

- CPU: Intel Pentium 4, or Xeon, 2.8GHz over.
- Memory: 2GB
- HDD: 1st 80GB, 2nd 250GB
- Network: 1000Base-T
- OS: Preinstall Red Hat(R) Enterprise Linux ES 3 (32bit)
- DB: Oracle 10g Standard Edition One  
for Linux (x86) Release 1 (10.1.0) Distribution Package

**SONY**



# Digital Betacam

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## DVW-970P Digital Betacam Camcorder

### Features

Superb picture quality of the Digital Betacam format  
Power HAD EX CCD • 14-bit A/D conversion and  
Advanced Digital Signal Processing (ADSP) • High-quality  
digital audio: four-channels, 20-bit/48 kHz • Long  
recording time of 40 minutes on an S cassette • Compact  
and lightweight: 5.4 kg (11 lb 14 oz) including the VF,  
microphone, tape, and BP-GL95 battery • Low power  
consumption of approximately 29 W • Stereo audio output  
• Camera remote control using RM-B150/B750  
• Dual optical filters plus electric colour correction  
• Battery-remaining display on viewfinder • Assignable  
functions • Intelligent light system • Turbo gain: max. +48  
dB • Adjustable shoulder pad • Slot for WRR-855 series  
wireless microphone receiver • Memory Stick system  
stores camera setup parameters • Film-like images with  
progressive mode • Slow shutter mode: max. 16 frames  
• Picture cache and interval recording (the optional  
CBK-MB01 required) • Selectable gamma table including  
film-like gamma • TruEye processor • Adaptive highlight  
control • Triple skin tone detail control • Variable black  
gamma range • Auto-Tracing White balance (ATW)  
• Multi-Matrix function • Electronic soft focus • Colour  
temperature control • Essence Mark and UMID handling



### Supplied Accessories

Operation manual (1)  
Viewfinder (1)  
Lens cap (1)  
Shoulder belt (1)  
Monaural microphone (1)

### Optional Accessories

CBK-SD01 SDI Output Board  
CBK-MB01 Picture Cache Board  
BKW-401 Viewfinder Rotation Bracket  
RM-B150 Remote Control Unit  
RM-B750 Remote Control Unit  
AC-DN2B AC Adaptor  
AC-DN10 AC Adaptor/Charger  
BP-GL65 Rechargeable Lithium-ion Battery Pack  
BP-GL95 Rechargeable Lithium-ion Battery Pack  
BP-L60S Rechargeable Lithium-ion Battery Pack  
BP-L80S Rechargeable Lithium-ion Battery Pack  
BC-L70 Li-ion Battery Charger  
BC-L500 Li-ion Battery Charger  
BC-M150 Ni-MH & Li-ion Battery Charger  
VCT-14 Tripod Adaptor  
BCT-D Series Digital BETACAM Tapes  
"Memory Stick" IC Memory Media  
ECM-678 Electret Condenser Microphone  
ECM-674 Electret Condenser Microphone  
WLL-CA50 Wireless Camera Transmitter  
WLL-RX55 Wireless Camera Receiver  
WRR-855B UHF Synthesized Diversity Tuner  
WRR 862B UHF Synthesized Dual Diversity Tuner

# Digital Betacam

## Specifications

### General

- Power requirements
  - DC 12 V +5.0 V/-1.0 V
- Power consumption
  - 29 W (with DC 12 V power supply, REC mode, with viewfinder)
- Operating temperature
  - 0 to +40 °C (+32 to +104 °F)
- Storage temperature
  - 20 to +60 °C (-4 to +140 °F)
- Operating humidity
  - 25 to 85% (relative humidity)
  - Approx. 3.7 kg (8 lb 3 oz)
  - Approx. 5.4 kg (11 lb 14 oz) (with viewfinder, microphone, BP-GL95 battery, BCT-D40 tape)
  - 20 °C to +60 °C (-4 °F to +140 °F)
- Continuous operating time
  - Approx. 170 min. with BP-GL95 battery at 25 °C (77 °F), REC mode

### Signal inputs/outputs

- Genlock video input
  - BNC type (1), 1.0 Vp-p, 75 Ω
- Audio input (CH-1/2)
  - XLR-3-31 type (2), -60/-50/-40/+4 dBu <sup>(\*)</sup> selectable, high impedance, balanced
- Microphone input
  - XLR-3-31 type (1), -60/-50/-40 dBu <sup>(\*)</sup>
- Time code input
  - BNC type (1), 0.5 to 18 Vp-p, 10 kΩ
- Analogue composite output
  - BNC type (1), 1.0 Vp-p, 75 Ω
- SDI output
  - BNC type (1), 0.8 Vp-p, 75 Ω (the optional CBK-SD01 is required)
- Video test output
  - BNC type (1), 1.0 Vp-p, 75 Ω
- Audio output (CH-1/2)
  - XLR-5-pin, male (stereo)
- Time code output
  - BNC type (1), 1.0 Vp-p, 75 Ω
- Earphone output
  - Mini-jack (2)

### Other inputs/outputs

- Lens
  - 12-pin
- VF
  - 20-pin
- Remote
  - 8-pin
- Wireless microphone
  - D-Sub 15-pin
- Light
  - 2-pin, DC 12 V, max. 50 W
- DC input
  - 4-pin (for wireless microphone receiver), DC 12 V (max. 0.1 A)
- DC output
  - 4-pin (for wireless microphone receiver), DC 12 V (max. 0.1 A)
- Battery terminal
  - 5-pin
- Camcorder adaptor
  - 40-pin
- Camera section**
- Pickup device
  - Pickup device
    - 3-chip 2/3-inch type Power HAD EX CCD
- Aspect ratio
  - 16:9/4:3 switchable
- Total picture elements (H x V)
  - 1038 x 1188

- Effective picture elements (H x V)
  - 980 x 1164
- Optical system
  - Spectral system
    - F1.4 prism (with quartz filter)
  - Built-in filters
    - 1: Clear, 2: 1/4ND, 3: 1/16ND, 4: 1/64ND, A: CROSS, B: 3200K, C: 4300K, D: 6300K
  - Lens mount
    - 2/3-inch type Sony bayonet mount
- Electrical characteristics
  - Scan format
    - 625/50i, 625/25p
  - A/D conversion
    - 14 bits
  - Sensitivity
    - F11 (typical)
    - (2000 lx, 89.9% reflectance)
  - Minimum illumination
    - 0.008 lx (F1.4 lens, +48 dB gain, with slow shutter mode at 16-frame accumulation)
  - Smear level
    - 145 dB (typical)
  - Video S/N ratio
    - 63 dB (typical)
  - Vertical resolution
    - 480 TV lines (with EVS) and 530 TV lines (without EVS) at 625/50i mode
    - 575 TV lines at 625/25p mode
  - Shutter speed
    - 1/60, 1/125, 1/250, 1/500, 1/1000, 1/2000 s at 625/50i mode
    - 1/33, 1/50, 1/100, 1/125, 1/250, 1/500, 1/1000, 1/2000 s at 625/25p mode
  - ECS
    - 50 to 6000 Hz at 625/50i mode
    - 25 to 6000 Hz at 625/25p mode
  - Slow shutter
    - 1/25, 1/12.5, 1/8.3, 1/6.3, 1/5, 1/4.2, 1/3.6, 1/3.1, 1/1.6 s (1 to 8, 16 frames)
  - Gain selection
    - 3, 0, 3, 6, 9, 12, 18, 24, 30, 36, 42, 48 dB (for GAIN LOW, GAIN MID, GAIN HIGH and GAIN TURBO positions)
  - Registration
    - 0.05% (all zones, without lens)
  - Warm-up time
    - 2 s
  - Modulation depth at 5 MHz
    - 70% (16:9 typical)/55% (4:3 typical)

## VTR Section

- Recording format
  - Video
    - Digital BETACAM
  - Audio
    - 4 ch/20 bits/48 kHz
- Tape speed
  - 96.7 mm/s
- Record/playback time
  - Approx. 5 min (with the BCT-D40 cassette)
- Rewind time
  - Approx. 5 min (with the BCT-D40 cassette)
- Recommended recording media
  - Sony Digital Betacam S cassette: BCT-D6/D12/D22/D32/D40
- Sampling frequency
  - Y: 13.5 MHz, R-Y/B-Y: 6.75 MHz
- Quantization
  - 10 bits/sample

### Digital video performance

K-factor (2T pulse)

Less than 1%

Y/C delay

Less than 15 ns

### Digital audio performance <sup>(2)</sup>

Frequency response

20 Hz to 20 kHz, +0.5/-0.8 dB

Dynamic range

More than 85 dB (emphasis ON)

Distortion (at 1 kHz, emphasis ON, reference level)

Less than 0.08%

\*Cross talk (at 1 kHz, reference level)\*

Less than -70 dB

Wow & flutter

Below measurable limit

Headroom

20 dB (ex-factory setting)

### Viewfinder

CRT

2.0-inch type monochrome

Controls

BRIGHT, CONTRAST, PEAKING controls, TALLY, ZEBRA, DISPLAY switches

Horizontal resolution

450 TV lines (16:9)/600 TV lines (4:3)

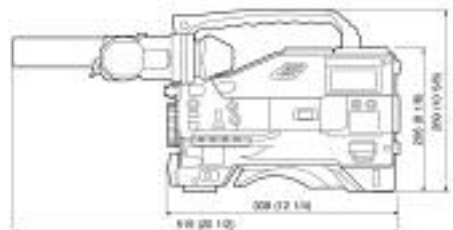
Microphone

Electret condenser microphone

(Ultra-directional) (detachable)

(\*) 0 dBu=0.775 Vrms.

(2) The specifications given above were measured via CBK-SD01 SDI Output Board.



Unit: mm (inch)

## DVW-M2000 Digital Betacam Recorder

### Features

- Superb picture quality and high sound quality of Digital Betacam format
- Powerful legacy playback capability of MPEG IMX, Betacam SX, Betacam SP and Betacam as well as Digital Betacam format
- HD upconversion output capability (1080/59.94i, 720/59.94p)(option: \*1)
- Compact 4U height design and light weight
- High-quality four-channel 20-bit digital audio
- Long recording time of 124 minutes on an L-cassette and 40 minutes on an S-cassette
- Versatile interfaces including SDI I/O, analogue component I/O, digital and analogue audio I/O, time code I/O, analogue composite I/O and 50-pin parallel remote interface as standard
- Frame-accurate insert/assemble editing
- Pre-read editing capability
- Digital audio jog sound
- High-speed picture search
- Variable speed playback
- Dynamic Motion Control (DMC) functionality
- Easy setup using "Memory Stick" media
- Shot mark handling
- UMID handling
- Built-in Tele-File reader/writer to read and write information onto and from a cassette with an optional Tele-File label attached
- Optional remote control panel BKDW-101
- Built-in signal generator
- Can be installed in LMS and Flexicart systems



### Supplied Accessories

PSW 4x16 rack mount screws (4)  
Operation manual (1)  
Installation manual (1)

### Optional Accessories

BKDW-101 Remote Control Panel  
BKMW-102 Remote Control Unit  
BKMW-103 Control Panel Extension Kit  
BKMW-104 HD Up-converter Board (\*1)  
RCC-G Cables 9-pin/9-pin Cable  
RMM-131 Rack Mount Kit  
MSA-A "Memory Stick" IC Memory Media  
BCT-D tapes BCT-D Series Digital Betacam Tapes

# Digital Betacam

## Specifications

### General

#### Power requirements:

AC 100 V to 240 V, 50/60 Hz

#### Power consumption:

220 W

#### Operating temperature:

+5°C to +40°C (+41°F to +104°F)

#### Storage temperature:

-20°C to +60°C (-4°F to +140°F)

#### Humidity:

20% to 90% (relative humidity)

#### Mass:

23.5 kg (52 lb 11 oz)

#### Dimensions (W x H x D):

427 x 174 x 544 mm (16 7/8x 6 7/8x 21 1/2 inches)

#### Tape speed

##### Digital BETACAM:

96.7 mm/s

##### MPEG IMX:

64.467 mm/s

##### BETACAM SX:

59.515 mm/s

##### BETACAM/BETACAM SP:

118.6 mm/s

#### Recording/playback time (Digital Betacam):

Max. 124 min with BCT-D124L cassette

#### Fast forward/rewind time:

Approx. 3 min with BCT-D124L cassette

#### Search speed range

##### Digital BETACAM:

±50 times normal playback speed

##### MPEG IMX:

±78 times normal playback speed

##### BETACAM SX:

±78 times normal playback speed

##### BETACAM/BETACAM SP:

±35 times normal playback speed

#### Servo lock time:

0.5 s or less (from standby on)

#### Load/unload time:

6 s or less

### Input/output signals

#### Analogue composite input:

BNC (x2, including one loop through output), 1.0 Vp-p, 75 Ω, sync negative

#### Analogue composite output:

BNC (x3, including one character out), 1.0 Vp-p, 75 Ω, sync negative

#### Analogue component input:

BNC (x3, for 1 set, Y/R-Y/B-Y), Y: 1.0 Vp-p, 75 Ω, sync negative, R-Y/B-Y: 0.7 Vp-p, 75 Ω

#### Analogue component output:

BNC (x3, for 1 set, Y/R-Y/B-Y), Y: 1.0 Vp-p, 75 Ω, sync negative, R-Y/B-Y: 0.7 Vp-p, 75 Ω

#### SDI input:

BNC (x2, including one active through out), SMPTE 259M (ITU-R BT.656-3), 270 Mb/s

#### SDI output:

BNC (x3, including one character out), SMPTE 259M (ITU-R BT.656-3), 270 Mb/s

#### HD-SDI output (option):

BNC (x3)

#### Analogue audio input:

XLR (x4) (4CH: channel selectable)

#### Analogue audio output:

XLR (x4) (4CH: channel selectable)

#### Cue audio input:

XLR (x1, only Digital Betacam recording)

#### Cue audio output:

XLR (x1, only Digital Betacam playback)

#### Digital audio input:

BNC (x2), 4 channels, AES/EBU, default 48 kHz (32 to 48 kHz with sample rate converter), complies with AES-3id-1995

#### Digital audio output:

BNC (x4), 8 channels, AES/EBU, 48 kHz fixed, complies with AES-3id-1995

#### Remote control

##### Remote (RS-422A):

D-sub 9-pin (x2), Sony 9-pin remote interface

##### RS-232C (ISR\*):

D-sub 9-pin (x1), RS-232C interface

##### Parallel remote:

D-sub 50-pin (x1)

##### Video control:

D-sub 15-pin (x1, for connection with BVR-50 Video Controller)

D-sub 9-pin (x1, for connection with HKDV-503/900 Video Controller)

##### Control panel:

Circular connector 10-pin

#### Time code input:

XLR (x1)

#### Time code output:

XLR (x1)

#### Memory card insertion slot:

Memory Stick slot (x1)

#### Monitor output L/R:

XLR (x2) (channel selectable)

#### Phones:

JM-60 Stereo phone jack

### Processor adjustment range

#### Video level:

±3 dB/ -∞ to 3 dB selectable

#### Chroma level:

±3 dB/ -∞ to 3 dB selectable

#### Set up/black level:

±30 IRE/±210 mV

#### Chroma phase/hue:

±30°

#### System sync phase:

±15 μs

#### System SC phase:

±200 ns

#### Y/C delay:

±100 ns (BETACAM/BETACAM SP playback only)

#### Composite input level:

±3 dB

### Digital video performance

#### Sampling frequency:

Y: 13.5 MHz, R-Y/B-Y: 6.75 MHz

#### Quantization:

10 bits/sample

#### Error correction:

Reed-Solomon code

#### Digital input to analogue component output:

D/A quantization: 10 bits/sample  
Bandwidth: Y: 0 to 5.75 MHz +0.5/-2.0 dB,  
R-Y/B-Y: 0 to 2.75 MHz +0.5/-2.0 dB  
S/N ratio: 62 dB or more, K-factor (2T pulse): 1% or less

#### Analogue component input to analogue component output:

A/D and D/A quantization: 10 bits/sample  
Bandwidth: Y: 0 to 5.75 MHz +0.5/-2.0 dB,  
R-Y/B-Y: 0 to 2.75 MHz +0.5/-2.0 dB  
S/N ratio: 56 dB or more, K-factor (2T pulse): 1% or less, LF non-linearity: 3% or less

#### Analogue composite input to analogue composite output:

A/D and D/A quantization: 10 bits/sample,  
Bandwidth: 0 to 5.75 MHz +0.5/-2.0 dB  
S/N ratio: 56 dB or more, Differential gain: 2% or less, Differential phase: 2° or less  
Y/C delay: 20 ns or less, K-factor (2T pulse): 1% or less

### Digital audio performance

#### Sampling frequency:

48 kHz (synchronized with video)

#### Quantization:

20 bits/sample

#### Analogue input to analogue output:

Frequency response (0 dB at 1kHz): 20 Hz to 20 kHz +0.5/-1.0 dB  
Dynamic range (at 1 kHz, emphasis ON): More than 95 dB  
Distortion (at 1 kHz, emphasis ON, reference level): Less than 0.05%  
Cross talk (at 1 kHz, between any two channels): Less than -80 dB, Wow & flutter: Below measurable level

#### Head room:

20 dB (18 dB selectable)

#### Emphasis (ON/OFF selectable in REC mode):

T1=50 μs, T2=15 μs

\*ISR: Interactive Status Reporting

## DVW-M2000P Digital Betacam Recorder

### Features

- Superb picture quality and high sound quality of Digital Betacam format
- Powerful legacy playback capability of MPEG IMX, Betacam SX, Betacam SP and Betacam as well as Digital Betacam format
- HD upconversion output capability (1080/50i) (option: \*1)
- Compact 4U height design and light weight
- High-quality four-channel 20-bit digital audio
- Long recording time of 124 minutes on an L-cassette and 40 minutes on an S-cassette
- Versatile interfaces including SDI I/O, analogue component I/O, digital and analogue audio I/O, time code I/O, analogue composite I/O and 50-pin parallel remote interface as standard
- Frame-accurate insert/assemble editing
- Pre-read editing capability
- Digital audio jog sound
- High-speed picture search
- Variable speed playback
- Dynamic Motion Control (DMC) functionality
- Easy setup using "Memory Stick" media
- Shot mark handling
- UMID handling
- Built-in Tele-File reader/writer to read and write information onto and from a cassette with an optional Tele-File label attached
- Optional remote control panel BKDW-101
- Built-in signal generator
- Can be installed in LMS and Flexicart systems



### Supplied Accessories

PSW 4x16 rack mount screws (4)  
Operation manual (1)  
Installation manual (1)

### Optional Accessories

BKDW-101 Remote Control Panel  
BKMW-102 Remote Control Unit  
BKMW-103 Control Panel Extension Kit  
BKMW-104 HD Up-converter Board (\*1)  
RCC-G Cables 9-pin/9-pin Cable  
RMM-131 Rack Mount Kit  
MSA-A "Memory Stick" IC Memory Media  
BCT-D tapes BCT-D Series Digital Betacam  
Tapes

# Digital Betacam

## Specifications

### General

#### Power requirements:

AC 100 V to 240 V, 50/60 Hz

#### Power consumption:

220 W

#### Operating temperature:

+5°C to +40°C (+41°F to +104°F)

#### Storage temperature:

-20°C to +60°C (-4°F to +140°F)

#### Humidity:

20% to 90% (relative humidity)

#### Mass:

23.5 kg (52 lb 11 oz)

#### Dimensions (W x H x D):

427 x 174 x 544 mm (16 7/8 x 6 7/8 x 21 1/2 inches)

#### Tape speed

##### Digital BETACAM:

96.7 mm/s

##### MPEG IMX:

53.776 mm/s

##### BETACAM SX:

59.575 mm/s

##### BETACAM/BETACAM SP:

101.51 mm/s

#### Recording/playback time (Digital Betacam):

Max. 124 min with BCT-D124L cassette

#### Fast forward/rewind time:

Approx. 3 min with BCT-D124L cassette

#### Search speed range

##### Digital BETACAM:

±50 times normal playback speed

##### MPEG IMX:

±78 times normal playback speed

##### BETACAM SX:

±78 times normal playback speed

##### BETACAM/BETACAM SP:

±42 times normal playback speed

#### Servo lock time:

0.7 s or less (from standby on)

#### Load/unload time:

6 s or less

### Input/output signals

#### Analogue composite input:

BNC (x2, including one loop through output), 1.0 Vp-p, 75 Ω, sync negative

#### Analogue composite output:

BNC (x3, including one character out), 1.0 Vp-p, 75 Ω, sync negative

#### Analogue component input:

BNC (x3, for 1 set, Y/R-Y/B-Y), Y: 1.0 Vp-p, 75 Ω, sync negative, R-Y/B-Y: 0.7 Vp-p, 75 Ω

#### Analogue component output:

BNC (x3, for 1 set, Y/R-Y/B-Y), Y: 1.0 Vp-p, 75 Ω, sync negative, R-Y/B-Y: 0.7 Vp-p, 75 Ω

#### SDI input:

BNC (x2, including one active through out), SMPTE 259M (ITU-R BT.656-3), 270 Mb/s

#### SDI output:

BNC (x3, including one character out), SMPTE 259M (ITU-R BT.656-3), 270 Mb/s

#### HD-SDI output (option):

BNC (x3)

#### Analogue audio input:

XLR (x4) (4CH: channel selectable)

#### Analogue audio output:

XLR (x4) (4CH: channel selectable)

#### Cue audio input:

XLR (x1, only Digital Betacam recording)

#### Cue audio output:

XLR (x1, only Digital Betacam playback)

#### Digital audio input:

BNC (x2), 4 channels, AES/EBU, default 48 kHz (32 to 48 kHz with sample rate converter), complies with AES-3id-1995

#### Digital audio output:

BNC (x4), 8 channels, AES/EBU, 48 kHz fixed, complies with AES-3id-1995

#### Remote control

##### Remote (RS-422A):

D-sub 9-pin (x2), Sony 9-pin remote interface

##### RS-232C (ISR\*):

D-sub 9-pin (x1), RS-232C interface

##### Parallel remote:

D-sub 50-pin (x1)

##### Video control:

D-sub 15-pin (x1, for connection with BVR-50P Video Controller)

D-sub 9-pin (x1, for connection with HKDV-503/900 Video Controller)

##### Control panel:

Circular connector 10-pin

#### Time code input:

XLR (x1)

#### Time code output:

XLR (x1)

#### Memory card insertion slot:

Memory Stick slot (x1)

#### Monitor output L/R:

XLR (x2) (channel selectable)

#### Phones:

JM-60 Stereo phone jack

### Processor adjustment range

#### Video level:

±3 dB/ -∞ to 3 dB selectable

#### Chroma level:

±3 dB/ -∞ to 3 dB selectable

#### Set up/black level:

±30 IRE/±210 mV

#### Chroma phase/hue:

±30°

#### System sync phase:

±15 μs

#### System SC phase:

±200 ns

#### Y/C delay:

±100 ns (BETACAM/BETACAM SP playback only)

#### Composite input level:

±3 dB

### Digital video performance

#### Sampling frequency:

Y: 13.5 MHz, R-Y/B-Y: 6.75 MHz

#### Quantization:

10 bits/sample

#### Error correction:

Reed-Solomon code

#### Digital input to analogue component output:

D/A quantization: 10 bits/sample

Bandwidth: Y: 0 to 5.75 MHz +0.5/-2.0 dB,

R-Y/B-Y: 0 to 2.75 MHz +0.5/-2.0 dB

S/N ratio: 62 dB or more, K-factor (2T pulse): 1% or less

#### Analogue component input to analogue

#### component output:

A/D and D/A quantization: 10 bits/sample

Bandwidth: Y: 0 to 5.75 MHz +0.5/-2.0 dB,

R-Y/B-Y: 0 to 2.75 MHz +0.5/-2.0 dB

S/N ratio: 56 dB or more, K-factor (2T pulse): 1% or less, LF non-linearity: 3% or less

#### Analogue composite input to analogue composite output:

A/D and D/A quantization: 10 bits/sample,

Bandwidth: 0 to 5.75 MHz +0.5/-2.0 dB

S/N ratio: 56 dB or more, Differential gain:

2% or less, Differential phase: 2° or less

Y/C delay: 20 ns or less, K-factor (2T

pulse): 1% or less

### Digital audio performance

#### Sampling frequency:

48 kHz (synchronized with video)

#### Quantization:

20 bits/sample

#### Analogue input to analogue output:

Frequency response (0 dB at 1kHz): 20 Hz to 20 kHz +0.5/-1.0 dB

Dynamic range (at 1 kHz, emphasis ON):

More than 95 dB

Distortion (at 1 kHz, emphasis ON,

reference level): Less than 0.05%

Cross talk (at 1 kHz, between any two

channels): Less than -80 dB, Wow & flutter:

Below measurable level

#### Head room:

20 dB (18 dB selectable)

#### Emphasis (ON/OFF selectable in REC mode):

T1=50 μs, T2=15 μs

\*ISR: Interactive Status Reporting

## DVW-2000 Digital Betacam Recorder

### Features

- Superb picture quality and high sound quality of Digital Betacam format
- HD upconversion output capability (1080/59.94i, 720/59.94p) (option: \*1)
- Compact 4U height design and light weight
- High-quality four-channel 20-bit digital audio
- Long recording time of 124 minutes on an L-cassette and 40 minutes on an S-cassette
- Versatile interfaces including SDI I/O, analogue component I/O, digital and analogue audio I/O, time code I/O, analogue composite I/O and 50-pin parallel remote interface as standard
- Frame-accurate insert/assemble editing
- Pre-read editing capability
- Digital audio jog sound
- High-speed picture search
- Variable speed playback
- Dynamic Motion Control (DMC) functionality
- Easy setup using "Memory Stick" media
- Shot mark handling
- UMID handling
- Built-in Tele-File reader/writer to read and write information onto and from a cassette with an optional Tele-File label attached
- Optional remote control panel BKDW-101
- Built-in signal generator
- Can be installed in LMS and Flexicart systems



### Supplied Accessories

- PSW 4x16 rack mount screws (4)
- Operation manual (1)
- Installation manual (1)

### Optional Accessories

- BKDW-101 Remote Control Panel
- BKMW-102 Remote Control Unit
- BKMW-103 Control Panel Extension Kit
- BKMW-104 HD Up-converter Board (\*1)
- RCC-G Cables 9-pin/9-pin Cable
- RMM-131 Rack Mount Kit
- MSA-A "Memory Stick" IC Memory Media
- BCT-D tapes BCT-D Series Digital Betacam Tapes



## Specifications

### General

#### Power requirements:

AC 100 V to 240 V, 50/60 Hz

#### Power consumption:

200 W

#### Operating temperature:

+5°C to +40°C (+41°F to +104°F)

#### Storage temperature:

-20°C to +60°C (-4°F to +140°F)

#### Humidity:

20% to 90% (relative humidity)

#### Mass:

23.5 kg (52 lb 11 oz)

#### Dimensions (W x H x D):

427 x 174 x 544 mm (16 7/8x 6 7/8x 21 1/2 inches)

#### Tape speed

96.7 mm/s

#### Recording/playback time (Digital Betacam):

Max. 124 min with BCT-D124L cassette

#### Fast forward/rewind time:

Approx. 3 min with BCT-D124L cassette

#### Search speed range

±50 times normal playback speed

#### Servo lock time:

0.5 s or less (from standby on)

#### Load/unload time:

6 s or less

### Input/output signals

#### Analogue composite input:

BNC (x2, including one loop through output), 1.0 Vp-p, 75 Ω, sync negative

#### Analogue composite output:

BNC (x3, including one character out), 1.0 Vp-p, 75 Ω, sync negative

#### Analogue component input:

BNC (x3, for 1 set, Y/R-Y/B-Y), Y: 1.0 Vp-p, 75 Ω, sync negative, R-Y/B-Y: 0.7 Vp-p, 75 Ω

#### Analogue component output:

BNC (x3, for 1 set, Y/R-Y/B-Y), Y: 1.0 Vp-p, 75 Ω, sync negative, R-Y/B-Y: 0.7 Vp-p, 75 Ω

#### SDI input:

BNC (x2, including one active through out), SMPTE 259M (ITU-R BT.656-3), 270 Mb/s

#### SDI output:

BNC (x3, including one character out), SMPTE 259M (ITU-R BT.656-3), 270 Mb/s

#### HD-SDI output (option):

BNC (x3)

#### Analogue audio input:

XLR (x4) (4CH: channel selectable)

#### Analogue audio output:

XLR (x4) (4CH: channel selectable)

#### Cue audio input:

XLR (x1, only Digital Betacam recording)

#### Cue audio output:

XLR (x1, only Digital Betacam playback)

#### Digital audio input:

BNC (x2), 4 channels, AES/EBU, default 48 kHz (32 to 48 kHz with sample rate converter), complies with AES-3id-1995

#### Digital audio output:

BNC (x2), 4 channels, AES/EBU, 48 kHz fixed, complies with AES-3id-1995

#### Remote control

##### Remote (RS-422A):

D-sub 9-pin (x2), Sony 9-pin remote interface

##### RS-232C (ISR\*):

D-sub 9-pin (x1), RS-232C interface

##### Parallel remote:

D-sub 50-pin (x1)

##### Video control:

D-sub 15-pin (x1, for connection with BVR-50 Video Controller)

D-sub 9-pin (x1, for connection with HKDV-503/900 Video Controller)

#### Control panel:

Circular connector 10-pin

#### Time code input:

XLR (x1)

#### Time code output:

XLR (x1)

#### Memory card insertion slot:

Memory Stick slot (x1)

#### Monitor output L/R:

XLR (x2) (channel selectable)

#### Phones:

JM-60 Stereo phone jack

### Processor adjustment range

#### Video level:

±3 dB/ -∞ to 3 dB selectable

#### Chroma level:

±3 dB/ -∞ to 3 dB selectable

#### Set up/black level:

±30 IRE/±210 mV

#### Chroma phase/hue:

±30°

#### System sync phase:

±15 μs

#### System SC phase:

±200 ns

#### Composite input level:

±3 dB

### Digital video performance

#### Sampling frequency:

Y: 13.5 MHz, R-Y/B-Y: 6.75 MHz

#### Quantization:

10 bits/sample

#### Error correction:

Reed-Solomon code

#### Digital input to analogue component output:

D/A quantization: 10 bits/sample

Bandwidth: Y: 0 to 5.75 MHz +0.5/-2.0 dB,

R-Y/B-Y: 0 to 2.75 MHz +0.5/-2.0 dB

S/N ratio: 62 dB or more, K-factor (2T pulse):

1% or less

#### Analogue component input to analogue component output:

A/D and D/A quantization: 10 bits/sample

Bandwidth: Y: 0 to 5.75 MHz +0.5/-2.0 dB,

R-Y/B-Y: 0 to 2.75 MHz +0.5/-2.0 dB

S/N ratio: 56 dB or more, K-factor (2T pulse):

1% or less, LF non-linearity: 3% or less

#### Analogue composite input to analogue composite output:

A/D and D/A quantization: 10 bits/sample,

Bandwidth: 0 to 5.75 MHz +0.5/-2.0 dB

S/N ratio: 56 dB or more, Differential gain:

2% or less, Differential phase: 2° or less

Y/C delay: 20 ns or less, K-factor (2T pulse):

1% or less

### Digital audio performance

#### Sampling frequency:

48 kHz (synchronized with video)

#### Quantization:

20 bits/sample

#### Analogue input to analogue output:

Frequency response (0 dB at 1 kHz): 20 Hz to

20 kHz +0.5/-1.0 dB

Dynamic range (at 1 kHz, emphasis ON): More than 95 dB

Distortion (at 1 kHz, emphasis ON, reference

level): Less than 0.05%

Cross talk (at 1 kHz, between any two channels):

Less than -80 dB, Wow & flutter: Below

measurable level

#### Head room:

20 dB (18 dB selectable)

#### Emphasis (ON/OFF selectable in REC mode):

T1=50 μs, T2=15 μs

\*ISR: Interactive Status Reporting

## DVW-2000P Digital Betacam Recorder

### Features

- Superb picture quality and high sound quality of Digital Betacam format
- HD upconversion output capability (1080/50i)(option: \*1)
- Compact 4U height design and light weight
- High-quality four-channel 20-bit digital audio
- Long recording time of 124 minutes on an L-cassette and 40 minutes on an S-cassette
- Versatile interfaces including SDI I/O, analogue component I/O, digital and analogue audio I/O, time code I/O, analogue composite I/O and 50-pin parallel remote interface as standard
- Frame-accurate insert/assemble editing
- Pre-read editing capability
- Digital audio jog sound
- High-speed picture search
- Variable speed playback
- Dynamic Motion Control (DMC) functionality
- Easy setup using "Memory Stick" media
- Shot mark handling
- UMID handling
- Built-in Tele-File reader/writer to read and write information onto and from a cassette with an optional Tele-File label attached
- Optional remote control panel BKDW-101
- Built-in signal generator
- Can be installed in LMS and Flexicart systems



### Supplied Accessories

PSW 4x16 rack mount screws (4)

Operation manual (1)

Installation manual (1)

### Optional Accessories

BKDW-101 Remote Control Panel

BKMW-102 Remote Control Unit

BKMW-103 Control Panel Extension Kit

BKMW-104 HD Up-converter Board (\*1)

RCC-G Cables 9-pin/9-pin Cable

RMM-131 Rack Mount Kit

MSA-A "Memory Stick" IC Memory Media

BCT-D tapes BCT-D Series Digital BETACAM

Tapes

## Specifications

### General

#### Power requirements:

AC 100 V to 240 V, 50/60 Hz

#### Power consumption:

200 W

#### Operating temperature:

+5°C to +40°C (+41°F to +104°F)

#### Storage temperature:

-20°C to +60°C (-4°F to +140°F)

#### Humidity:

20% to 90% (relative humidity)

#### Mass:

23.5 kg (52 lb 11 oz)

#### Dimensions (W x H x D):

427 x 174 x 544 mm (16 7/8x 6 7/8x 21 1/2 inches)

#### Tape speed

96.7 mm/s

#### Recording/playback time (Digital Betacam):

Max. 124 min with BCT-D124L cassette

#### Fast forward/rewind time:

Approx. 3 min with BCT-D124L cassette

#### Search speed range

±50 times normal playback speed

#### Servo lock time:

0.7 s or less (from standby on)

#### Load/unload time:

6 s or less

### Input/output signals

#### Analogue composite input:

BNC (x2, including one loop through output), 1.0 Vp-p, 75 Ω, sync negative

#### Analogue composite output:

BNC (x3, including one character out), 1.0 Vp-p, 75 Ω, sync negative

#### Analogue component input:

BNC (x3, for 1 set, Y/R-Y/B-Y): 1.0 Vp-p, 75 Ω, sync negative, R-Y/B-Y: 0.7 Vp-p, 75 Ω

#### Analogue component output:

BNC (x3, for 1 set, Y/R-Y/B-Y): 1.0 Vp-p, 75 Ω, sync negative, R-Y/B-Y: 0.7 Vp-p, 75 Ω

#### SDI input:

BNC (x2, including one active through out), SMPTE 259M (ITU-R BT.656-3), 270 Mb/s

#### SDI output:

BNC (x3, including one character out), SMPTE 259M (ITU-R BT.656-3), 270 Mb/s

#### HD-SDI output (option):

BNC (x3)

#### Analogue audio input:

XLR (x4) (4CH: channel selectable)

#### Analogue audio output:

XLR (x4) (4CH: channel selectable)

#### Cue audio input:

XLR (x1, only Digital Betacam recording)

#### Cue audio output:

XLR (x1, only Digital Betacam playback)

#### Digital audio input:

BNC (x2), 4 channels, AES/EBU, default 48 kHz (32 to 48 kHz with sample rate converter), complies with AES-3id-1995

#### Digital audio output:

BNC (x2), 4 channels, AES/EBU, 48 kHz fixed, complies with AES-3id-1995

#### Remote control

##### Remote (RS-422A):

D-sub 9-pin (x2), Sony 9-pin remote interface

##### RS-232C (ISR\*):

D-sub 9-pin (x1), RS-232C interface

##### Parallel remote:

D-sub 50-pin (x1)

##### Video control:

D-sub 15-pin (x1, for connection with BVR-50P Video Controller)

D-sub 9-pin (x1, for connection with HKDV-503/900 Video Controller)

#### Control panel:

Circular connector 10-pin

#### Time code input:

XLR (x1)

#### Time code output:

XLR (x1)

#### Memory card insertion slot:

Memory Stick slot (x1)

#### Monitor output L/R:

XLR (x2) (channel selectable)

#### Phones:

JM-60 Stereo phone jack

### Processor adjustment range

#### Video level:

±3 dB/ -∞ to 3 dB selectable

#### Chroma level:

±3 dB/ -∞ to 3 dB selectable

#### Set up/black level:

±30 IRE/±210 mV

#### Chroma phase/hue:

±30°

#### System sync phase:

±15 μs

#### System SC phase:

±200 ns

#### Composite input level:

±3 dB

### Digital video performance

#### Sampling frequency:

Y: 13.5 MHz, R-Y/B-Y: 6.75 MHz

#### Quantization:

10 bits/sample

#### Error correction:

Reed-Solomon code

#### Digital input to analogue component output:

D/A quantization: 10 bits/sample

Bandwidth: Y: 0 to 5.75 MHz +0.5/-2.0 dB,

R-Y/B-Y: 0 to 2.75 MHz +0.5/-2.0 dB

S/N ratio: 62 dB or more, K-factor (2T pulse):

1% or less

#### Analogue component input to analogue component output:

A/D and D/A quantization: 10 bits/sample

Bandwidth: Y: 0 to 5.75 MHz +0.5/-2.0 dB,

R-Y/B-Y: 0 to 2.75 MHz +0.5/-2.0 dB

S/N ratio: 56 dB or more, K-factor (2T pulse):

1% or less, LF non-linearity: 3% or less

#### Analogue composite input to analogue composite output:

A/D and D/A quantization: 10 bits/sample,

Bandwidth: 0 to 5.75 MHz +0.5/-2.0 dB

S/N ratio: 56 dB or more, Differential gain:

2% or less, Differential phase: 2° or less

Y/C delay: 20 ns or less, K-factor (2T pulse):

1% or less

### Digital audio performance

#### Sampling frequency:

48 kHz (synchronized with video)

#### Quantization:

20 bits/sample

#### Analogue input to analogue output:

Frequency response (0 dB at 1 kHz): 20 Hz to

20 kHz +0.5/-1.0 dB

Dynamic range (at 1 kHz, emphasis ON):

More than 95 dB

Distortion (at 1 kHz, emphasis ON, reference

level): Less than 0.05%

Cross talk (at 1 kHz, between any two channels):

Less than -80 dB, Wow & flutter: Below

measurable level

#### Head room:

20 dB (18 dB selectable)

#### Emphasis (ON/OFF selectable in REC mode):

T1=50 μs, T2=15 μs

\*ISR: Interactive Status Reporting

## J-30 1/2" Standard Definition Compact Player

The J-30 Compact Player is an affordable, compact office viewer for producers, journalists and production staff. The J-30 has been designed for viewing and logging of tapes and feeding material to non-linear editing systems. It has analogue composite and component video outputs, and an optional i.LINK output board can be installed for output of DV from Betacam-family tapes.

### Features

- DV-device connectivity
- Powerful playback capability (Betacam, Betacam SP, Betacam SX, MPEG IMX and Digital Betacam formats)
- Compact body design
- Replay of both small and large cassettes
- 525/625 versatility
- Analogue component output
- Supports wireless infrared remote controller
- Flexible audio outputs



### Supplied Accessories

Infrared Remote Controller (1)

### Specifications

#### General

Power requirement:

AC 100 V to 240 V, 50/60 Hz

Power consumption:

55 W

Operating temperature:

+5 °C to +40 °C (+41 °F to +104 °F)

Humidity:

25% to 80% (relative humidity)

Mass:

8.2 kg (18 lb 1 oz)

Dimension (W x H x D):

307 x 100 x 397 mm (12 1/8 x 4 x 15 3/4 inches)

Tape speed:

Digital Betacam: 96.7 mm/s

MPEG IMX: 64.467 mm/s (525 mode),

53.776 mm/s (625 mode)

Betacam SX: 59.515 mm/s (525 mode),

59.575 mm/s (625 mode)

Betacam/Betacam SP: 118.6 mm/s,

101.5 mm/s (625 mode)

Playback time:

Digital Betacam: Max. 124 min. with

BCT-D124L

MPEG IMX: Max. 184 min. (525 mode)/220

min. (625 mode) with BCT-184MXL

Betacam SX: Max. 194 min. with

BCT194SXL

Betacam/Betacam SP: Max. 90 min. (525

mode)/108 min. (625 mode) with

BCT-90MLA

Fast forward/rewind:

Digital Betacam: Approx. 5 min. with

BCT-D124L

MPEG IMX: Approx. 5 min. with

BCT-184MXL

Betacam SX: Approx. 5 min. with

BCT-184SXL

Betacam/Betacam SP: Approx. 5 min. with

BCT-90MLA

Search speed range:

Digital Betacam:  $\pm 21$  times normal playback speed

MPEG IMX:  $\pm 32$  times normal playback speed

Betacam SX:  $\pm 35$  times normal playback speed

Betacam/Betacam SP:  $\pm 18$  times (525

mode),  $\pm 20$  times (625 mode) normal

playback speed

Servo lock time:

1.5 s or less (from standby on)

Load/unload time:

7 s or less

#### Input signal

Ext. sync:

BNC (x 1), Frame lock

#### Output signal

Analogue composite:

BNC (x 1), Pin Jack (x 1), 1.0 Vp-p, 75  $\Omega$

S-video output:

Mini DIN 4-pin (x 1), Y: 1.0 Vp-p, C: 0.286

Vp-p burst, 75  $\Omega$

Analogue component output:

BNC (x 3), Y: 1.0 Vp-p, R-Y/B-Y: 0.7 Vp-p,

75  $\Omega$

i.LINK (DV) output:

6-pin (x 1), IEEE 1394

Monitor output L/R:

Pin Jack (x 2): -10 dBu at 47 k $\Omega$  load,

unbalanced, XLR (male x 2): +4 dBm, 600

$\Omega$  load, low impedance, balanced

Headphone output:

JM-60 Stereo Phone Jack,  $-\infty$  to -12 dBu at

8  $\Omega$  load, unbalanced

#### Remote Control

RS-422A:

D-sub 9-pin (female) (x 1), Sony 9-pin

remote interface

RS-232C:

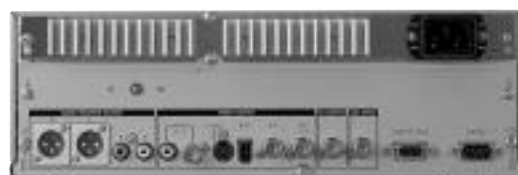
D-sub 9-pin (male) (x 1)

Wireless:

SIRCS

# J-30/SDI 1/2" Standard Definition Compact Player

The J-30/SDI Compact Player is an affordable, compact office viewer for producers, journalists and production staff. The J-30/SDI has been designed for viewing and logging of tapes and feeding material to non-linear editing systems. It has analogue composite and SDI video outputs, and an optional i.LINK output board can be installed for output of DV from Betacam-family tapes.



## Features

- DV-device connectivity
- Powerful playback capability (Betacam, Betacam SP, Betacam SX, MPEG IMX and Digital Betacam formats)
- Compact body design
- Replay of both small and large cassettes
- 525/625 versatility
- SDI outputs (x 2)
- Supports wireless infrared remote controller
- Flexible audio outputs
- UMID and Essence mark readable

## Supplied Accessories

Infrared Remote Controller (1)

## Specifications

### General

Power requirement:

AC 100 V to 240 V, 50/60 Hz

Power consumption:

55 W

Operating temperature:

+5 °C to +40 °C (+41 °F to +104 °F)

Humidity:

25% to 80% (relative humidity)

Mass:

8.2 kg (18 lb 1 oz)

Dimension (W x H x D):

307 x 100 x 397 mm (12 1/8 x 4 x 15 3/4 inches)

Tape speed:

Digital Betacam: 96.7 mm/s

MPEG IMX: 64.467 mm/s (525 mode),

53.776 mm/s (625 mode)

Betacam SX: 59.515 mm/s (525 mode),

59.575 mm/s (625 mode)

Betacam/Betacam SP: 118.6 mm/s,

101.5 mm/s (625 mode)

Playback time:

Digital Betacam: Max. 124 min. with

BCT-D124L

MPEG IMX: Max. 184 min. (525 mode)/220

min. (625 mode) with BCT-184MXL

Betacam SX: Max. 194 min. with

BCT194SXLA

Betacam/Betacam SP: Max. 90 min. (525

mode)/108 min. (625 mode) with

BCT-90MLA

Fast forward/rewind:

Digital Betacam: Approx. 5 min. with

BCT-D124L

MPEG IMX: Approx. 5 min. with

BCT-184MXL

Betacam SX: Approx. 5 min. with

BCT-184SXLA

Betacam/Betacam SP: Approx. 5 min. with

BCT-90MLA

Search speed range:

Digital Betacam:  $\pm 21$  times normal

playback speed

MPEG IMX:  $\pm 32$  times normal playback

speed

Betacam SX:  $\pm 35$  times normal playback

speed

Betacam/Betacam SP:  $\pm 18$  times (525

mode),  $\pm 20$  times (625 mode) normal

playback speed

Servo lock time:

1.5 s or less (from standby on)

Load/unload time:

7 s or less

### Input signal

Ext. sync:

BNC (x 1), Frame lock

### Output signal

Analogue composite:

BNC (x 1), Pin Jack (x 1), 1.0 Vp-p, 75  $\Omega$

S-video output:

Mini DIN 4-pin (x 1), Y: 1.0 Vp-p, C: 0.286

Vp-p burst, 75  $\Omega$

SDI output:

BNC (x 2), SMPTE 259M, 270 Mb/s, 0.8

Vp-p, 75  $\Omega$

i.LINK (DV) output:

6-pin (x 1), IEEE 1394

Time Code output:

BNC (x 1), 1.0 Vp-p, 75  $\Omega$ , unbalanced

Monitor output L/R:

Pin Jack (x 2): -10 dBu at 47 k $\Omega$  load,

unbalanced, XLR (male x 2): +4 dBm, 600

$\Omega$  load, low impedance, balanced

Headphone output:

JM-60 Stereo Phone Jack,  $-\infty$  to -12 dBu at

8  $\Omega$  load, unbalanced

### Remote Control

RS-422A:

D-sub 9-pin (female) (x 1), Sony 9-pin

remote interface

RS-232C:

D-sub 9-pin (male) (x 1)

Wireless:

SIRCS

**SONY**

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# MSW-970P MPEG IMX Camcorder

## Features

- High Picture Quality using MPEG-2 4:2:2P@ML 50 Mb/s I-frame Compression
- Power HAD EX CCD
- Advanced Digital Signal Processing (ADSP)
- 14-bit A/D Conversion
- Long Recording Time of up to 71 minutes on s-cassette
- High-quality Digital Audio Recordings
- User-friendly Menu Controls
- Rugged and Ergonomic Design
- Compact, Lightweight and Low Power Consumption
- Versatile Interfaces
- Camera Remote Control
- Dual Optical Filters Plus Electric Colour Correction
- Assignable Functions
- Battery Remaining Display on Viewfinder
- Intelligent Light System
- Slot-in Mechanism for Wireless Microphone Receiver
- Turbo Gain
- Memory Stick System for storage of Camcorder Setup Parameters
- Adjustable Shoulder Pad
- Film-like Images with Progressive Mode
- Slow Shutter function
- Picture Cache Recording
- Interval Recording
- TruEye Processor
- Adaptive Highlight Control
- Selectable Gamma Table Including Film-like Gamma
- Triple Skin Tone Detail Control
- Variable Black Gamma Range
- Auto Tracing White Balance (ATW)
- Multi-matrix Function
- Electronic Soft Focus
- Colour Temperature Control
- UMID<sup>1</sup> Recording
- Essence Mark Handling
- Tele-File System



<sup>1</sup> UMID is recognized as a standard under SMPTE 330M.

## Supplied Accessories

- Operation manual (1)
- XLR connector cap (4)
- Viewfinder (1)
- Lens cap (1)
- Shoulder belt (1)
- Monaural microphone (1)

## Optional Accessories

- CBK-SD01 SDI Output Board
- MSDW-903 Picture Cache Board
- MSDW-904 Analogue Composite Input Board
- BKW-401 Viewfinder Rotation Bracket
- RM-B150 Remote Control Unit
- RM-B750 Remote Control Unit
- AC-DN2B AC Adaptor
- AC-DN10 AC Adaptor/Charger
- BP-GL65 Rechargeable Lithium-ion Battery Pack
- BP-GL95 Rechargeable Lithium-ion Battery Pack
- BP-L60S Rechargeable Lithium-ion Battery Pack
- BP-L80S Rechargeable Lithium-ion Battery Pack
- BC-L500 Li-ion Battery Charger
- BC-L70 Li-ion Battery Charger
- BC-M150 Ni-MH & Li-ion Battery Charger
- MSH "Memory Stick" IC Memory Media
- BCT-MX Series MPEG IMX Tapes
- VCT-14 Tripod Adaptor
- WRR-855B UHF Synthesized Diversity Tuner
- WRR-862B UHF Synthesized Dual Diversity Tuner
- ECM-674 Electret Condenser Microphone
- ECM-678 Electret Condenser Microphone
- WLL-RX55 Wireless Camera Receiver
- WLL-CA50 Wireless Camera Transmitter (CER)
- LC-DN7 Hard Carrying Case



## Specifications

### General

#### Mass

Approx. 3.7 kg (8 lb 3 oz)  
5.4 kg (with VF, Mic, BCT-60MX, BP-GL95)  
(11 lb 14 oz)

#### Power requirements

DC 12 V +5.0 V/-1.0 V

#### Power consumption

Approx. 27 W (with DC 12V power supply,  
REC mode with VF)

#### Operating temperature

0 to 40 °C (+32 °F to +104 °F)

#### Storage temperature

-20 to +60 °C (-4 °F to +140 °F)

#### Humidity

25 to 85% (relative humidity)

#### Continuous operating time

Approx. 180 min with BP-GL95 battery at 25 °C  
(77 °F), REC mode

### Signal inputs

#### Genlock video

BNC type x1, 1.0 Vp-p, 75 Ω

#### Time code input

BNC type x1, 0.5 to 18 Vp-p, 10 kΩ

#### Video outputs

##### SDI

BNC type x1, 0.8 Vp-p, 75 Ω  
(with the CBK-SD01)

#### Audio input (CH-1/2)

XLR-3-31 type x2, -60/-50/+4 dBu selectable,  
high impedance, balanced  
(0 dBu = 0.775 Vrms.)

#### Mic input

XLR-3-31 type x1, -60/-50 dBu

### Signal outputs

#### Video output (Analogue composite)

BNC type x1, 1.0 Vp-p, 75 Ω

#### Video test output

BNC type x1, 1.0 Vp-p, 75 Ω

#### Time code output

BNC type x1, 1.0 Vp-p, 75 Ω

#### Earphone

Minijack x2

#### Audio output (CH-1/CH-2)

XLR-5-pin male (stereo)

### Others

#### Lens

12-pin

#### VF

20-pin

#### Remote

8-pin

#### Light

2-pin, DC 12 V, max. 50 W

#### DC input

XLR-4-pin (male, DC 11 to 17V)

#### DC output

4-pin (for wireless microphone receiver),  
DC 12 V (max. 0.1 A)

#### Battery terminal

5-pin

#### Wireless receiver input

D-Sub 15-pin

### VTR section

#### Recording Format

##### Video

MPEG IMX (50/40/30 Mb/s)

##### Audio

4 ch/16 bits/48 kHz, 4 ch/20 bits/48 kHz

#### Tape speed

64.467 mm/s

#### Playback/Recording time

Max. 71 min. with BCT-60MX cassette

#### Fast forward time

Approx. 5 min. with BCT-60MX

#### Rewind time

Approx. 5 min. with BCT-60MX

#### Recommended tape

Sony MPEG IMX S cassette  
(BCT6MX/12MX/22MX/32MX/60MX)

### Digital video performance

#### Sampling frequency:

Y: 13.5 MHz, R-Y/B-Y: 6.75 MHz

#### Quantization:

8 bits/sample

#### K-factor (2T pulse)

Less than 1%

#### Y/R-Y/B-Y delay

Less than 15 ns

### Digital audio performance\*

#### Sampling frequency:

48 kHz (synchronised with video)

#### Quantization:

20/16bits/ sample (selectable)

#### Frequency response:

20 Hz to 20 kHz, +0.5 dB/-1.0 dB

#### Dynamic range:

More than 85 dB (emphasis ON)

#### Distortion (at 1 kHz, emphasis ON, reference level)

Less than 0.08%

#### Cross talk (at 1 kHz, reference level)

Less than -70 dB

#### Wow & flutter

Below measurable limit

#### Head room:

20 dB (ex-factory setting)

### Camera section

#### Pickup device:

3-chip 2/3-inch type Power HAD EX CCD

#### Aspect ratio

16:9/4:3 switchable

#### Total picture elements

1038 (H) x 1188 (V)

#### Optical system

F1.4 prism (with quartz filter)

#### Built-in optical filters

1: Clear, 2: 1/4ND, 3: 1/16ND, 4: 1/64ND,  
A: CROSS, B: 3200K, C: 4300K, D: 6300K

#### Lens mount

2/3 inche type Sony bayonet mount

#### Scan format

625/50i, 625/25p

#### Sensitivity (2000 lx, 89.9% reflectance)

F11 (typical) (2000 lx, 89.9% reflectance)

#### Minimum illumination

0.008 lx (F1.4 lens, +48 dB gain, with slow  
shutter mode at 16-frame accumulation)

#### Smear level

-145 dB (typical)

#### Video S/N ratio

63 dB (typical)

#### Vertical resolution

480 TV lines (with EVS) and 530 TV lines  
(without EVS) at 625/50i mode  
575 TV lines at 625/25p mode

#### Shutter speed

1/60, 1/125, 1/250, 1/500, 1/1000, 1/2000 s at  
625/50i mode 1/33, 1/50, 1/100, 1/125, 1/250,  
1/500, 1/1000, 1/2000 s at 625/25p mode

#### ECS

50 to 6000 Hz at 625/50i mode, 25 to 6000 Hz  
at 625/25p mode

#### Slow shutter

1/25, 1/12.5, 1/8.3, 1/6.3, 1/5, 1/4.2, 1/3.6, 1/3.1,  
1/1.6 s (1 to 8, 16 frames)

#### Gain selection

-3, 0, 3, 6, 9, 12, 18, 24, 30, 36, 42, 48 dB  
(for GAIN LOW, GAIN MID, GAIN HIGH and  
GAIN TURBO positions)

#### Registration

0.05% (all zones without lens)

#### Warm-up time

2 s

#### Modulation depth at 5MHz

70% (16:9, typical) /55% (4:3, typical)

### Viewfinder

#### CRT

2.0-inch type monochrome

#### Controls

BRIGHT, CONTRAST, PEAKING controls, TALLY,  
ZEBRA, DISPLAY switches

#### Horizontal resolution

450 TV lines (16:9)

#### Microphone

Electret condenser microphone  
(Ultra-directional) (Detachable)

\* The specifications given for digial audio performance  
were measured via CA-701/702 Camcorder Adaptor or  
MSDW-902 SDI output board.

# MSW-M2000P/1 MPEG IMX Recorder

## Features

- Superb picture quality and high sound quality of MPEG IMX format
- 8-bit 4:2:2 component digital recording
- MPEG-2 4:2:2P@ML data compression at 50 Mb/s
- SDTI-CP<sup>(1)</sup> output allows interface with SDTI-CP equipped devices such as servers, non-linear editors
- Data transfer at up to twice normal speed as standard
- Legacy playback of MPEG IMX, Digital Betacam, Betacam SX, Betacam SP and Betacam formats
- IP-network interface to allow audio and video materials to be sent and received across a standard network (option: \*2)
- HD upconversion output capability (1080/59.94i, 1080/50i and 720/59.94p)(option: \*3)
- Frame-accurate insert/assemble editing
- Pre-read editing capability
- Eight channels of 16-bit digital audio or four channels of 24-bit digital audio
- 525/625 switchable operation
- Variable speed control
- High speed colour picture search
- Dynamic Motion Control (DMC)
- Long recording and playback time of up to 184 minutes on L-cassette, 60 minutes on S-cassette
- Compact 4U-height design
- Versatile interfaces; analogue composite I/O, analogue component I/O, SDI I/O, SDTI-CP I/O, analogue audio (4-ch), AES/EBU digital audio (16 bit-8ch/24 bit-4ch), and audio monitor (2-ch)
- Easy setup using "Memory Stick" media
- Shot mark handling
- UMID handling
- Built-in Tele-File reader/writer module to read and write information onto and from a cassette with an optional Tele-File label attached
- Automatic scene change detect function
- Optional remote control panel BKMW-101

(1) Serial Data Transport Interface-Content Packages (\*2) Requires optional BKMW-E3000 Network Interface Board (\*3) Requires optional BKMW-104 HD Upconverter Board.

## Supplied Accessories

- PSW 4x16 rack mount screws (4)
- Operation manual (1)
- Installation manual (1)

## Optional Accessories

- BKMW-101 Remote Control Panel
- BKMW-102 Remote Control Unit
- BKMW-103 Control Panel Extension Kit
- BKMW-104 HD Up-converter Board
- BKMW-E3000 Network Interface Board (option for e-VTR)
- RCC-G Cables 9-pin/9-pin Cable
- RMM-131 Rack Mount Kit
- MLB-1M-100 Tele-File Memory Label
- BCT-MX tapes BCT-MX Series MPEG IMX Tapes
- MSA-A "Memory Stick" IC Memory Media



The MSW-M2000P/1 can be ordered with the BKMW-E3000 Network Interface Board installed. The model name is MSW-M2000P/E.

## Specifications

### General

Power requirements:

AC 100 to 240 V, 50/60 Hz

Power consumption:

2A (200 W) / AC 240 V

Operating temperature:

+5 to +40 °C (+41 to +104 ° F)

Storage temperature:

-20 to +60 °C (-4 to +140 ° F)

Humidity:

20 to 90% (relative humidity)

Mass:

23.0 kg (50 lb 11 oz)

Dimensions:

427 (W) x 174 (H) x 544 (D) mm  
(16 7/8 x 6 7/8 x 21 1/2 inches)

Tape speed

MPEG IMX:

64.467 (525)/53.776 (625) mm/s

Digital Betacam:

96.7 mm/s

Betacam SX:

59.515 (525)/59.575 (625) mm/s

Betacam/Betacam SP:

118.6 (525)/101.51 (625) mm/s

Recording/playback time:

Max. 184 (525)/220 (625) min with  
BCT-184MXL cassette

Fast forward/rewind time:

Approx. 3.5 min with BCT-184MXL cassette

Search speed range

MPEG IMX:

±78 times normal playback speed

Digital Betacam:

±50 times normal playback speed

Betacam SX:

±78 times normal playback speed

Betacam/Betacam SP:

±35 (525)/±42 (625) times normal  
playback speed

Servo lock time:

0.5 (525)/0.7 (625) s or less (from standby  
on)

Load/unload time:

6 s or less

### Input/output signals

Analogue composite input:

BNC (2, including one loop through  
output), 1.0 Vp-p, 75 Ω, sync negative

Analogue composite output:

BNC (3, including one character out),  
1.0 Vp-p, 75 Ω, sync negative

Analogue component input:

BNC (x 3, for 1 set, Y/R-Y/B-Y), Y: 1.0 Vp-p,  
75 Ω, sync negative, R-Y/B-Y: 0.7 Vp-p,  
75 Ω

Analogue component output:

BNC (3, for 1 set, Y/R-Y/B-Y), Y: 1.0 Vp-p,  
75 Ω, sync negative, R-Y/B-Y: 0.7 Vp-p,  
75 Ω

SDI input:

BNC (2, including one active through out),  
SMPTE 259M (ITU-R BT.656-3), 270 Mb/s

SDI output:

BNC (3, including one character out),  
SMPTE 259M (ITU-R BT.656-3), 270 Mb/s

SDTI-CP input:

BNC (1), SMPTE 326M (SDTI-CP)

SDTI-CP output:

BNC (2), SMPTE 326M (SDTI-CP)

HD-SDI output (requires optional BKMW-104  
board):

BNC (3)

Analogue audio input:

XLR (4) (4CH: channel selectable)

Analogue audio output:

XLR (4) (4CH: channel selectable)

Cue audio output (only Digital Betacam  
playback):

XLR (1)

Digital audio input (CH 1/2, 3/4, 5/6, 7/8),

AES/EBU:

BNC (4), default 48 kHz (32 to 48 kHz with  
sample rate converter), complies with  
AES-3id-1995

Digital audio output (CH 1/2, 3/4, 5/6, 7/8),

AES/EBU:

BNC (4), 48 kHz fixed, Complies with  
AES-3id-1995

Remote control

Remote (RS-422A):

D-sub 9-pin (2), Sony 9-pin remote  
interface

RS-232C (ISR)\*:

D-sub 9-pin (1), RS-232C interface

Parallel remote:

D-sub 50-pin (1)

Video control (1):

D-sub 15-pin (1)

Control panel:

Circular connector 10-pin

Time code input:

XLR (1)

Time code output:

XLR (1)

Ethernet I/F (requires optional BKMW-E3000  
board):

RJ-45 connector (1),

1000Base-T/100Base-TX/10Base-T

Memory card insertion slot:

Memory Stick (1), PCMCIA (1)

Monitor output L/R:

XLR (2) (channel selectable)

Phones:

JM-60 Stereo phone jack

### Processor adjustment range

Video level:

±3 dB/∞ to 3 dB selectable

Chroma level:

±3 dB/∞ to 3 dB selectable

Set up/black level:

±30 IRE/±210 mV

Chroma phase/hue:

±30°

System sync phase:

±15 μs

System SC phase:

±200 ns

Y/C delay:

±100 ns (Betacam/Betacam SP  
playback only)

Composite input level:

±3 dB

### Digital video performance

Sampling frequency:

Y: 13.5 MHz, R-Y/B-Y: 6.75 MHz

Quantization:

MPEG IMX/Betacam SX: 8 bits/sample

Error correction:

Reed-Solomon code

Digital input to analogue component output:

D/A quantization: 10 bits/sample

Bandwidth: 0 to 5.75 MHz ±0.5 dB

S/N ratio: 56 dB or more K-factor

(2T pulse): 1% or less

Analogue component input to analogue  
component output (MPEG IMX  
record/playback):

A/D and D/A quantization: 10 bits/sample  
Bandwidth: Y: 0 to 5.75 MHz +0.5/-2.0 dB,  
R-Y/B-Y: 0 to 2.75 MHz +0.5/-2.0 dB  
S/N ratio: 56 dB or more K-factor (2T  
pulse): 1% or less LF non-linearity: 3.0% or  
less

Analogue composite input to analogue  
composite output (MPEG IMX  
record/playback):

A/D and D/A quantization: 10 bits/sample  
Bandwidth: 0 to 5.75 MHz +0.5/-2.0 dB  
S/N ratio: 53 dB or more Differential gain:  
2% or less Differential phase: 2° or less  
Y/C delay: 20 ns or less K-factor (2T  
pulse): 1% or less

### Digital audio performance

Sampling frequency:

48 kHz (synchronized with video)

Quantization:

MPEG IMX: 16 or 24 bits/sample  
(selectable)

Betacam SX: 16 bits/sample

Analogue input to analogue output  
(MPEG IMX record/playback):

A/D and D/A quantization: 24 bits/sample  
Frequency response (0 dB at 1kHz): 20 Hz  
to 20 kHz +0.5/-1.0 dB

Dynamic range (at 1 kHz, emphasis ON):  
More than 90 dB (16 bits mode), More than  
95 dB (24bits mode)

Distortion (at 1 kHz, emphasis ON,  
reference level): Less than 0.05%

Cross talk (at 1 kHz, between any two  
channels): Less than -80 dB

Wow and flutter: Below measurable level

Head room:

20 dB (18 dB selectable)

Emphasis (ON/OFF selectable in REC mode):

T1=50 μs, T2=15 μs

\*ISR: Interactive Status Reporting

# MSW-A2000P/1 MPEG IMX Recorder

## Features

- Superb picture quality and high sound quality of MPEG IMX format
- 8-bit 4:2:2 component digital recording
- MPEG-2 4:2:2P@ML data compression at 50 Mb/s
- SDTI-CP(\*1) output allows interface with SDTI-CP equipped devices such as servers, non-linear editors
- Data transfer at up to twice normal speed as standard
- Legacy playback capability of MPEG IMX, Betacam SX, Betacam SP and Betacam formats
- IP-network interface to allow audio and video materials to be sent and received across a standard network (option: \*2)
- HD upconversion output capability (1080/59.94i, 1080/50i and 720/59.94p) (option: \*3)
- Frame-accurate insert/assemble editing
- Pre-read editing capability
- Eight channels of 16-bit digital audio or four channels of 24-bit digital audio
- 525/625 switchable operation
- Variable speed control
- High speed colour picture search
- Dynamic Motion Control (DMC)
- Long recording and playback time of up to 184 minutes on L-cassette, 60 minutes on S-cassette
- Compact 4U-height design
- Versatile interfaces; analogue composite I/O, analogue component I/O, SDI I/O, SDTI-CP I/O, analogue audio (4-ch), AES/EBU digital audio (16 bit-8ch/24 bit-4ch), and audio monitor (2-ch)
- Easy setup using "Memory Stick" media
- Shot mark handling
- UMID handling
- Built-in Tele-File reader/writer module to read and write information onto and from a cassette with an optional Tele-File label attached
- Automatic scene change detect function
- Optional remote control panel BKMW-101

(\*1) Serial Data Transport Interface-Content Packages (\*2) Requires optional BKMW-E3000 Network Interface Board (\*3) Requires optional BKMW-104 HD Upconverter Board.

## Supplied Accessories

PSW 4x16 rack mount screws (4)  
 Operation manual (1)  
 Installation manual (1)

## Optional Accessories

BKMW-101 Remote Control Panel  
 BKMW-102 Remote Control Unit  
 BKMW-103 Control Panel Extension Kit  
 BKMW-104 HD Up-converter Board  
 BKMW-E3000 Network Interface Board  
 (option for e-VTR)  
 RCC-G Cables 9-pin/9-pin Cable  
 RMM-131 Rack Mount Kit  
 MLB-1M-100 Tele-File Memory Label  
 BCT-MX tapes BCT-MX Series MPEG IMX  
 Tapes  
 MSA-A "Memory Stick" IC Memory Media



## Specifications

### General

#### Power requirements:

AC 100 to 240 V, 50/60 Hz

#### Power consumption:

2A (200 W) / AC 240 V

#### Operating temperature:

+5 to +40 °C (+41 to +104 ° F)

#### Storage temperature:

-20 to +60 °C (-4 to +140 ° F)

#### Humidity:

20 to 90% (relative humidity)

#### Mass:

23.0 kg (50 lb 11 oz)

#### Dimensions:

427 (W) x 174 (H) x 544 (D) mm  
(16 7/8 x 6 7/8 x 21 1/2 inches)

#### Tape speed

##### MPEG IMX:

64.467 (525)/53.776 (625) mm/s

##### Betacam SX:

59.515 (525)/59.575 (625) mm/s

##### Betacam/Betacam SP:

118.6 (525)/101.51 (625) mm/s

#### Recording/playback time:

Max. 184 (525)/220 (625) min with  
BCT-184MXL cassette

#### Fast forward/rewind time:

Approx. 3.5 min with BCT-184MXL cassette

#### Search speed range

##### MPEG IMX:

±78 times normal playback speed

##### Betacam SX:

±78 times normal playback speed

##### Betacam/Betacam SP:

±35 (525)/±42 (625) times normal  
playback speed

#### Servo lock time:

0.5 (525)/0.7 (625) s or less  
(from standby on)

#### Load/unload time:

6 s or less

### Input/output signals

#### Analogue composite input:

BNC (2, including one loop through  
output), 1.0 Vp-p, 75 Ω, sync negative

#### Analogue composite output:

BNC (3, including one character out),  
1.0 Vp-p, 75 Ω, sync negative

#### Analogue component input:

BNC (3, for 1 set, Y/R-Y/B-Y), Y: 1.0 Vp-p,  
75 Ω, sync negative, R-Y/B-Y: 0.7 Vp-p,  
75 Ω

#### Analogue component output:

BNC (3, for 1 set, Y/R-Y/B-Y), Y: 1.0 Vp-p,  
75 Ω, sync negative, R-Y/B-Y: 0.7 Vp-p,  
75 Ω

#### SDI input:

BNC (2, including one active through out),  
SMPTE 259M (ITU-R BT.656-3), 270 Mb/s

#### SDI output:

BNC (3, including one character out),  
SMPTE 259M (ITU-R BT.656-3), 270 Mb/s

#### SDTI-CP input:

BNC (1), SMPTE 326M (SDTI-CP)

#### SDTI-CP output:

BNC (2), SMPTE 326M (SDTI-CP)

#### HD-SDI output (requires optional BKMW-104 board):

BNC (3)

#### Analogue audio input:

XLR (4) (4CH: channel selectable)

#### Analogue audio output:

XLR (4) (4CH: channel selectable)

#### Digital audio input (CH 1/2, 3/4, 5/6, 7/8), AES/EBU:

BNC (4), default 48 kHz (32 to 48 kHz with  
sample rate converter), complies with  
AES-3id-1995

#### Digital audio output (CH 1/2, 3/4, 5/6, 7/8), AES/EBU:

BNC (4), 48 kHz fixed, Complies with  
AES-3id-1995

#### Remote control

##### Remote (RS-422A):

D-sub 9-pin (2), Sony 9-pin remote  
interface

##### RS-232C (ISR\*):

D-sub 9-pin (1), RS-232C interface

##### Parallel remote:

D-sub 50-pin (1)

##### Video control (1):

D-sub 15-pin (1)

##### Control panel:

Circular connector 10-pin

#### Time code input:

XLR (1)

#### Time code output:

XLR (1)

#### Ethernet I/F (requires optional BKMW-E3000 board):

RJ-45 (1),

1000Base-T/100Base-TX/10Base-T

#### Memory card insertion slot:

Memory Stick (1), PCMCIA (1)

#### Monitor output L/R:

XLR (2) (channel selectable)

#### Phones:

JM-60 Stereo phone jack

### Processor adjustment range

#### Video level:

±3 dB/-∞ to 3 dB selectable

#### Chroma level:

±3 dB/-∞ to 3 dB selectable

#### Set up/black level:

±30 IRE/±210 mV

#### Chroma phase/hue:

±30°

#### System sync phase:

±15 μs

#### System SC phase:

±200 ns

#### Y/C delay:

±100 ns (Betacam/Betacam SP playback  
only)

#### Composite input level:

±3 dB

### Digital video performance

#### Sampling frequency:

Y: 13.5 MHz, R-Y/B-Y: 6.75 MHz

#### Quantization:

MPEG IMX/Betacam SX: 8 bits/sample

#### Error correction:

Reed-Solomon code

#### Digital input to analogue component output:

D/A quantization: 10 bits/sample

Bandwidth: 0 to 5.75 MHz ±0.5 dB

S/N ratio: 56 dB or more K-factor (2T  
pulse): 1% or less

#### Analogue component input to analogue

#### component output (MPEG IMX

#### record/playback):

A/D and D/A quantization: 10 bits/sample

Bandwidth: Y: 0 to 5.75 MHz +0.5/-2.0 dB,

R-Y/B-Y: 0 to 2.75 MHz +0.5/-2.0 dB

S/N ratio: 56 dB or more K-factor (2T  
pulse): 1% or less LF non-linearity: 3.0%  
or less

#### Analogue composite input to analogue composite output (MPEG IMX record/playback):

A/D and D/A quantization: 10 bits/sample

Bandwidth: 0 to 5.75 MHz +0.5/-2.0 dB

S/N ratio: 53 dB or more Differential gain:

2% or less Differential phase: 2° or less

Y/C delay: 20 ns or less K-factor (2T

pulse): 1% or less

### Digital audio performance

#### Sampling frequency:

48 kHz (synchronized with video)

#### Quantization:

MPEG IMX: 16 or 24 bits/sample  
(selectable)

Betacam SX: 16 bits/sample

#### Analogue input to analogue output (MPEG

#### IMX record/playback):

A/D and D/A quantization: 24 bits/sample

Frequency response (0 dB at 1kHz): 20 Hz  
to 20 kHz +0.5/-1.0 dB

Dynamic range (at 1 kHz, emphasis ON):

More than 90 dB (16 bits mode), More than  
95 dB (24bits mode)

Distortion (at 1 kHz, emphasis ON,

reference level): Less than 0.05%

Cross talk (at 1 kHz, between any two  
channels): Less than -80 dB

Wow and flutter: Below measurable level

#### Head room:

20 dB (18 dB selectable)

#### Emphasis (ON/OFF selectable in REC mode):

T1=50 μs, T2=15 μs

\*ISR: Interactive Status Reporting

# MSW-2000 MPEG IMX Recorder

## Features

- Superb picture quality and high sound quality of MPEG IMX format
- 8-bit 4:2:2 component digital recording
- MPEG-2 4:2:2P@ML compression at 50 Mb/s
- SDTI-CP (Serial Data Transport Interface-Content Packages) output allows interface with other SDTI-CP equipped devices such as servers, non-linear editors
- Data transfer at up to twice normal speed (option: \*1)
- Legacy playback of MPEG IMX and Betacam SX formats
- IP-network interface to allow audio and video materials to be sent and received across a standard network (option: \*2)
- HD upconversion output capability (1080/59.94i, 1080/50i and 720/59.94p)(option: \*3)
- Frame-accurate insert/assemble editing
- Pre-read editing capability
- Eight channels of 16-bit digital audio or four channels of 24-bit digital audio
- 525/625 switchable operation
- Variable speed control
- High speed colour picture search
- Dynamic Motion Control (DMC)
- Long recording and playback time of up to 184 minutes on L-cassette, 60 minutes on S-cassette
- Compact 4U-height design
- Versatile interfaces; analogue composite I/O, analogue component I/O, SDI I/O, SDTI-CP I/O, analog audio (4-ch), AES/EBU digital audio (16 bit-8ch/24 bit-4ch), and audio monitor (2-ch)
- UMID handling
- Shot mark handling
- Built-in Tele-File reader/writer module to read and write information onto and from a cassette with an optional Tele-File label attached
- Optional remote control panel BKMW-101

(\*1) requires a DPR-208 board (service part) (\*2) requires optional BKMW-E3000 Network Interface Board (\*3) requires optional BKMW-104 HD Upconverter Board.

## Supplied Accessories

PSW 4x16 rack mount screws (4)  
 Operation manual (1)  
 Installation manual (1)

## Optional Accessories

BKMW-101 Remote Control Panel  
 BKMW-102 Remote Control Unit  
 BKMW-103 Control Panel Extension Kit  
 BKMW-104 HD Up-converter Board  
 BKMW-E3000 Network Interface Board  
 (option for e-VTR)  
 RCC-G Cables 9-pin/9-pin Cable  
 RMM-131 Rack Mount Kit  
 MLB-1M-100 Tele-File Memory Label  
 BCT-MX tapes BCT-MX Series MPEG IMX Tapes



## Specifications

### General

#### Power requirements:

AC 100 to 240 V, 50/60 Hz

#### Power consumption:

2A (200 W) / AC 240 V

#### Operating temperature:

+5 to +40 °C (+41 to +104 ° F)

#### Storage temperature:

-20 to +60 °C (-4 to +140 ° F)

#### Humidity:

20 to 90% (relative humidity)

#### Mass:

23.0 kg (50 lb 11 oz)

#### Dimensions:

427 (W) x 174 (H) x 544 (D) mm  
(16 7/8 x 6 7/8 x 21 1/2 inches)

#### Tape speed

##### MPEG IMX:

64.467 (525)/53.776 (625) mm/s

##### Betacam SX:

59.515 (525)/59.575 (625) mm/s

#### Recording/playback time:

Max. 184 (525)/220 (625) min with

BCT-184MXL cassette

#### Fast forward/rewind time:

Approx. 3.5 min with BCT-184MXL cassette

#### Search speed range

##### MPEG IMX:

±78 times normal playback speed

##### Betacam SX:

±78 times normal playback speed

#### Servo lock time:

0.5 (525)/0.7 (625) s or less (from standby on)

#### Load/unload time:

6 s or less

### Input/output signals

#### Analogue composite input:

BNC (2, including one loop through output), 1.0 Vp-p, 75 Ω, sync negative

#### Analogue composite output:

BNC (3, including one character out), 1.0 Vp-p, 75 Ω, sync negative

#### Analogue component input:

BNC (x 3, for 1 set, Y/R-Y/B-Y), Y: 1.0 Vp-p, 75 Ω, sync negative, R-Y/B-Y: 0.7 Vp-p, 75 Ω

#### Analogue component output:

BNC (3, for 1 set, Y/R-Y/B-Y), Y: 1.0 Vp-p, 75 Ω, sync negative, R-Y/B-Y: 0.7 Vp-p, 75 Ω

#### SDI input:

BNC (2, including one active through out), SMPTE 259M (ITU-R BT.656-3), 270 Mb/s

#### SDI output:

BNC (3, including one character out), SMPTE 259M (ITU-R BT.656-3), 270 Mb/s

#### SDTI-CP input:

BNC (1), SMPTE 326M (SDTI-CP)

#### SDTI-CP output:

BNC (2), SMPTE 326M (SDTI-CP)

#### HD-SDI output (requires optional BKMW-104 board):

BNC (x3)

#### Analogue audio input:

XLR (4) (4CH: channel selectable)

#### Analogue audio output:

XLR (4) (4CH: channel selectable)

#### Digital audio input (CH 1/2, 3/4, 5/6, 7/8), AES/EBU:

BNC (4), default 48 kHz (32 to 48 kHz with sample rate converter), complies with AES-3id-1995

#### Digital audio output (CH 1/2, 3/4, 5/6, 7/8), AES/EBU:

BNC (4), 48 kHz fixed, Complies with AES-3id-1995

#### Remote control

Remote (RS-422A):

D-sub 9-pin (2), Sony 9-pin remote interface

RS-232C (ISR\*):

D-sub 9-pin (1), RS-232C interface

Parallel remote:

D-sub 50-pin (1)

Video control (1):

D-sub 15-pin (1)

Control panel:

Circular connector 10-pin

#### Time code input:

XLR (1)

#### Time code output:

XLR (1)

#### Ethernet I/F (requires optional BKMW-E3000 board):

RJ-45 (1),

1000Base-T/100Base-TX/10Base-T

#### Memory card insertion slot:

Memory Stick (1), PCMCIA (1)

#### Monitor output L/R:

XLR (2) (channel selectable)

#### Phones:

JM-60 Stereo phone jack

### Processor adjustment range

#### Video level:

±3 dB/∞ to 3 dB selectable

#### Chroma level:

±3 dB/∞ to 3 dB selectable

#### Set up/black level:

±30 IRE/±210 mV

#### Chroma phase/hue:

±30°

#### System sync phase:

±15 μs

#### System SC phase:

±200 ns

#### Composite input level:

±3 dB

### Digital video performance

#### Sampling frequency:

Y: 13.5 MHz, R-Y/B-Y: 6.75 MHz

#### Quantization:

MPEG IMX/Betacam SX: 8 bits/sample

#### Error correction:

Reed-Solomon code

#### Digital input to analogue component output:

D/A quantization: 10 bits/sample

Bandwidth: 0 to 5.75 MHz ±0.5 dB

S/N ratio: 56 dB or more K-factor (2T pulse): 1% or less

#### Analogue component input to analogue component output (MPEG IMX record/playback):

A/D and D/A quantization: 10 bits/sample  
Bandwidth: Y: 0 to 5.75 MHz +0.5/-2.0 dB,  
R-Y/B-Y: 0 to 2.75 MHz +0.5/-2.0 dB

S/N ratio: 56 dB or more K-factor  
(2T pulse): 1% or less LF non-linearity:

3.0% or less

#### Analogue composite input to analogue composite output (MPEG IMX record/playback):

A/D and D/A quantization: 10 bits/sample

Bandwidth: 0 to 5.75 MHz +0.5/-2.0 dB

S/N ratio: 53 dB or more Differential gain:

2% or less Differential phase: 2° or less

Y/C delay: 20 ns or less K-factor (2T pulse): 1% or less

### Digital audio performance

#### Sampling frequency:

48 kHz (synchronized with video)

#### Quantization:

MPEG IMX: 16 or 24 bits/sample

(selectable)

Betacam SX: 16 bits/sample

#### Analogue input to analogue output (MPEG IMX record/playback):

A/D and D/A quantization: 24 bits/sample

Frequency response (0 dB at 1kHz): 20 Hz to 20 kHz +0.5/-1.0 dB

Dynamic range (at 1 kHz, emphasis ON):

More than 90 dB (16 bits mode), More than 95 dB (24bits mode)

Distortion (at 1 kHz, emphasis ON, reference level): Less than 0.05%

Cross talk (at 1 kHz, between any two channels): Less than -80 dB

Wow and flutter: Below measurable level

#### Head room:

20 dB (18 dB selectable)

#### Emphasis (ON/OFF selectable in REC mode):

T1=50 μs, T2=15 μs

\*ISR: Interactive Status Reporting

# MSW-M2100P/1 MPEG IMX Player

## Features

- Superb picture quality and high sound quality of MPEG IMX format
- Legacy playback capability; MPEG IMX, Digital Betacam, Betacam SX, Betacam SP and Betacam formats
- SDTI-CP(\*1) output to allow interface with SDTI-CP equipped devices such as servers, non-linear editors
- Data transfer at up to twice normal speed as standard
- IP-network interface to allow audio and video materials to be sent across a standard network (option: \*2)
- HD upconversion output capability (1080/59.94i, 1080/50i and 720/59.94p)(option: \*3)
- Versatile interfaces; analogue composite output, analog component output, SDI output, SDTI-CP output, analog audio (4-ch), AES/EBU digital audio (16 bit-8ch/24 bit-4ch), audio monitor (2-ch), RS-422A (Sony 9-pin), RS-232C, and parallel 50-pin
- Eight channels of 16-bit digital audio or four channels of 24-bit digital audio
- 525/625 switchable operation
- Variable speed control
- High speed picture search
- Dynamic Motion Control (DMC)
- Long playback time of up to 184 minutes on L-cassette, 60 minutes on S-cassette
- Compact 4U-height design
- Easy setup using "Memory Stick" media
- Shot Mark handling
- Built-in Tele-File reader/writer to read and write information onto and from a cassette with an optional Tele-File label attached
- Automatic scene change detect function
- Optional remote panel BKMW-101

(\*1) Serial Data Transport Interface-Content Packages (\*2) Requires optional BKMW-E3000 Network Interface Board (\*3) Requires optional BKMW-104 HD Upconverter Board.

## Supplied Accessories

- PSW 4x16 rack mount screws (4)
- Operation manual (1)
- Installation manual (1)

## Optional Accessories

- BKMW-101 Remote Control Panel
- BKMW-102 Remote Control Unit
- BKMW-103 Control Panel Extension Kit
- BKMW-104 HD Up-converter Board
- BKMW-E3000 Network Interface Board (option for e-VTR)
- RCC-G Cables 9-pin/9-pin Cable
- RMM-131 Rack Mount Kit
- MLB-1M-100 Tele-File Memory Label
- BCT-MX tapes BCT-MX Series MPEG IMX Tapes
- MSA-A "Memory Stick" IC Memory Media



The MSW-M2100P/1 can be ordered with the BKMW-E3000 Network Interface Board installed. The model name is MSW-M2100P/E.



## Specifications

### General

#### Power requirements:

AC 100 to 240 V, 50/60 Hz

#### Power consumption:

2A (200 W) / AC 240 V

#### Operating temperature:

+5 to +40 °C (+41 to +104 ° F)

#### Storage temperature:

-20 to +60 °C (-4 to +140 ° F)

#### Humidity:

20 to 90% (relative humidity)

#### Mass:

23.0 kg (50 lb 11 oz)

#### Dimensions:

427 (W) x 174 (H) x 544 (D) mm  
(16 7/8 x 6 7/8 x 21 1/2 inches)

#### Tape speed

##### MPEG IMX:

64.467 (525)/53.776 (625) mm/s

##### Digital Betacam:

96.7 mm/s

##### Betacam SX:

59.515 (525)/59.575 (625) mm/s

##### Betacam/Betacam SP:

118.6 (525)/101.51 (625) mm/s

#### Playback time:

Max. 184 (525)/220 (625) min with  
BCT-184MXL cassette

#### Fast forward/rewind time:

Approx. 3.5 min with BCT-184MXL cassette

#### Search speed range

##### MPEG IMX:

±78 times normal playback speed

##### Digital Betacam:

±50 times normal playback speed

##### Betacam SX:

±78 times normal playback speed

##### Betacam/Betacam SP:

±35 (525)/±42 (625) times normal  
playback speed

#### Servo lock time:

0.5 (525)/0.7 (625) s or less  
(from standby on)

#### Load/unload time:

6 s or less

### Output signals

#### Analogue composite output:

BNC (3, including one character out),  
1.0 Vp-p, 75 Ω, sync negative

#### Analogue component output:

BNC (3, for 1 set, Y/R-Y/B-Y), Y: 1.0 Vp-p,  
75 Ω, sync negative, R-Y/B-Y: 0.7 Vp-p,  
75 Ω

#### SDI output:

BNC (3, including one character out),  
SMPTE 259M (ITU-R BT.656-3), 270 Mb/s

#### SDTI-CP output:

BNC (2), SMPTE 326M (SDTI-CP)

#### HD-SDI output (requires optional BKMW-104 board):

BNC (3)

#### Analogue audio input:

XLR (4) (4CH: channel selectable)

#### Analogue audio output:

XLR (4) (4CH: channel selectable)

#### Cue audio output:

XLR (1, only Digital Betacam playback)

#### Digital audio output (CH 1/2, 3/4, 5/6, 7/8),

#### AES/EBU:

BNC (4), 48 kHz fixed, Complies with  
AES-3id-1995

#### Remote control

##### Remote (RS-422A):

D-sub 9-pin (2), Sony 9-pin remote  
interface

##### RS-232C (ISR)\*:

D-sub 9-pin (1), RS-232C interface

##### Parallel remote:

D-sub 50-pin (1)

##### Video control (1):

D-sub 15-pin (1)

##### Control panel:

Circular connector 10-pin

#### Time code input:

XLR (1)

#### Time code output:

XLR (1)

#### Ethernet I/F (requires optional BKMW-E3000 board):

RJ-45 (1),

1000Base-T/100Base-TX/10Base-T

#### Memory card insertion slot:

Memory Stick (1), PCMCIA (1)

#### Monitor output L/R:

XLR (2) (channel selectable)

#### Phones:

JM-60 Stereo phone jack

### Processor adjustment range

#### Video level:

±3 dB/∞ to 3 dB selectable∞

#### Chroma level:

±3 dB/∞ to 3 dB selectable

#### Set up/black level:

±30 IRE/±210 mV

#### Chroma phase/hue:

±30°

#### System sync phase:

±15 μs

#### System SC phase:

±200 ns

#### Y/C delay:

±100 ns (Betacam/Betacam SP playback  
only)

### Digital video performance

#### Sampling frequency:

Y: 13.5 MHz, R-Y/B-Y: 6.75 MHz

#### Quantization:

MPEG IMX/BETACAM SX: 8 bits/sample,  
Digital BETACAM: 10 bits/sample

#### Error correction:

Reed-Solomon code

#### Digital input to analogue component output:

D/A quantization: 10 bits/sample  
Bandwidth: 0 to 5.75 MHz ±0.5 dB  
S/N ratio: 56 dB or more K-factor  
(2T pulse): 1% or less

#### Analogue component input to analogue

component output (MPEG IMX  
record/playback):

A/D and D/A quantization: 10 bits/sample  
Bandwidth: Y: 0 to 5.75 MHz +0.5/-2.0 dB,  
R-Y/B-Y: 0 to 2.75 MHz +0.5/-2.0 dB  
S/N ratio: 56 dB or more K-factor (2T  
pulse): 1% or less LF non-linearity: 3.0% or  
less

#### Analogue composite input to analogue

composite output (MPEG IMX  
record/playback):

A/D and D/A quantization: 10 bits/sample  
Bandwidth: 0 to 5.75 MHz +0.5/-2.0 dB  
S/N ratio: 53 dB or more Differential gain:  
2% or less Differential phase: 2° or less  
Y/C delay: 20 ns or less K-factor (2T  
pulse): 1% or less

### Digital audio performance

#### Sampling frequency:

48 kHz (synchronized with video)

#### Quantization:

MPEG IMX: 16 or 24 bits/sample  
(selectable)

Betacam SX: 16 bits/sample

Digital Betacam: 20 bits/sample

#### Analogue composite output (Digital Betacam playback):

A/D and D/A quantization: 24 bits/sample  
Frequency response (0 dB at 1kHz): 20 Hz  
to 20 kHz +0.5/-1.0 dB  
Dynamic range (at 1 kHz, emphasis ON):  
More than 95 dB  
Distortion (at 1 kHz, emphasis ON,  
reference level): Less than 0.05%  
Cross talk (at 1 kHz, between any two  
channels): Less than -80 dB  
Wow and flutter: Below measurable level

#### Head room:

20 dB (18 dB selectable)

\*ISR: Interactive Status Reporting

**SONY**

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## AC-DN10 AC Adaptor/Charger

### Features

- Compact and lightweight AC adaptor/charger
- Maximum 100 W DC power supply
- V-mount mechanism for direct attachment to compatible camcorders
- XLR-4-pin output to power other equipment
- Charging capability of Sony V-mount lithium-ion batteries (BP-GL95/GL65/L60S/L80S)
- Quick charging - A BP-GL95 can be fully charged within 145 minutes
- Can charge batteries while supplying AC power to other equipment

### Applicable Models

DSR-250P DVCAM Camcorder  
 DSR-400PK DVCAM Camcorder  
 DSR-400PL DVCAM Camcorder  
 DSR-450WSPL DVCAM Camcorder  
 DVW-970P Digital Betacam Camcorder  
 HDW-730S HDCAM Camcorder  
 HDW-750P HDCAM Camcorder  
 HDW-790P HDCAM Camcorder  
 HDW-F900R HDCAM Camcorder  
 MSW-970P MPEG IMX Camcorder  
 PDW-510 XDCAM Camcorder  
 PDW-510P XDCAM Camcorder  
 PDW-530 XDCAM Camcorder  
 PDW-530P XDCAM Camcorder  
 WLL-CA50 Wireless Camera Transmitter  
 WLL-CA55 Wireless Camera Transmitter  
 PDW-F330 XDCAM HD Camcorder  
 PDW-F350 XDCAM HD Camcorder

### Supplied Accessories

Operation manual (1)  
 AC power cord (1)

### Specifications

Power requirements:  
 AC 100 V to 240 V  
 DC output:  
 16.7 V, 6 A  
 Operating temperature:  
 0 to 40 °C (32 to 104 °F)  
 Mass:  
 800 g (1 lb 12 oz)  
 Dimensions (W x H x D):  
 101 x 160 x 37 mm  
 (4 x 6 3/8 x 1 1/2 inches)



### Charging time

BP-GL95:  
 145 minutes  
 BP-GL65:  
 155 minutes  
 BP-L60S  
 155 minutes  
 BP-L80S  
 170 minutes

### Eco-info:

Lead-free solder is used for soldering.  
 Halogenated flame retardants are not used in the cabinets and the printed wiring boards.

## AC-DN2B AC Adaptor

### Features

- Compact and lightweight AC adaptor/charger
- Maximum 150 W DC power supply
- V-mount mechanism for direct attachment to compatible camcorders
- XLR-4-pin output to power other equipment
- Up to 85% charging capability of Sony V-mount lithium-ion batteries (BP-GL95/GL65/L60S/L80S)

### Applicable Models

DSR-250P/1 DVCAM Camcorder  
 DSR-400PK DVCAM Camcorder  
 DSR-400PL DVCAM Camcorder  
 DSR-450WSPL DVCAM Camcorder  
 DVW-970P Digital Betacam Camcorder  
 HDW-730S HDCAM Camcorder  
 HDW-750P HDCAM Camcorder  
 HDW-790P HDCAM Camcorder  
 HDW-F900R HDCAM Camcorder  
 MSW-970P MPEG IMX Camcorder  
 PDW-510 XDCAM Camcorder  
 PDW-510P XDCAM Camcorder  
 PDW-530 XDCAM Camcorder  
 PDW-530P XDCAM Camcorder  
 SRPC-1 HD Video Processor  
 SRW-1 HDCAM-SR Portable VTR  
 WLL-CA50 Wireless Camera Transmitter  
 WLL-CA55 Wireless Camera Transmitter

### Supplied Accessories

DC power cord (1)  
 Operation manual (1)

### Optional Accessories

CCDD-X2 4-pin/4-pin DC Power Cord for Portable Video Equipment

BKW-L601 Battery Adaptor

### Specifications

Power requirements:  
 AC 100 to 240 V  
 Rated power output (DC):  
 150 W  
 Voltage output (DC):  
 16.7 V  
 Current output (DC):  
 9 A (on regulation)



### Mass:

950 g (2 lb 2 oz)

### Dimensions:

101(W) x 169(H) x 70(D) mm  
 (4 x 6 3/4 x 2 7/8 inches)

### Charging time:

BP-GL95  
 155 minutes (to about 85% capacity)  
 BP-GL65  
 100 minutes (to about 85% capacity)  
 BP-L60S  
 100 minutes (to about 85% capacity)

## AC-SQ950B AC Adaptor/Charger

### Applicable Models

DSR-PDX10P  
HVR-A1E

### Specifications

#### Dimensions:

W 123 x H 48 x D 135 mm (4 7/8 x 1 15/16  
x 5 3/8 inches)

#### Mass:

390 g (13.8 oz)

#### AC power requirement:

AC 100 V to 240 V, 50 Hz/60 Hz

#### DC power requirement:

12/24 V

#### Power consumption:

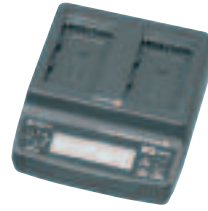
35 W

#### Operating Temperature:

0°C to 40°C (32°F to 104°F)

#### Storage Temperature:

-20°C to 60°C (-4°F to +140°F)



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## AC-VQ1050B AC Adaptor/Charger

### Features

•Quick Charge •Intelligent Display •DC Charge

### Applicable Models

DSR-PD170P  
HVR-Z1E  
HVR-M10E

### Specifications

#### Dimensions:

W 123 x H 53 x D 135 mm  
(4 7/8 x 2 1/8 x 5 3/8 inches)

#### Mass:

390 g (13.8 oz)

#### AC power requirement:

AC 100 V to 240 V

#### Frequency:

50 Hz/60 Hz

#### Power consumption:

35 W

#### Operating Temperature:

0°C to 40°C (32°F to 104°F)

#### Storage Temperature:

-20°C to 60°C (-4°F to +140°F)



## BC-M150 Ni-MH & Li-ion Battery Charger

### Features

- Battery charger for BP-L/IL/GL Series lithium-ion battery packs and BP-M100/M50 nickel metal hydride battery packs
- Up to four battery packs can be charged simultaneously
- LED indicators to indicate charging status, and discharge ('refresh') status of a nickel metal hydride battery
- LCD screen to indicate information of connected batteries such as battery reserve, charge time for full charge, charge/discharge cycles <sup>(\*)</sup>
- DC power output to an external device via the XLR 4-pin connector

(\*) The BC-M150 indicates the battery reserve only when charging the BP-IL75/GL65/GL95/M50/M100 batteries.

### Supplied Accessories

AC power cord (1)

Plug holder (1)

### Optional Accessories

CCDD-X2 4-pin/4-pin DC Power Cord for Portable Video Equipment

BP-GL65 Rechargeable Lithium-ion Battery Pack

BP-GL95 Rechargeable Lithium-ion Battery Pack

BP-L60S Rechargeable Lithium-ion Battery Pack

BP-L80S Rechargeable Lithium-ion Battery Pack

### Specifications

Power requirements:

AC 120 to 240 V, 50/60 Hz

Power consumption:

Approx. 160 W

Output:

DC 16.8 V, 6 A (to the lithium-ion battery pack or an external device via the XLR 4-pin)

DC 19.5 V, 5 A (to the nickel metal hydride battery pack)

Charging time:

For one battery

BP-GL95: 145 minutes

BP-GL65: 155 minutes

BP-L60S: 155 minutes

For four batteries

BP-GL95: 345 minutes

BP-GL65: 365 minutes

BP-L60S: 365 minutes

Operating temperature:

0 to +40°C (+32 to +104°F)

Storage temperature:

-20 to +60°C (-4 to +140°F)

Operating/storage humidity:

20% to 90% RH

Mass:

3.5 kg (7 lb 11 oz)

Dimensions:

155 (W) x 120 (H) x 330 (D) mm

(6 1/8 x 4 3/4 x 13 inches)



# BC-L70 Li-ion Battery Charger

## Features

- Can charge Sony V-mount type lithium-ion batteries: BP-GL95/GL65
- Up to two battery packs can be charged simultaneously
- Quick and efficient charging
- One BP-GL95 battery can be fully charged within 145 minutes
- Two BP-GL95 batteries can be fully charged within 220 minutes
- Max. 100 W DC power supply (XLR-4-pin)



## Supplied Accessories

- AC Power Card
- Plug holder
- Operation manual

## Optional Accessories

- BP-GL65 Rechargeable Lithium-ion Battery Pack
- BP-GL95 Rechargeable Lithium-ion Battery Pack
- BP-L60S Rechargeable Lithium-ion Battery Pack
- BP-L80S Rechargeable Lithium-ion Battery Pack

## Applicable Models

- LMD-9050 LCD monitor
- LMD-9030 LCD monitor
- LMD-9020 LCD monitor
- SRPC-1 HD Video Processor
- SRW-1 HDCAM-SR Portable VTR
- WLL-CA50 Wireless Camera Transmitter
- PDW-D1 XDCAM Drive Unit
- PDW-V1 XDCAM Mobile Deck
- HDW-S280 HDCAM Compact Recorder
- HDW-750P HDCAM Camcorder
- HDW-790P HDCAM Camcorder
- MSW-970P MPEG IMX Camcorder PAL model
- HDW-730S HDCAM Camcorder
- HDW-F900R HDCAM Camcorder
- DVW-970P Digital Betacam Camcorder
- MSW-970 MPEG IMX Camcorder
- DSR-400PL DVCAM Camcorder
- DSR-450WSPL DVCAM Camcorder
- DSR-400PK DVCAM Camcorder
- DSR-50P Recorder
- DVW-970 Digital Betacam Camcorder
- PDW-510P XDCAM Camcorder
- PDW-530P XDCAM Camcorder
- PDW-510 XDCAM Camcorder
- PDW-530 XDCAM Camcorder
- PDW-F330 XDCAM HD Camcorder
- PDW-F350 XDCAM HD Camcorder

## Specifications

- Power requirements
  - AC 100 to 240 V, 50/60 Hz
- Power consumption
  - Less than 168 VA
- DC output
  - Max. 16.8 V, 6 A
- Operating temperature
  - 0 to 45 °C (32 to 113 °F)
- Dimensions (W x H x D)
  - 60 x 237 x 134 mm
  - (2 3/8 x 9 3/8 x 5 3/8 inches)
- Mass
  - Approx. 1.2 kg (2 lb 10 oz)
- Charging time
  - For one battery
    - BP-GL95: 145 minutes
    - BP-GL65: 155 minutes
    - BP-L60S: 150 minutes
  - For two batteries
    - BP-GL95: 220 minutes
    - BP-GL65: 170 minutes
    - BP-L60S: 170 minutes

## BC-L500 Li-ion Battery Charger

### Features

- The BC-L500 is a desktop-type four-channel quick charger for the BP-GL/IL/L Series lithium-ion batteries.
- Can charge Sony V-mount type lithium-ion battery: BP-GL95/GL65/L60S/IL75/L90A/L60A/L40A
- Up to four battery packs can be charged simultaneously
- Quick simultaneous charging
- One BP-GL95 battery can be fully charged approximately 145 minutes
- Four BP-GL95 batteries can also be fully charged approximately 145 minutes
- Space-saving design
- 3U high, 19-inch rack mountable
- Front slot mechanism
- Two chargers stackable

### Supplied Accessories

- AC power cord (1)
- Plug holder (1)
- Operation manual (1)

### Optional Accessories

- BP-GL65 Rechargeable Lithium-ion Battery Pack
- BP-GL95 Rechargeable Lithium-ion Battery Pack
- BP-L60S Rechargeable Lithium-ion Battery Pack
- BP-L80S Rechargeable Lithium-ion Battery Pack
- BP-IL75 Rechargeable Lithium-ion Battery Pack
- BP-L40A Rechargeable Lithium-ion Battery Pack
- BP-L60A Rechargeable Lithium-ion Battery Pack
- BP-L90A Rechargeable Lithium-ion Battery Pack

### Applicable Models

- WLL-CA50 Wireless Camera Transmitter (CER)
- WLL-CA50 Wireless Camera Transmitter (UC)
- DSR-400PL DVCAM Camcorder
- DSR-450WSL DVCAM Camcorder
- DSR-450WSPL DVCAM Camcorder
- DSR-400L DVCAM Camcorder
- DSR-400PK DVCAM Camcorder
- DSR-400K DVCAM Camcorder
- SRPC-1 HD Video Processor
- HDW-730S HDCAM Camcorder
- HDW-750 HDCAM Camcorder
- HDW-750P HDCAM Camcorder
- HDW-790P HDCAM Camcorder
- HDW-F900R HDCAM Camcorder
- HDW-S280 HDCAM Compact Recorder
- SRW-1 HDCAM-SR Portable VTR
- PDW-R1 XDCAM Field Recorder
- PDW-V1 XDCAM Mobile Deck (Playback and File Recording)
- PDW-D1 XDCAM Drive Unit
- PDW-530P XDCAM Camcorder (MPEG IMX/DVCAM Recording)
- PDW-510P XDCAM Camcorder (DVCAM Recording)
- PDW-510 XDCAM Camcorder (DVCAM Recording)
- PDW-530 XDCAM Camcorder (MPEG IMX/DVCAM Recording)
- PDW-F350L XDCAM HD Camcorder (without lens)
- PDW-F330L XDCAM HD Camcorder (without lens)
- PDW-F330K XDCAM HD Camcorder (with lens)
- PDW-F330 XDCAM HD Camcorder
- PDW-F350 XDCAM HD Camcorder
- MSW-970 MPEG IMX Camcorder
- MSW-970P MPEG IMX Camcorder
- DVW-970 Digital Betacam Camcorder
- DVW-970P Digital Betacam Camcorder

### Specifications

- Power requirements
  - AC 100 to 240 V, 50/60 Hz
- Power consumption
  - 480VA
- DC output
  - Max. 16.8 V, 6 A
- Operating temperature
  - 0 to 45 °C (32 to 113 °F)
- Dimensions (W x H x D)
  - 435 x 124 x 230 mm
  - (17 1/4 x 5 x 9 1/8 inches)
- Mass
  - Approx. 5.6 kg (12 lb 5 oz)
- Charging time
  - For one battery
    - BP-GL95: 145 minutes
    - BP-GL65: 155 minutes
    - BP-L60S: 150 minutes
  - For two batteries
    - BP-GL95: 145 minutes
    - BP-GL65: 155 minutes
    - BP-L60S: 150 minutes





# BP-GL65 Rechargeable Lithium-ion Battery Pack

## Features

- Intelligent “INFO” battery that communicates digitally with Sony camcorders
- Remaining capacity indication in viewfinder of the DVW-970/970P, HDW-750/750P, HDW-F900R, HDW-730/730S, MSW-970/970P, PDW-510/510P, PDW-530/530P camcorders
- V-mount attaching mechanism for quick and easy battery change
- Four-step green LED indicators for quick visual verification of the battery remaining capacity (more than 80%, 60%, 40%, 20%)
- Four-step orange LED indicators for quick visual check of battery remaining capacity (below 20%, 15%, 10%, 5%)

When the BP-GL65 is used with camcorders other than those listed above, the battery alarm may not function properly.



## Applicable Models

- BC-L70 Li-ion Battery Charger
- BC-L500 Li-ion Battery Charger
- BC-M150 Ni-MH & Li-ion Battery Charger
- DSR-400PK DVCAM Camcorder
- DSR-400PL DVCAM Camcorder
- DSR-450WSPL DVCAM Camcorder
- DVW-970P Digital Betacam Camcorder
- HDW-730S HDCAM Camcorder
- HDW-750P HDCAM Camcorder
- HDW-790P HDCAM Camcorder
- HDW-F900R HDCAM Camcorder
- MSW-970P MPEG IMX Camcorder
- PDW-510 XDCAM Camcorder
- PDW-510P XDCAM Camcorder
- PDW-530 XDCAM Camcorder
- PDW-530P XDCAM Camcorder

PDW-F3  
30  
XDCAM  
HD  
Camcord  
er

- PDW-F350 XDCAM HD Camcorder
- SRPC-1 HD Video Processor
- SRW-1 HDCAM-SR Portable VTR
- WLL-CA50 Wireless Camera Transmitter
- WLL-CA55 Wireless Camera Transmitter

## Supplied Accessories

- Operation manual (1)

## Specifications

- Type of battery: Rechargeable lithium-ion battery
- Maximum voltage: 16.8 V
- Nominal voltage: 14.4 V
- Cell capacity: 65 Wh
- Operating temperature (for discharge): -10°C to +45°C (+14°F to +113°F)
- Dimensions (W x H x D): 92 x 138 x 41 mm (3 5/8 x 5 1/2 x 1 5/8 inches)
- Mass: Approx. 550 g (1 lb 3 oz)
- Eco-info: Lead-free solder is used for soldering. Halogenated flame retardants are not used in the cabinets and the printed wiring boards.

## BP-GL95 Rechargeable Lithium-ion Battery Pack

### Features

- Intelligent "INFO" battery that communicates digitally with Sony camcorders
- Remaining capacity indication on viewfinder of the DVW-970/970P, HDW-750/750P, HDW-F900R HDW-730/730S, MSW-970/970P, PDW-510/510P, PDW-530/530P camcorders
- V-mount attaching mechanism for quick and easy battery change
- Four-step green LED indicators for quick visual verification of the battery remaining capacity (more than 80%, 60%, 40%, 20%)
- Four-step orange LED indicators for quick visual check of battery remaining capacity (below 20%, 15%, 10%, 5%)

When the BP-GL95 is used with camcorders other than those listed above, the battery alarm may not function properly.



### Applicable Models

BC-L70 Li-ion Battery Charger  
BC-L500 Li-ion Battery Charger  
BC-M150 Ni-MH & Li-ion Battery Charger  
DSR-400PK DVCAM Camcorder  
DSR-400PL DVCAM Camcorder  
DSR-450WSPL DVCAM Camcorder  
HDW-730S HDCAM Camcorder  
HDW-750P HDCAM Camcorder  
HDW-790P HDCAM Camcorder  
HDW-F900R HDCAM Camcorder  
DVW-970P Digital Betacam Camcorder  
MSW-970P MPEG IMX Camcorder  
PDW-510 XDCAM Camcorder  
PDW-510P XDCAM Camcorder  
PDW-530 XDCAM Camcorder  
PDW-530P XDCAM Camcorder  
PDW-F330 XDCAM HD Camcorder  
PDW-F350 XDCAM HD Camcorder  
PDW-V1 XDCAM Mobile Deck  
SRPC-1 HD Video Processor  
SRW-1 HDCAM-SR Portable VTR  
WLL-CA50 Wireless Camera Transmitter  
WLL-CA55 Wireless Camera Transmitter

### Supplied Accessories

Operation manual (1)

### Specifications

Type of battery:

Rechargeable lithium-ion battery

Maximum voltage:

16.8 V

Nominal voltage:

14.4 V

Cell capacity:

95 Wh

Operating temperature (for discharge):

-20°C to +45°C (-4°F to +113°F)

Dimensions (W x H x D):

92 x 138 x 41 mm (3 5/8 x 5 1/2 x 1 5/8 inches)

Mass:

760 g (1 lb 10 oz)

Eco-info

Lead-free solder is used for soldering.

Halogenated flame retardants are not used in the cabinets and the printed wiring boards.

## BP-L60S Rechargeable Lithium-ion Battery Pack

### Features

- High capacity lithium-ion battery
- Built-in LED capacity indicator for quick visual check of the battery reserve
- V-shoe attachment for quick and easy battery change
- Specially designed for compatibility with non info-lithium enabled products, so that the battery level and alarms will function correctly.

### Applicable Models

BC-L70 Ni-MH & Li-ion Battery Charger  
 BC-L500 Li-ion Battery Charger  
 BC-M150 Ni-MH & Li-ion Battery Charger  
 DSR-250P DVCAM Camcorder  
 DSR-400PK DVCAM Camcorder  
 DSR-400PL DVCAM Camcorder  
 DSR-450WSPL DVCAM Camcorder  
 DSR-50P Recorder  
 DVW-970P Digital Betacam Camcorder  
 DXC-D50PH 3-chip CCD Portable Colour Camera  
 DXC-D50PK 3-chip CCD Portable Colour Camera  
 DXC-D50PL 3-chip CCD Portable Colour Camera  
 DXC-D50WSPL 3-chip CCD Portable Colour Camera  
 HDW-730S HDCAM Camcorder  
 HDW-750P HDCAM Camcorder  
 HDW-790P HDCAM Camcorder  
 HDW-F900R HDCAM Camcorder  
 MSW-970P MPEG IMX Camcorder  
 PDW-510 XDCAM Camcorder  
 PDW-510P XDCAM Camcorder  
 PDW-530 XDCAM Camcorder

PDW-530P XDCAM Camcorder  
 PDW-F330 XDCAM HD Camcorder  
 PDW-F350 XDCAM HD Camcorder  
 WLL-CA50 Wireless Camera Transmitter  
 WLL-CA55 Wireless Camera Transmitter

### Specifications

Battery type  
 Lithium-ion rechargeable battery  
 Maximum voltage  
 DC 16.8 V  
 Nominal voltage  
 DC 14.4 V  
 Capacity  
 64.8 Wh  
 Operating temperature  
 -20 to +45 °C (-4 to +113 °F)  
 Dimensions (W x H x D)  
 101 x 37.3 x 168.7 mm  
 (4 x 1 5/16 x 6 1/2 inches)  
 Mass  
 Approx. 800 g (1 lb 10 oz)



## BP-L80S Rechargeable Lithium-ion Battery Pack

### Features

- High capacity lithium-ion battery
- Built-in LED capacity indicator for quick visual check of the battery reserve
- V-shoe attachment for quick and easy battery change
- Specially designed for compatibility with non info-lithium enabled products, so that the battery level and alarms will function correctly.

### Applicable Models

BC-L70 Ni-MH & Li-ion Battery Charger  
 BC-L500 Li-ion Battery Charger  
 BC-M150 Ni-MH & Li-ion Battery Charger  
 DSR-250P DVCAM Camcorder  
 DSR-400PK DVCAM Camcorder  
 DSR-400PL DVCAM Camcorder  
 DSR-450WSPL DVCAM Camcorder  
 DVW-970P Digital Betacam Camcorder  
 DXC-D50PH 3-chip CCD Portable Colour Camera  
 DXC-D50PK 3-chip CCD Portable Colour Camera  
 DXC-D50PL 3-chip CCD Portable Colour Camera  
 DXC-D50WSPL 3-chip CCD Portable Colour Camera  
 HDW-730S HDCAM Camcorder  
 HDW-750P HDCAM Camcorder  
 HDW-790P HDCAM Camcorder  
 HDW-F900R HDCAM Camcorder  
 MSW-970P MPEG IMX Camcorder  
 WLL-CA50 Wireless Camera Transmitter  
 WLL-CA55 Wireless Camera Transmitter

### Specifications

Battery type  
 Lithium-ion rechargeable battery  
 Maximum voltage  
 DC 16.8 V  
 Nominal voltage  
 DC 14.4 V  
 Capacity  
 83.5Wh  
 Operating temperature  
 -20 to +45 °C (-4 to +113 °F)  
 Dimensions (W x H x D)  
 101 x 52 x 169 mm  
 (4 x 2 1/16 x 6 5/8 inches)  
 Mass  
 Approx 1000g (2lb 3 oz)



## CBK-MB01 Picture Cache Board

### Features

- Up to eight seconds of video signal can be recorded before the REC button is pressed
- Allows recordings to be made over long time periods

### Applicable Models

DVW-970P Digital Betacam Camcorder



## CBK-FC01 Pull-down (24P shooting) Board

### Features

- Provides progressive modes of 23.976P to offer a film-like effect
- Recording to disc is in 59.94i via 2-3 pull-down.

### Applicable Models

PDW-510 XDCAM Camcorder (DVCAM Recording)

PDW-530 XDCAM Camcorder (MPEG IMX/DVCAM Recording)



## CBK-SC01 Analogue Composite Input Board

### Applicable Models

PDW-510 XDCAM Camcorder (DVCAM Recording)

PDW-510P XDCAM Camcorder (DVCAM Recording)

PDW-530 XDCAM Camcorder (MPEG IMX/DVCAM Recording)

PDW-530P XDCAM Camcorder (MPEG IMX/DVCAM Recording)



## CBK-SD01 SDI Output Board

### Applicable Models

PDW-510 XDCAM Camcorder (DVCAM Recording)

PDW-510P XDCAM Camcorder (DVCAM Recording)

PDW-530 XDCAM Camcorder (MPEG IMX/DVCAM Recording)

PDW-530P XDCAM Camcorder (MPEG IMX/DVCAM Recording)



## CBK-NC01 Ethernet (100Base-TX) Adaptor

### Features

- Allows PDW-530/530P/510/510P camcorders to connect with an Ethernet network

### Applicable Models

- PDW-510 XDCAM Camcorder (DVCAM Recording)
- PDW-510P XDCAM Camcorder (DVCAM Recording)
- PDW-530 XDCAM Camcorder (MPEG IMX/DVCAM Recording)
- PDW-530P XDCAM Camcorder (MPEG IMX/DVCAM Recording)



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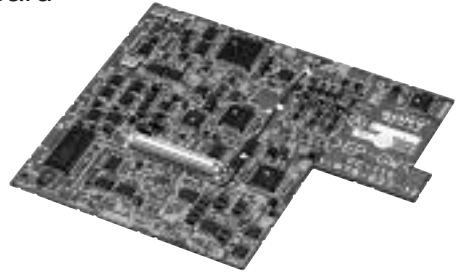
## HKDW-702/1 Down Converter Board

### Features

- Used with the HDW-730S/750P/790P/F900R series
- Provides down-converted Standard Definition output
- The output is available in SD-SDI or analogue composite

### Applicable Models

- HDW-730S HDCAM Camcorder
- HDW-750P HDCAM Camcorder
- HDW-790P HDCAM Camcorder
- HDW-F900R HDCAM Camcorder



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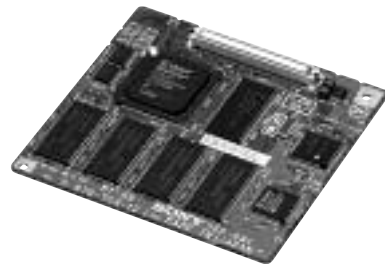
## HKDW-703/1 Picture Cache Board

### Features

- Used with the HDW-730S/750P/F900R series
- Provides up to seven seconds of loop recording using solid state memory so that scenes happening prior to the press of REC start button are captured

### Applicable Models

- HDW-730S HDCAM Camcorder
- HDW-750P HDCAM Camcorder
- HDW-790P HDCAM Camcorder
- HDW-F900R HDCAM Camcorder



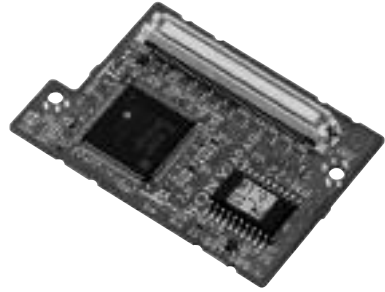
## HKDW-705 Slow Shutter Board

### Features

- Used with the HDW-750P/730S camcorder
- Allows to slow the shutter speed down to 64-frame period (1-, 2-, 3-, 4-, 5-, 6-, 7-, 8-, 16-, 32-, or 64-frame period)
- Helps to make images in extremely dark environment
- Helps to make create pictures by the intentional use of blurred images

### Applicable Models

HDW-730S HDCAM Camcorder  
HDW-750P HDCAM Camcorder



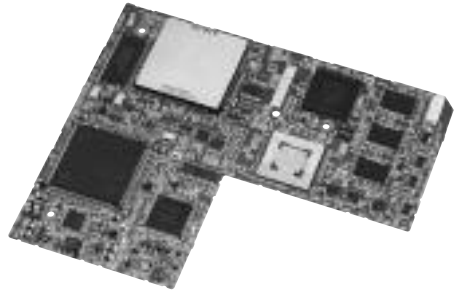
## HKDW-902R 2-3 Pull-down/Down Converter Board

### Features

- Used with the HDW-790P/F900R camcorder
- Down-converts 1080/23.98P HD signals to SD signals via 2-3 pull-down circuitry
- SD monitoring of 1080/23.98P signals on a conventional NTSC monitor
- Also enables SD output to the HDW-F900R's viewfinder or a monitor connected to the camcorder during 23.98P recording
- Users can check images on the viewfinder or monitor without the flicker that usually occurs from 23.98P recording
- SD signal, SD-SDI or analogue composite can be selected via the camcorder's set-up menu.

### Applicable Models

HDW-790P HDCAM Camcorder  
HDW-F900R HDCAM Camcorder\*  
\* Features based upon 1080/23.98P are applicable to HDW-F900R only



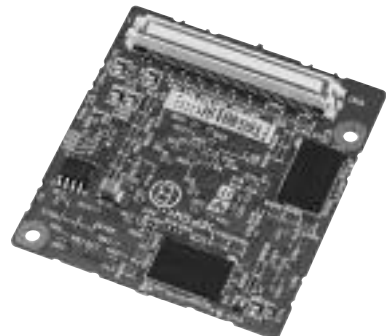
## HKDW-905R Slow Shutter/Image Inverter Board

### Features

- Used with the HDW-790P/F900R camcorder
- Allows to slow the shutter speed down to 64-frame period (1-, 2-, 3-, 4-, 5-, 6-, 7-, 8-, 16-, 32-, or 64-frame period)
- Helps to make images in extremely dark environment
- Helps to make create pictures by the intentional use of blurred images

### Applicable Models

HDW-790P HDCAM Camcorder  
HDW-F900R HDCAM Camcorder



## HVL-LBP LED on-camera light

### Features

- Brightness of 600 lx (1 m), life of approx. 10,000 hours (whole unit), and power consumption of 16 W
- Ideal for wide-angle shooting
- Uniform lighting over the entire projected area
- Spotlight projection with supplied condensing lens attached
- Light diffuser attached to soften shadows and reduce contrast
- Compatible with camcorder batteries, such as the NP-F770/F970
- Long operating time: approximately 3 hours with the NP-F970 (at maximum brightness)



### Supplied Accessories

Battery adaptor (1)

### Applicable Models

HVR-V1C HDV Camcorder  
HVR-V1E HDV Camcorder  
HVR-V1U HDV Camcorder

HVR-V1N HDV Camcorder

HVR-V1P HDV Camcorder

HVR-A1N HDV Camcorder

HVR-A1U HDV Camcorder

HVR-A1C HDV Camcorder

HVR-A1E HDV Camcorder

HVR-A1P HDV Camcorder

HVR-Z1U HDV Camcorder

HVR-Z1P HDV Camcorder

DSR-PD170 DVCAM Camcorder

HVR-Z1N HDV Camcorder

HVR-Z1C HDV Camcorder

HVR-Z1E HDV Camcorder

DSR-PD170P DVCAM Camcorder

## HVL-20DW2 Battery Video Light

### Battery Video Light

### Applicable Models

DSR-PD170P DVCAM Camcorder  
HVR-Z1E HDV Camcorder



## HVL-F10 Video Flash

### Video Flash

### Applicable Models

DSR-PDX10P DVCAM Camcorder



## HVL-FH1100 Flash

The HVL-FH1100 camcorder flash docks on the camcorder's Intelligent Accessory Shoe, and the interface is designed so that when the camcorder's photo button is pressed, the light flashes in synchronization.

### Applicable Models

DSR-PDX10P DVCAM Camcorder

### Supplied Accessories

Operation manual (1)  
Pouch (1)

### Specifications

#### Dimensions:

W 68 x H 110 x D 92 mm  
(2 3/4 x 4 3/8 x 3 5/8 inches)

#### Mass:

190 g (6.7 oz)

#### Battery Power Requirements:

AA Alkaline (4)

#### Connector:

Intelligent Accessory Shoe



## LC-777 Carrying Case

### Applicable Models

PDW-530P XDCAM Camcorder  
PDW-510P XDCAM Camcorder  
PDW-530 XDCAM Camcorder  
PDW-510 XDCAM Camcorder

## LC-DN7 Carrying Case

### Applicable Models

DVW-970P Digital Betacam Camcorder  
MSW-970P MPEG IMX Camcorder  
HDW-730S HDCAM Camcorder  
HDW-750P HDCAM Camcorder  
HDW-790P HDCAM Camcorder  
HDW-F900R HDCAM Camcorder

## LCH-FXA Hard Carrying Case

### Features

- With its specially designed interior, this case can efficiently store the video camera and accessories.

### Applicable Models

HVR-Z1E



## LCH-TRV950 Hard Carrying Case

### Features

- With its specially designed interior, this case can efficiently store the video camera and accessories.

### Applicable Models

DSR-PDX10P DVCAM Camcorder

### Supplied Accessories

Key (2)  
Shoulder strap (1)  
Sticker (1)

### Specifications

Dimensions:  
W 395 x H 260 x D 205 mm  
(15 5/8 x 10 1/4 x 8 1/8 inches)  
Mass:  
2700 g (5 lb 15 oz)



## LCH-VX2000A Hard Carrying Case

### Hard Carrying Case

### Applicable Models

DSR-PD170P DVCAM Camcorder



## LCR-FXA Rain Jacket

### Applicable Models

HVR-Z1E





## LCS-VCB Soft Carrying Case

Applicable Models  
HVR-Z1E



## LCS-G1BP Soft Carrying Case

Applicable Models  
HVR-V1C HDV Camcorder  
HVR-V1E HDV Camcorder  
HVR-V1U HDV Camcorder  
HVR-V1N HDV Camcorder  
HVR-V1P HDV Camcorder  
HVR-A1N HDV Camcorder  
HVR-A1U HDV Camcorder  
HVR-A1C HDV Camcorder

HVR-A1E HDV Camcorder  
HVR-A1P HDV Camcorder  
DSR-PD170 DVCAM Camcorder  
HVR-Z1P HDV Camcorder  
HVR-Z1U HDV Camcorder  
HVR-Z1N HDV Camcorder  
HVR-Z1C HDV Camcorder  
HVR-Z1E HDV Camcorder  
DSR-PD170P DVCAM Camcorder



## LO-32BMT 2/3-inch Lens Mount Adaptor

### Features

- For mounting a 2/3-inch bayonet-mount type lens on 1/2-inch type CCD cameras such as the PDW-F330/F350

Applicable Models  
PDW-F330K XDCAM HD Camcorder  
(with lens)

PDW-F330L XDCAM HD Camcorder  
(without lens)

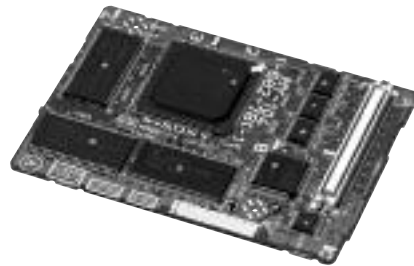
PDW-F350L XDCAM HD Camcorder  
(without lens)



## MSDW-903 Picture Cache Board

Picture cache board for MSW-970/970P MPEG IMX Camcorder

Applicable Models  
MSW-970 MPEG IMX Camcorder  
MSW-970P MPEG IMX Camcorder



## MSDW-904 Analog Composite Input Board

Analogue composite input board for MSW-970/970P MPEG IMX Camcorder

Applicable Models  
MSW-970 MPEG IMX Camcorder  
MSW-970P MPEG IMX Camcorder



## NP-F570 Rechargeable Battery Pack

Applicable Models

DSR-PD170P  
HVR-Z1E  
HVR-M10E



## NP-F770 Rechargeable Battery Pack

Applicable Models

DSR-PD170P  
HVR-Z1E  
HVR-M10E



## 2NP-F970/B Rechargeable Battery Pack (2)

The 2NP-F970 is a rechargeable battery pack. Each pack includes two NP-970 batteries suitable for use with the DSR-PD170P, HVR-Z1E and HVR-M10E products.

Features

- STAMINA super-long battery life and lithium-ion cells with no 'Memory Effect'
- Both highly efficient, compact and light-weight
- Built-in microprocessor which communicates with the camera and accurately indicate remaining battery time in minutes

Applicable Models

DSR-PD170P  
HVR-Z1E  
HVR-M10E

Supplied Accessories

NP-970 (2)



## 2NP-QM91D/B Rechargeable Battery Pack (2)

Features

- Indicate the remaining capacity of the battery via 5 types of 4 LEDs indication
- Indicate the charging via LEDs light

Applicable Models

DSR-PDX10P  
HVR-A1E

Supplied Accessories

Operation manual (\*) (1)

(\*) English/French

Specifications

Dimensions:

W 38.2 x H 59.5 x D 55.6 mm  
(1 9/16 x 2 3/8 x 2 1/4 inches)

Mass:

225 g (7.9 oz)

Maximum output voltage:

DC 8.4 V

Capacity:

29.8 Wh (4140 mAh)

Operating Temperature:

0 to +40°C (+32°F to +104°F)



## NP-QM91D Rechargeable Battery Pack

### Features

- Indicate the remaining capacity of the battery via 5 types of 4 LEDs indication
- Indicate the charging via LEDs light

### Applicable Models

DSR-PDX10 DVCAM Camcorder  
HVR-A1E

### Supplied Accessories

Operation manual (1)

### Specifications

#### Dimensions:

W 38.2 x H 59.5 x D 55.6 mm (1 9/16  
x 2 3/8 x 2 1/4 inches)

#### Mass:

225 g (7.9 oz)

#### Maximum output voltage:

DC 8.4 V

#### Capacity:

29.8 Wh (4140 mAh)

#### Operating Temperature:

0 to +40°C (+32°F to +104°F)



## RM-1BP LANC Remote Controller

### Applicable Models

HVR-A1E HDV Camcorder



## RM-B150 Remote Control Unit

### Applicable Models

BVP-E30P 3-chip CCD Portable Colour Camera  
BVP-E30WSP 3-chip CCD Portable Colour Camera  
DSR-450WSPL DVCAM Camcorder  
DVW-970P Digital Betacam Camcorder  
HDC-1500 HD Portable Camera  
HDC-1550 HD Portable Camera  
HDC-X300 HD Multi-purpose Camera  
HDC-X300K HD Multi-purpose Camera  
HDC-X310 HD Multi-purpose Camera  
HDC-X310K HD Multi-purpose Camera  
HDW-730S HDCAM Camcorder  
HDW-750P HDCAM Camcorder  
HDW-790P HDCAM Camcorder  
HDW-F900R HDCAM Camcorder  
MSW-970P MPEG IMX Camcorder  
PDW-510 XDCAM Camcorder  
PDW-510P XDCAM Camcorder  
PDW-530 XDCAM Camcorder  
PDW-530P XDCAM Camcorder  
SRPC-1 HD Video Processor  
SRW-1 HDCAM-SR Portable VTR  
WLL-RX55 Wireless Camera Receiver



## RM-B750 Remote Control Unit

### Features

- Designed to establish a highly mobile and fully controllable camera system in the field

### Applicable Models

BVP-E30P 3-chip CCD Portable Colour Camera  
BVP-E30WSP 3-chip CCD Portable Colour Camera  
DSR-450WSPL DVCAM Camcorder  
DWW-970P Digital Betacam Camcorders  
HDC-1000 3-chip CCD Studio/OB Camera System  
HDC-1500 3-chip CCD Studio/OB Camera System  
HDCU-1500 HD Camera Control Unit  
HDC-1550 HD Portable Camera  
HDC-X300 HD Multi-purpose Camera  
HDC-X300K HD Multi-purpose Camera  
HDC-X310 HD Multi-purpose Camera  
HDC-X310K HD Multi-purpose Camera  
HDW-730S HDCAM Camcorder  
HDW-750P HDCAM Camcorder  
HDW-790P HDCAM Camcorder  
HDW-F900R HDCAM Camcorder  
MSW-970P MPEG IMX Camcorder  
PDW-510 XDCAM Camcorder  
PDW-510P XDCAM Camcorder  
PDW-530 XDCAM Camcorder  
PDW-530P XDCAM Camcorder  
SRPC-1 HD Video Processor  
SRW-1 HDCAM-SR Portable VTR  
WLL-RX55 Wireless Camera Receiver

### Specifications

#### General

Power requirements:

DC 10.5 - 30 V (max) (supplied from camera/camcorder/CCU)

Operating temperature:

+5°C to +40 °C

Dimensions:

-20°C to +55°C

Mass:

Approx. 0.7 kg (1 lb 9 oz)

#### Inputs

Control interface:

8-pin (x 1), Sony Camera Command Network Protocol

Monitor in:

BNC type (x 1) VBS (No HD signal capable)



## SH-L35WBP LCD Hood

### Applicable Models

HVR-V1E HDV Camcorder  
HVR-V1C HDV Camcorder  
HVR-V1U HDV Camcorder  
HVR-V1N HDV Camcorder  
HVR-V1P HDV Camcorder



## VCL-0737W Wide Conversion Lens

### Features

•0.7 times wide conversion lens •Extensive Improvement of resolution.

### Applicable Models

BRC-300 3-CCD Colour Video Camera  
DSR-PDX10P DVCAM Camcorder

### Supplied Accessories

Carrying case (1)  
Lens Caps (for the front and back of the lens) (2)  
Operation manual (1)

### Specifications

Dimension (Approx.) :  
Diameter 67 mm (2 3/4 inches)  
Length (Approx.):  
47mm ( 1 7/8 inches )  
Mass:  
196 g ( 7 lb)



## VCL-HG0862K 0.8x Wide Conversion Lens

### Features

•Bayonet mount for easy attachment and detachment  
•Lens hood supplied •A lens filter with a filter diameter of 86 mm can be attached

### Applicable Models

HVR-V1E HDV Camcorder  
HVR-V1P HDV Camcorder  
HVR-V1C HDV Camcorder  
HVR-V1U HDV Camcorder  
HVR-V1N HDV Camcorder



## VCL-HG0872 HDV Wide Conversion Lens

### Applicable Models

HVR-Z1E HDV Camcorder



## VCT-14 Tripod Adaptor

### Applicable Models

HDC-1500 HD Portable Camera  
BVP-E30P 3-chip CCD Portable Colour Camera  
BVP-E30WSP 3-chip CCD Portable Colour Camera  
DVW-970P Digital Betacam Camcorder  
HDW-730S HDCAM Camcorder  
HDW-750P HDCAM Camcorder  
HDW-790P HDCAM Camcorder  
HDW-F900R HDCAM Camcorder  
MSW-970P MPEG IMX Camcorder  
PDW-510 XDCAM Camcorder (DVCAM Recording)  
PDW-510P XDCAM Camcorder (DVCAM Recording)  
PDW-530 XDCAM Camcorder (MPEG IMX/DVCAM Recording)  
PDW-530P XDCAM Camcorder (MPEG IMX/DVCAM Recording)

### Specifications

Dimensions:  
282(W) x 27(H) x 80(D)mm  
(11 1/8 x 1 1/8 x 3 1/4 inches)  
Mass:  
900 g ( 2 lb)



## VCT-1BP Bracket

**Applicable Models**

HVR-V1E HDV Camcorder  
HVR-V1P HDV Camcorder  
HVR-V1C HDV Camcorder  
HVR-V1U HDV Camcorder  
HVR-V1N HDV Camcorder  
HVR-A1U HDV Camcorder  
HVR-A1C HDV Camcorder  
HVR-A1E HDV Camcorder  
HVR-A1P HDV Camcorder  
HVR-A1N HDV Camcorder  
DSR-PD170 DVCAM Camcorder  
HVR-Z1U HDV Camcorder  
HVR-Z1P HDV Camcorder  
HVR-Z1N HDV Camcorder  
HVR-Z1C HDV Camcorder

HVR-Z1E HDV Camcorder  
DSR-PD170P DVCAM Camcorder



## VCT-PG11RMB Tripod with the RM-1BP LANC Remote Controller

**Applicable Models**

HVR-A1E HDV Camcorder



## VCT-FXA Shoulder Brace

**Applicable Models**

HVR-Z1E HDV Camcorder



## VF-72CPK PL Filter Kit

**Applicable Models**

HVR-Z1E HDV Camcorder



## VTR/Deck Accessories & Peripherals

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## BKDW-101 Remote Control Panel

Remote control panel for DVW-2000 Series Digital Betacam recorders

**Applicable Models**

- DVW-2000 Digital Betacam Recorder
- DVW-2000P Digital Betacam Recorder
- DVW-M2000 Digital Betacam Recorder
- DVW-M2000P Digital Betacam Recorder



## BKMW-101 Remote Control Panel

Remote control panel for MSW-2000/1 series MPEG IMX VTRs

**Applicable Models**

- MSW-2000 MPEG IMX Recorder
  - MSW-A2000 MPEG IMX Recorder
  - MSW-A2000P MPEG IMX Recorder
  - MSW-M2000 MPEG IMX Recorder
  - MSW-M2000P MPEG IMX Recorder
  - MSW-M2100 MPEG IMX Player
  - MSW-M2100P MPEG IMX Player
- (all versions including /1)



**Optional Accessories**

- BKMW-102 Remote Control Unit
- BKMW-103 Control Panel Extension Kit

## BKMW-102 Control Panel Case

Control panel case for BKDW-101, BKMW-101 and HKDW-101

**Applicable Models**

- BKDW-101 Remote Control Panel
- BKMW-101 Remote Control Panel
- DVW-2000 Digital Betacam Recorder
- DVW-2000P Digital Betacam Recorder
- DVW-M2000 Digital Betacam Recorder
- DVW-M2000P Digital Betacam Recorder
- HDW-2000 HDCAM VTR\*
- HDW-M2000 HDCAM VTR\*
- HDW-M2000P HDCAM VTR\*
- HDW-D2000 HDCAM VTR\*
- HDW-M2100 HDCAM Player\*
- HDW-M2100P HDCAM Player\*
- HKDW-101 Remote Control Panel

- MSW-2000 MPEG IMX Recorder\*\*
- MSW-A2000 MPEG IMX Recorder\*\*
- MSW-A2000P MPEG IMX Recorder\*\*
- MSW-M2000 MPEG IMX Recorder\*\*
- MSW-M2000P MPEG IMX Recorder\*\*
- MSW-M2100 MPEG IMX Player\*\*
- MSW-M2100P MPEG IMX Player\*\*

\*all versions including /20  
 \*\*all versions including /1





## BKMW-103 Control Panel Extension Kit

Control panel extension kit for MSW-2000 series, DVW-2000 series and HDW-2000 series VTRs

### Applicable Models

BKDW-101 Remote Control Panel  
 BKMW-101 Remote Control Panel  
 DVW-2000 Digital Betacam Recorder  
 DVW-2000P Digital Betacam Recorder  
 DVW-M2000 Digital Betacam Recorder  
 DVW-M2000P Digital Betacam Recorder  
 HDW-2000 HDCAM VTR\*  
 HDW-M2000 HDCAM VTR\*  
 HDW-M2000P HDCAM VTR\*  
 HDW-D2000 HDCAM VTR\*  
 HDW-M2100 HDCAM Player\*  
 HDW-M2100P HDCAM Player\*  
 HKDW-101 Remote Control Panel  
 MSW-2000 MPEG IMX Recorder\*\*  
 MSW-A2000 MPEG IMX Recorder\*\*  
 MSW-A2000P MPEG IMX Recorder\*\*  
 MSW-M2000 MPEG IMX Recorder\*\*  
 MSW-M2000P MPEG IMX Recorder\*\*  
 MSW-M2100 MPEG IMX Player\*\*  
 MSW-M2100P MPEG IMX Player\*\*

\*all versions including /20

\*\*all versions including /1



## BKMW-104 HD Up-converter Board (\*1)

### Features

•Allows 1080/59.94i, 1080/50i and 720/59.94p output from the playback signals of SD 1/2-inch formats<sup>(\*2)</sup>, including Betacam, Betacam SP, Betacam SX and Digital Betacam as well as MPEG IMX format •Outputs HD 1125 tri-level sync signal as reference signal

(\*1) Either this board or BKMW-E3000 board can be installed in an MSW-2000 series VTR. (\*2) Only from the playback-compatible format of the VTR used.

### Applicable Models

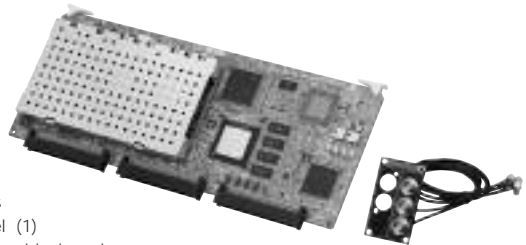
DVW-2000 Digital Betacam Recorder  
 DVW-2000P Digital Betacam Recorder  
 DVW-M2000 Digital Betacam Recorder  
 DVW-M2000P Digital Betacam Recorder  
 MSW-2000 MPEG IMX Recorder\*\*  
 MSW-A2000 MPEG IMX Recorder\*\*  
 MSW-A2000P MPEG IMX Recorder\*\*  
 MSW-M2000 MPEG IMX Recorder\*\*  
 MSW-M2000P MPEG IMX Recorder\*\*  
 MSW-M2100 MPEG IMX Player\*\*  
 MSW-M2100P MPEG IMX Player\*\*

\*all versions including /20

\*\*all versions including /1

### Supplied Accessories

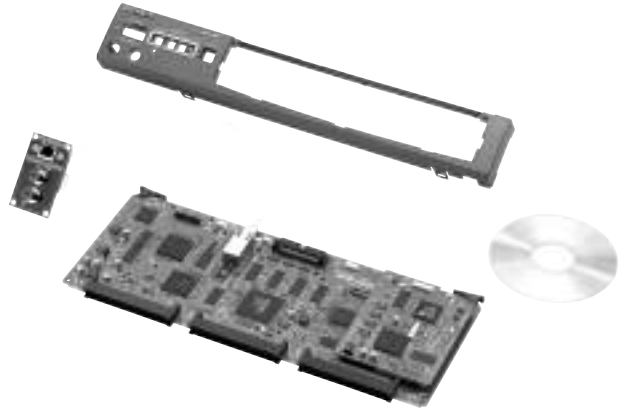
SDI/HD-SDI connector panel (1)  
 SDI INPUT connector masking blank seal (for player) (1)  
 VIDEO CONTROL (HD/SD) seal (1)  
 Attachment screws (6)  
 Operation and installation guide (1)  
 Installation manual (1)



# BKMW-E3000 Network Interface Board (option for e-VTR)<sup>(\*)</sup>

## Features

- Adds a Gigabit Ethernet interface to an MSW-2000 series VTR to send and receive AV data as MXF<sup>(\*)</sup> files across a standard IT network
- Allows MXF file output from all 1/2-inch SD format tapes including Digital Betacam, Betacam SX, Betacam SP, Betacam as well as MPEG IMX<sup>(\*)</sup>
- Receives MXF files and records AV signals and metadata that are wrapped in MXF files onto an MPEG IMX cassette
- Supports industry-standard network interfaces and protocols including Giga-bit/100Base-TX/10-Base Ethernet, TCP/IP, FTP, HTTP and SNMP
- Simple control of file exchange from a PC using supplied e-VTR Manager software
- Control of e-VTR tape transport from a PC
- Content browsing function allows operators to view any material loaded in any e-VTR on the network as low-rate data
- Remote monitoring of e-VTR status through a network
- Remote maintenance using SNMP protocol through a network



(\*) Either this board or BKMW-104 can be installed into an MSW-2000 series VTR (\*)MXF: Material eXchange Format (\*) Playback-compatible format depends on the VTR used.

## Applicable Models

MSW-2000 MPEG IMX Recorder  
 MSW-A2000 MPEG IMX Recorder  
 MSW-A2000P MPEG IMX Recorder  
 MSW-M2000 MPEG IMX Recorder  
 MSW-M2000P MPEG IMX Recorder  
 MSW-M2100 MPEG IMX Player  
 MSW-M2100P MPEG IMX Player  
 (all versions including /1)

## Supplied Accessories

CD-ROM including e-VTR application software (1)  
 Connector panel with RJ-45 connector (1)  
 Upper front panel for e-VTR operation (1)

## Specifications

### General

Power requirements:  
 +2.5V DC: 3.0A, +3.4V DC: 3.3A, +6.0V DC: 1.0A  
 (supplied from MSW-2000 Series VTR)  
 Operating temperature:  
 +5 to +40°C (+41 to +104° F)  
 Storage temperature:  
 -20 to +60° C (-4 to +140° F)  
 Operating humidity:  
 25 to 80% (no condensation)

### Dimensions

Board (W x H):  
 355 x 146 mm (14 2/5 x 5 4/5 inches)  
 Front panel (W x H x D):  
 430 x 70 x 45 mm (17 2/5 x 2 4/5 x 1 4/5 inches)  
 Connector panel (W x H):  
 72 x 42 mm (2 4/5 x 1 3/5 inches)

### Mass

Board:  
 Approx. 380 g (13.4 oz)  
 Front panel:  
 Approx. 130 g (4.6 oz)  
 Connector panel:  
 Approx. 50 g (1.8 oz)

### Interface:

Network Interface, RJ-45, 1000Base-T (GbE), 100Base-TX, 10Base-T

### System Requirements for the Supplied e-VTR Application Software

CPU:  
 1 GHz or higher  
 Memory:  
 256MB or higher  
 Operating System:  
 Windows XP/2000  
 Direct X:  
 8.11b or higher  
 Available hard disc space:  
 5 Mb or more  
 Monitor resolution:  
 XGA (1024 x 768) or more recommended

## BKP-L551 Li-ion Battery Adaptor

### Features

- Power supply capability from BP-GL/IL/L/M Series battery via XLR-4-pin connector

### Applicable Models

PDW-D1 XDCAM Drive Unit  
HDW-S280 HDCAM Compact Record



## DSBK-1501 Digital Input/Output Board

### Features

- Allows Input/Output of SDI, SDTI(QSDI), AES/EBU

### Applicable Models

DSR-1500AP DVCAM Editing Recorder

### Specifications

#### Input

SDI/SDTI:  
BNC (1), AES/EBU: BNC (2)

#### Output

SDI/SDTI:  
BNC (2)\*, AES/EBU: BNC (2)

\* SDI and SDTI(QSDI) outputs share the same BNC connectors



## DSBK-1505 Analogue Input Board

### Features

- A range of analogue interfaces including composite, component, S-Video(Y/C) and two channel analogue audio are provided.

### Applicable Models

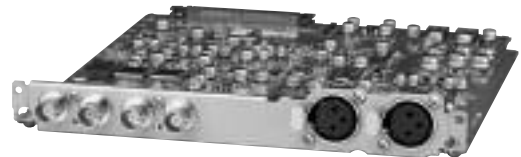
DSR-1500AP DVCAM Editing Recorder

### Specifications

#### Input connectors

BNC (3)

Composite, Component and S-Video share the same BNC connectors.



## DSBK-1601 SDI, AES/EBU Output Board

### Features

- Allows output of SDI (BNC x 2) and AES/EBU (BNC x 2)

### Applicable Models

DSR-1600AP Editing Player



## DSBK-1801 SDI, AES/EBU Input/Output Board

### Features

Allows Input/Output of SDI and AES/EBU

### Applicable Models

DSR-1800AP Editing Recorder

### Specifications

#### Input

SDI: BNC (2)

AES/EBU: BNC (2)

#### Output

SDI: BNC (2)

AES/EBU: BNC(2)



## DSBK-1820 HD Up-converter board

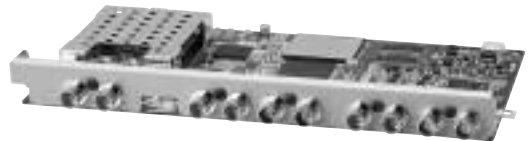
### Features

•Enables conversion to 1080i through HD-SDI Output as well as SDI Input/Output and AES/EBU

### Applicable Models

DSR-1600AP Editing Player

DSR-1800AP Editing Recorder



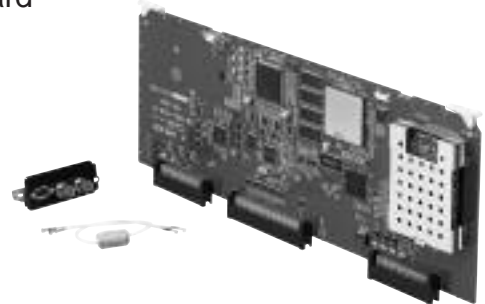
## DSBK-2020 HD Up-converter board

### Features

•Enables conversion to 1080i through HD-SDI Output

### Applicable Models

DSR-2000AP Editing Recorder



## DSRM-10 Remote Control Unit

### Features

•Provides wired remote control operation for STOP/REC/PAUSE/REW/PLAY/FFWD •JOG/SHUTTLE operation •Enables  $\pm 16$  times normal speed in search operation

### Applicable Models

DSR-11 Recorder

DSR-25 Recorder

DSR-45AP Recorder

DSR-1500AP Editing Recorder

DSR-50P Portable Recorder

### Remote control:

Stereo mini-plug

(with attached cable, length 3 m (10 ft))

### Dimensions:

90 (W) x 46 (H) x 182 (D) mm

(3 5/8 x 1 13/16 x 7 1/4 inches)

### Mass:

Approx. 360 g (12 oz)

### Supplied Accessories

Operating manual (1)

### Specifications

#### Power requirements:

DC 5 V (supplied from the connected VTR)

#### Power consumption:

50 mW



## HKDW-101 Remote Control Panel

Remote control panel for HDW-2000 series VTRs

**Applicable Models**

HDW-2000 HDCAM VTR  
HDW-M2000 HDCAM VTR  
HDW-M2000P HDCAM VTR  
HDW-D2000 HDCAM VTR  
HDW-M2100 HDCAM Player  
HDW-M2100P HDCAM Player  
(all versions including /20)



## HKDW-102 SDTI (HDCAM) Interface Board

**Features**

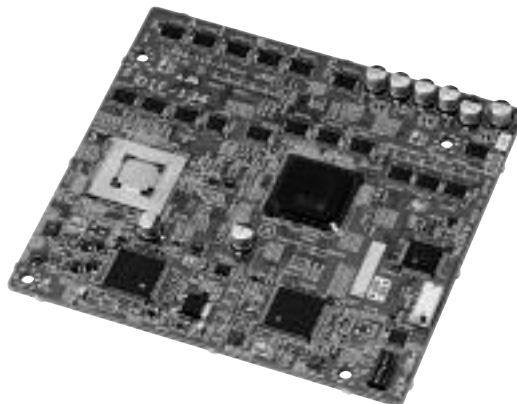
•Adds SDTI (HDCAM) input and output capabilities to an HDW-2000 series VTR

**Applicable Models**

HDW-2000 HDCAM VTR  
HDW-M2000 HDCAM VTR  
HDW-M2000P HDCAM VTR  
HDW-D2000 HDCAM VTR  
HDW-M2100 HDCAM Player  
HDW-M2100P HDCAM Player  
(all versions including /20)

**Supplied Accessories**

“SDTI (HDCAM)” label (1)  
Spacer (5 mm (7/32 inch)) (4)  
Spacer (10 mm (13/32 inch)) (4)  
Fitting screw (8)  
Cable clamp (1)  
Operation and installation guide (1)  
Installation manual (1)



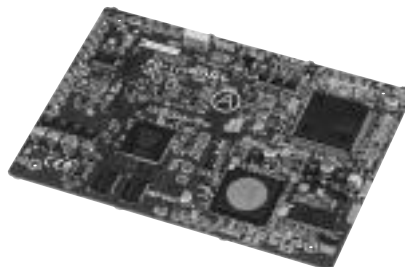
## HKDW-104 Pull-down / 720P Converter Board

**Features**

•Allows the HDW-1800 and HDW-D1800 to replay 1080/50i and 1080/25PsF material from HDCAM tape, convert to 720/50P and output at 720/50P from the VTR. Also provides 2-3 pull-down capability.

**Applicable Models**

HDW-1800 HDCAM VTR  
HDW-D1800 HDCAM VTR



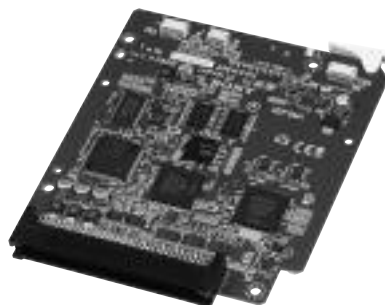
## HKDW-105 i.LINK Interface Board

**Features**

•Allows the HDW-1800 and HDW-D1800 to accept an HDV 1080i compatible stream via a single i.LINK cable connection, without any conversion.

**Applicable Models**

HDW-1800 HDCAM VTR  
HDW-D1800 HDCAM VTR



## PDBK-101 Network Board

### Features

- Provides Gigabit Ethernet interface with the PDW-F70 and PDW-F30

### Applicable Models

PDW-F70 XDCAM HD Recording Deck  
PDW-F30 XDCAM HD Viewing Deck



## PDBK-102 MPEG-2 TS In/Out Board

### Features

- Allows 25 Mb/s HDV stream (MPEG-2 TS) to be input and output between the PDW-F70/F30 decks and an HDV device

\* Only one of the PDBK-102, PDBK-103 or PDBK-104 boards can be installed at any one time.

### Applicable Models

PDW-F70 XDCAM HD Recording Deck  
PDW-F30 XDCAM HD Viewing Deck



## PDBK-103 HD Analogue Component Input Board

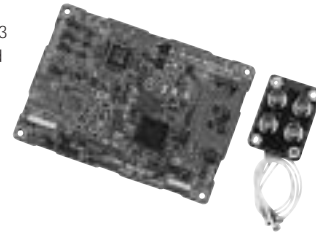
### Features

- Provides the HD analogue component and RGB inputs with the PDW-F70 deck (these share the same BNC connector.)

\* Only one of the PDBK-102, PDBK-103 or PDBK-104 boards can be installed at any one time.

### Applicable Models

PDW-F70 XDCAM HD Recording Deck



## PDBK-104 SD Input Upconverter Board

### Features

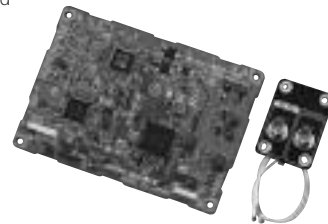
- Provides the SD-SDI and SD composite input with the PDW-F70 deck

\* Only one of the PDBK-102, PDBK-103 or PDBK-104 boards can be installed at any one time.

### Applicable Models

PDW-F70 XDCAM HD Recording Deck

Note: Only HD recording is possible



## RM-280 Editing Controller

The RM-280 is a compact editing controller intended for simple VTR remote control or basic two-machine editing

### Features

- Two-machine editing •Assemble and insert mode
- Four-channel audio editing •A variety of edit buttons such as "IN- and OUT-POINT ENTRY", "+ and - TRIM", "AUTO EDIT", "PREVIEW/REVIEW", "GO TO", "ALL STOP"
- TC/CTL/RTC (Relative Time Code) editing mode selectable •Pinch-on-delay time learning capability for accurate timing adjustments of recorder and player edit in-point •Edit delay time setting •Cue signal or tally output via a mini-pin port •Equipped with reference video input for synchronization with other equipment •VTR remote control function; PLAY, REWIND, FAST-FORWARD, REC, STOP, PAUSE, EDIT, PREROLL •Multiple system frequencies including 29.97, 25, 24, 23.98 Hz •Picture search using the jog/shuttle dial for jog, shuttle and variable-speed playback modes •Can be powered using the supplied AC adaptor or directly from a connected HDW-S280 HDCAM recorder from its DC output
- Easy-to-use keyboard layout provides straightforward operations •Displays error messages on the VFD display, indicating the type of errors and device name on which the malfunction occurred for instant action to be taken
- The RM-280 supports 2 field mode editing only. It does not support CF (Colour Frame) editing



### Applicable Models

HDW-S280 HDCAM Compact Recorder  
 DW-2000 series Digital Betacam VTRs  
 HDW-2000 series HDCAM VTRs\*  
 HDW-1800 series HDCAM VTRs  
 MSW-2000 series MPEG IMX VTRs\*\*  
 PDW-1500 XDCAM Deck  
 DSR-45AP DVCAM Recorder  
 DSR-1500AP DVCAM Editing Recorder  
 DSR-1600AP DVCAM Editing Player  
 DSR-1800AP DVCAM Editing Recorder  
 DSR-2000AP DVCAM Editing Recorder  
 DSR-DR1000AP DVCAM Disk Recorder  
 PDW-F70 XDCAM HD Recording Deck  
 PDW-F30 XDCAM HD Viewing Deck  
 PDW-R1 XDCAM Field Recorder  
 SRW-5000 HDCAM SR VTR\*\*\*

SRW-5500 HDCAM SR VTR\*\*\*  
 SRW-1 HDCAM SR Portable VTR\*\*\*\*  
 \* all versions including /20  
 \*\* all versions including /1  
 \*\*\* RM-280 needs SYS version 1.06 or higher  
 \*\*\*\* Supported as a player only, no PAUSE control available

### Supplied Accessories

Operation manual (1)  
 9-pin/DC multi-cable (1)  
 AC adaptor (1)  
 Template (1)

### Specifications

Power Requirements  
 DC 11 - 17 V  
 Power Consumption  
 5 W

### Mass

600 g (1 lb 5 oz)

### Dimensions (w x h x d)

210 x 52 x 161 mm  
 (8 1/4 x 2 1/8 x 6 3/8 inches)

### Operating Temperature

+5 to +40°C (+41 to +104°F)

### Storage Temperature

-20 to +60°C (-4 to +140°F)

### Connectors

RS-422A 9-pin remote x2  
 Reference video input (BNC) x1  
 RS-232C x1  
 Mini-jack for REC TALLY or cue signal output x1  
 DC input x1

## RMM-131 Rack Mount Kit

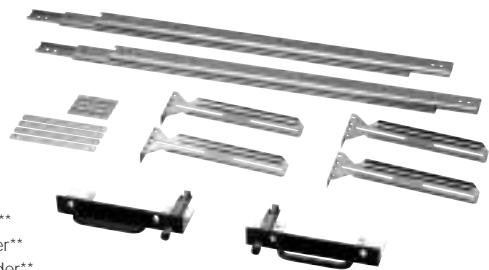
Rack mount kit for HDW-1800/HDW-2000/  
 MSW-2000/Betacam SP/DVCAM series VTRs

### Applicable Models

DSR-1600AP Editing Player  
 DSR-1800AP Editing Recorder  
 DSR-2000AP Editing Recorder  
 DW-2000 Digital Betacam Recorder  
 DW-2000P Digital Betacam Recorder  
 DW-M2000 Digital Betacam Recorder  
 DW-M2000P Digital Betacam Recorder  
 HDW-1800 HDCAM VTR  
 HDW-D1800 HDCAM VTR  
 HDW-2000 HDCAM VTR\*  
 HDW-M2000 HDCAM VTR\*  
 HDW-M2000P HDCAM VTR\*  
 HDW-D2000 HDCAM VTR\*

HDW-M2100 HDCAM Player\*  
 HDW-M2100P HDCAM Player\*  
 MSW-2000 MPEG IMX Recorder\*\*  
 MSW-A2000 MPEG IMX Recorder\*\*  
 MSW-A2000P MPEG IMX Recorder\*\*  
 MSW-M2000 MPEG IMX Recorder\*\*  
 MSW-M2000P MPEG IMX Recorder\*\*  
 MSW-M2100 MPEG IMX Player\*\*  
 MSW-M2100P MPEG IMX Player\*\*

\*all versions including /20  
 \*\*all versions including /1



**SONY**



# Networked Production

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# HDXchange Collaborative Editing Solution

HDXchange provides a complete solution for collaborative editing supporting multiple media file formats. HDXchange's open architecture provides a flexible solution that allows for integration with third-party NLEs. It also includes powerful and easy-to-use media management tools, based on rich metadata and low-resolution proxies. HDXchange can easily integrate with archives for seamless capacity expansion. HDXchange's open architecture, floating licenses, and web-based administration tools make the system easy to use, maintain, and expand. HDXchange provides enables organisations across many industry sectors to manipulate and create high quality AV content in-house without the need for strong AV knowledge.

## Features

- A full end-to-end solution for collaborative editing with applications for ingesting from iLink sources, importing and exporting material from/to XDCAM decks, searching for and managing material, creating storyboards for export to 3rd party non-linear editors (NLEs), and exporting material to playout servers or archive systems.
- Multi-format support including Sony formats XDCAM, XDCAM HD, HDV, DV, and DVCAM as well as MXF, AVI, and QuickTime formats.
- Open editing platform with support for Apple Final Cut Pro, Sony Vegas and AVID LE.
- Powerful media management tools based on rich metadata and low-resolution proxies. A rich metadata environment, based on the Dublin Core metadata model, allows operators to easily input, modify, and search for material. Features full integration with XDCAM metadata and proxies.
- Easy archive integration to near-line disk storage or Sony PetaSite for cost effective expansion of managed media.
- Easy to configure, use, and expand with server hosted applications and web administration

# *HDXchange*



## Supplied

- HDXC-CORE SONY SHARED EDIT ENVIRONMENT CORE PK
- Pre-configured server including:
- HDXchange Administration Services
- 5 Browser Client Floating Licenses
- 1 XDCAM Gateway Floating License
- 1 Logging Client Floating License
- 2 Export Client Floating Licenses
- PDF Manuals

## Optional Accessories

- HDXC-B030 SONY SHARED EDIT ENVIRONMENT BROWSER SW
- HDXC-X030 SONY SHARED EDIT ENVIRONMENT GATEWAY SW
- HDXC-L030 SONY SHARED EDIT ENVIRONMENT LOGGING SW

## Sonaps Integrated Networked Production System

Sonaps is a fully integrated and scalable workflow-specific system that optimises the processes in planning, capturing, producing and publishing content for broadcast news and sport. It has superior capabilities when compared to many systems available today. Sonaps allows innovative new workflow processes and operational procedures to be developed to further enhance the business performance of its users, reducing time to air, increasing efficiency and allowing greater creative opportunities.



### Features

- Fully IT-based networked production system
- Scalable for inputs, outputs, clients and capacity
- Multi-format operation SD/HD • Faster than real-time ingest and access for XDCam-based content
- Powerful and customisable journalist editing tool based on XpriNS proxy editor
- Advanced metadata handling, from planning to archive
- File-based MXF content exchange
- Classification of material by categories that can be shared by all users
- Integrated audio/video editing with voice over, slow motion and advanced NLE capability
- Browsing of audio/video content from any connected terminal or workstation.
- Field editing, seamless EDL exchange and fast time air for last minute content
- Full MOS integration with newsroom computer systems, including planning, search, retrieve and upload and control of playlist
- On air of playlists manually or under automation control.
- Integration with third-party archiving and asset management
- Integration with third-party automation.
- Reliable and robust IT architecture with no single point of failure
- Fully supported by remote diagnostics, dial-in management, monitoring and upgrade
- Roadmap for future enhancements, expansion and upgrade.

### Project Services

Workflow definition and consultancy prior to system design.  
Full management of complete project implementation.  
Support package can be modelled to specific needs.  
Financial models can be tailored to available budgets.

### Options

#### MXF Gateway

Allows file-based contribution and distribution.

#### MOS Gateway

Allows seamless integration to newsroom systems.

#### Archive Interface

Allows seamless integration with third-party asset management and archive systems, including robotics with disc or tape media.

#### Remote editing

Allows remote access to the system for editing and contribution of finished stories.

#### Site to site connection

Allows interconnection of multiple Sonaps systems, for example, main centre and regions or bureaus, to provide seamless interchange of content across different sites.

# XpriNS Advanced non-linear editing

The XPRI NS series of non-linear editors includes a proxy and high-resolution laptop field editor, a journalist's proxy editor, and a high-resolution finishing editor. The XPRI NS family features multi-format support, including native long GOP editing, application-dependant selectable interfaces, and close integration within the XDCAM, and XDCAMHD family of products, together with the SONAPS networked production system.

The XpriNS editor can be used as a dedicated standalone workstation or networked and fully integrated as the proxy and high-resolution editing components within the Sonaps networked production system.

Being completely software based, the XpriNS series provides a single GUI that is uniquely configurable for the user, whether in the field on a laptop, in a newsroom as a plug-in for a newsroom computer system or as a finishing tool for news, sport and magazine programming.

**xpri**<sup>TM</sup>  
**NS Series**



### Option panels

#### DMW-C1 Media control bar

This hardware interface can be used to control audio levels, EQ levels, Colour correction parameters and DVE placement.

#### DMW-C2 Jog and Shuttle panel

The Jog/Shuttle can be used to control both VTR's connected to the XPRI as well as the XPRI clip and timeline editors.

#### DMW-C3 Audio control panel

This motorised audio panel is used primarily to control audio levels and audio routing. It can both "read" and "write" to the timeline.

#### DMW-C5 Linear-like editing control panel

The C5 is a linear like edit controller which is optimised to replace many traditional mouse and keyboard shortcuts.

# Data Archive Solutions

PetaSite ..... 240

# PetaSite Scalable Enterprise Storage System

Highly scalable and easy to manage, Sony PetaSite tape library solutions can help you protect your critical data – and generate fresh sources of value for your business – for years to come. As PetaSite can store anything from a Microsoft Word Document to a 4K feature film an investment in PetaSite today lets you embrace the opportunities of tomorrow's world with confidence.

## Features

- Over 400TB of storage per square metre – equivalent to 36,000 hours of 25Mbps material.
- High performance with up to 400 cartridge exchanges / hour and single stream transfer rates of up to 120MB/s
- Complete format freedom with the choice of SAIT-2, LTO-3 and LTO-4 tape drives or a mixture.
- Enterprise-grade reliability, with RAS features designed for uninterrupted 24 hour operation.
- Cost effective expansion to 2.4PB or over 200,000 hours of 25Mbps material in a single five metre footprint.
- Flexible administration with support for SNMP, email notification and remote administration.
- Fits in with your infrastructure with support for standard IT protocols including SCSI, Fibre Channel and IP communication.

## Base Models

- CSM200B PetaSite 216 Slots No Drives
- CSM100B PetaSite 108 Slots No Drives
- CSM60B PetaSite 60 Slots No Drives

## Supplied Accessories

- DKNB200S SCSI LVD Interface card for PSC server
- DZCPSC2I PetaSite PSC2 V4 S/W on CD-ROM

## Optional Accessories

- CSM200C PETASITE S200 CARTRIDGE CONSOLE
- CSM200D PETASITE S200 DRIVE CONSOLE
- CSMU100B PETASITE MODEL S60 TO S100 UPGRADE
- CSMU200B PETASITE MODEL S100 TO S200 UPGRADE
- CSMADRLTO3F LTO-3 Fibre Drive for Sony PetaSite
- CSMADRLTO4F LTO-4 Fibre Drive for Sony PetaSite
- CSMADR230F PetaSite SAIT-2 Drive (Fibre)
- CSMADR200S PetaSite SAIT-2 Drive (SCSI)
- CSMABLTL PETASITE EXTENSION BELT (4-7 UNITS)
- CSMABLTS PETASITE EXTENSION BELT (1-3 UNITS)
- CSMACBLL PETASITE EXTENSION CABLE KIT (4-7 units)
- CSMACBLS PETASITE EXTENSION CABLE KIT (1-3 units)
- CSMADIF PETASITE REDUNDANT DRIVE CONTROL UNIT
- DKNB200S SCSI LVD Interface card for PSC server
- DZCPSC2I PetaSite PSC2 V4 S/W on CD-ROM
- CSMAPSD PETASITE REDUNDANT POWER UNIT - DRIVE
- CSMAPSL PETASITE REDUNDANT POWER UNIT - LIBRARY
- COMPAQ PC PSC SERVER HARDWARE
- DKNB200S SCSI LVD Interface card for PSC server
- DZCPSC2I PetaSite PSC2 V4 S/W on CD-ROM

**PetaSite™**



# Digital Video Switchers & Accessories

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# AWS-G500 Live Content Producer

## Features

The Anycast Station is an all-in-one content creation tool designed for large projection applications such as church productions, product promotions, event and live staging, music clip creation, conferences, seminars, and distance learning •It comprises a high-quality video switcher, an audio mixer, a large LCD display, and a streaming encoder and server - all packed into an attache case size chassis weighing only about 15 lb. (7 kg) •The video switcher provides 4:2:2 8-bit processing, 6 primary inputs plus one still picture source, 1 ME with 1 keyer (selectable between Linear Key/Luminance Key/Chrominance Key) and 1 DSK with 1 fixed station logo •The audio mixer provides 48 kHz/24-bit processing, 6 stereo channel input mixing, 6 channel faders and 1 master fader

- High-resolution (1280 x 1024 pixel) internal processing for seamless switching between video and PC sources
- Versatile input/output (Input: Composite, S-Video, DV, and RGB/ Output: Composite, S-Video, RGB) •VISCA control functions for compatible Sony Pan/Tilt/Zoom cameras •A large LCD screen for PGM and PVW monitoring, plus 7 windows for input source and one internal still picture source monitoring •Built-in streaming encoder and streaming server function (optional feature)
- Easy operation with one integrated control panel and the multi-window LCD •Multi-camera recording for convenient nonlinear editing.



### Supplied Accessories

Installation Guide (1)  
Pin to BNC Connector (4)

### Optional Accessories

BZAW-500 Keyboard / Software Kit  
BKAW-550 PC Video Interface Module  
BKAW-570 SD Video Interface Module

### Specifications

#### - General-

**Model**  
AWS-G500

**Power Requirements**  
AC 100-240 V, 50/60 Hz

**Operating Voltage**  
AC 90-260 V, 47/63 Hz

**Power Consumption**  
160 W

**Operating Temperature**  
0 to 40 °C (32 to 104 °F)

**Dimensions (W x H x D)**  
424 x 114 x 354 mm

**Mass**  
Approximately 7.0 kg (15 lb 7 oz)

#### - Video Signals -

VIDEO INPUTS (in exfactory configuration)

**Composite**  
BNC Type x 4  
Video: 1.0 Vp-p, 75 Ω, Sync negative

#### S-Video

DIN Type x 4  
Y: 1.0 Vp-p, 75 Ω, Sync negative  
C: 0.286 Vp-p at burst, 75 Ω (System Mode 59.94 Hz)  
C: 0.3 Vp-p at burst, 75 Ω (System Mode 50 Hz)

#### DV

IEEE 1394 4-pin Type x 4  
IEC 61883-2 equiv.

#### RGB

D-Sub Shrunked 15-pin Type x 2 (Female)  
XGA, SXGA

#### VIDEO OUTPUTS

**Composite**  
BNC Type x 1  
Video: 1.0 Vp-p, 75 Ω, Sync negative

#### S-Video

DIN Type x 1  
Y: 1.0 Vp-p, 75 Ω, Sync negative  
C: 0.286 Vp-p at burst, 75 Ω (59.94 Hz)  
C: 0.3 Vp-p at burst, 75 Ω (50 Hz)

#### RGB

Extended D-Sub 15-pin Type x 2 (Female)  
XGA, SXGA

#### BB OUT

BNC Type x 2  
Sync: 0.286 Vp-p, 75 Ω, Sync negative (59.94 Hz)  
Sync: 0.3 Vp-p, 75 Ω, Sync negative (50 Hz)  
C: 0.286 Vp-p at burst, 75 Ω (59.94 Hz)  
C: 0.3 Vp-p at burst, 75 Ω (50 Hz)

#### Recorder Port

HDD/DV  
i.LINK: IEEE 1394 6-pin Type x 2  
(in exfactory configuration)

#### HDD IF: SBP2

#### - Audio Signals -

#### AUDIO INPUTS

**Analogue Inputs 1-2**  
XLR/TRS Combo Type x 2  
Ref. Level: +4 dBu, -20 dBu, -44 dBu  
Mic. Power: +48 V

#### Analogue Inputs 3-6

TRS Type x 4 / Ref. Level: +4 dBu, -20 dBu, -44 dBu

#### Analogue Inputs 7-8

Pin x 2 / Ref. Level: -10 dBs

#### AUDIO OUTPUTS

**PGM OUT**  
TRS Type x 2 / Ref.: +4 dBu / Impedance: 150 Ω

**MIX OUT**  
Pin Type x 2 / Ref.: -10 dBs / Impedance: 10 kΩ

**AUX OUT**  
TRS Type x 2 / Ref.: +4 dBu / Impedance: 150 Ω

**MONITOR OUT**  
TRS Type x 2 / Ref.: +4 dBu / Impedance: 150 Ω

**HEADPHONES**  
1/4 inches Stereo Phone Jack Type x 2

70 mW x 2 / Impedance: 47 Ω

#### INTERCOM

D-Sub 9-pin Type (Female) / Original Parallel I/O

#### - Other Interfaces -

#### NETWORK

RJ-45 Type x 1, 10/100base-TX

#### USB1.1

USB A Type x 2, USB1.1 equiv.

#### RGB(GUI)

D-Sub Shrunked 15-pin (Female), 1280 x 800, 60 Hz

#### REMOTE

D-Sub 9-pin (Male), RS-232C

#### FACTORY USE

D-Sub 15-pin (Male), Original Parallel I/O

#### MEMORY STICK

Memory Stick TM Slot

\*Memory Stick Pro is not supported.

#### VISCA

DIN 8-pin Type x1

Supports Sony VISCA camera commands.

#### LCD

15.4" High Brightness LCD, 1280 x 800, 60 Hz

#### Speaker

Built-In Speaker x 2, Size: 20 x 40 mm



## BKAW-550 PC Video Interface Module

**Applicable Models**

AWS-G500 Live Content Producer

**Specifications**

**RGB**

D-sub Shrinked 15-pin Type x 2 (Female),  
XGA, SXGA



## BKAW-570 SD Video Interface Module

**Applicable Models**

AWS-G500 Live Content Producer

**Specifications**

**Composite**

BNC Type x 2

Video: 1.0 Vp-p, 75  $\Omega$ , Sync negative

**S-Video**

DIN Type x 2

Y: 1.0 Vp-p, 75  $\Omega$ , Sync negative

C: 0.286 Vp-p at burst, 75  $\Omega$ , (System Mode 59.94 Hz)

C: 0.3 Vp-p at burst, 75  $\Omega$ , (System Mode 50 Hz)

**DV**

IEEE 1394 4-pin Type x 2

IEC 61883-2 equiv.

**HDD/DV**

I.LINK: IEEE 1394 6-pin Type x 2

HDD IF: SBP2



## DFS-800 Standard Definition DME Switcher

The DFS-800 is a powerful DME switcher that - despite its small footprint and affordable price - provides a wide variety of switcher functions, exceptional system versatility, and exceptional creative power. It is equipped with eight SD-SDI inputs and outputs as standard; however, as user requirements grow, these can be increased to 16 by adding optional expansion boards. Other standard features include six keyers (each capable of chromakeying), frame memory and a six-channel 3D DME unit. With its creative capability and high-quality special effects, the DFS-800 is designed to be a powerful, yet cost-effective tool for live events, small-scale production studios and editing suites.



### Features

- Powerful Mix/Effect Functionality
- Flexible Input/Output Configurations
- Keyers
- Wide Range of Creative Effects Including 3D
- Powerful Frame Memory Function
- Optional "Pre-combiner" Function
- Compact and Intuitive Control Panel

### Other Features

- Four colour background generators
- Eight GPI inputs and 24 parallel tally outputs
- Serial port for control from editors
- Adjustable levels of process amplifier and white clip
- USB port on the control panel for connecting USB flash memory drive and mouse
- Storage of up to 100 patterns of sequences containing 31 settable key frames
- 96-event memory can be easily recalled using direct buttons
- 2-RU processor unit

### Supplied Accessories

- Control Panel connection cable
- Rack mount brackets
- Operation manual

### Optional Accessories

- BKDF-810 4 Digital Video Input Board
- BKDF-811 2 Analogue Video Input Board
- BKDF-840 16 Input DME Board (Pre-combiner)
- BKDF-860 4 Digital Video Output Board
- BKDF-861 2 Analogue Video Output Board

### Specifications

#### General

- Power Requirement
  - AC 100 V to 240 V  $\pm$ 10%, 50/60 Hz
- Power Consumption
  - Switcher Processor: 100 W (max. 160 W)
  - Control Panel: 50 W
- Operating Temperature
  - 5 to 40° C (41 to 104° F)
- Operating Humidity
  - 30 to 90 % (no condensation)
- Dimensions (W x H x D)
  - Switcher Processor: 430 x 88 x 425 mm (17 x 3 1/2 x 16 3/4 inches)
  - Control Panel: 430 x 155.8 x 221 mm (17 x 6 1/4 x 8 3/4 inches)
- Mass
  - Switcher Processor: Approx. 15 kg (33 lb 1 oz)
  - Control Panel: Approx. 5 kg (11 lb)
- Television Standard
  - 525 / 60 (NTSC), 625 / 50 (PAL) (Selectable at menu)
- Signal Processing
  - 4:2:2 digital component, 10-bit

#### Input Signals

- Video Inputs
  - 8 standard inputs, optionally expandable 16 inputs
  - Digital component: 270 Mbps, 75  $\Omega$ , BNC
- Video Inputs (option)
  - See the board configuration
  - Digital component: 270 Mbps, 75  $\Omega$ , BNC
  - Analogue component: Y: 1.0 Vp-p, B-Y/R-Y: 0.7 Vp-p, BNC
  - Analogue composite: 1.0 Vp-p, 75  $\Omega$ , BNC
- Reference Input
  - Analogue black burst: 0.429 Vp-p (NTSC) / 0.45 Vp-p (PAL), 75  $\Omega$  or Loopthrough, BNC
- Output Signals
  - Video Output
    - 8 standard output (PGM x 2, PREV, Clean, AUX x 4), optional expandable 16 outputs
    - Digital component: 270 Mbps, 75  $\Omega$ , BNC
  - Video Output (option)
    - See the board configuration
    - Digital component: 270 Mbps, 75  $\Omega$ , BNC
    - Analogue component: Y: 1.0 Vp-p, B-Y / R-Y: 0.7 Vp-p, BNC

#### Analogue composite:

- 1.0 Vp-p, 75  $\Omega$ , BNC
- RGB+SYNC: R/G/B: 0.7 Vp-p, 75  $\Omega$ , BNC
- Reference Output
  - Analogue black burst: 0.429 Vp-p (NTSC) / 0.45 Vp-p (PAL), 75  $\Omega$  or Loopthrough, BNC
- Quantization
  - Y: 10-bit, C: 10-bit, Key: 10-bit
- I/O Delay
  - 1H (When FS, edge/shadow and DME not applied to output)
  - Max. 4 frames

#### Control Signals

- Switcher Processor
  - Control Panel: Ethernet 10 / 100BASE-T, RJ-45 x 1
- Editor:
  - D-sub 9 pin (female) x 1
- GPI IN/TALLY:
  - 37-pin D-sub (female) x 1 (8 inputs / 24 outputs)
- Control Panel
  - Switcher: Ethernet, 10/100BASE-TX, RJ-45 x 1
  - VGA: D-sub 15-pin (female) x 1
  - USB: USB1.1 or 2.0, "A" type (female) x 1

### BKDF-810 Digital Video Input Board

One BKDF-810 board provides four SD-SDI inputs.

#### Applicable Models

DFS-800 Standard Definition DME Switcher

---

### BKDF-811 2 Analogue Video Input Board

One BKDF-811 board provides two Analogue inputs (either composite x2, or composite x1 and component x1.)

#### Applicable Models

DFS-800 Standard Definition DME Switcher

---

### BKDF-840 16 Input DME Board (Pre-combiner)

The optional BKDF-840 board provides a powerful pre-combiner function to make complex composition available on the small switcher. With the pre-combiner function, all sixteen inputs can be combined in a single image, which can then be used as a re-entry input.

#### Applicable Models

DFS-800 Standard Definition DME Switcher

---

### BKDF-860 4 Digital Video Output Board

One BKDF-860 board provides four SD-SDI outputs.

#### Applicable Models

DFS-800 Standard Definition DME Switcher

---

### BKDF-861 2 Analogue Video Output Board

One BKDF-861 board provides two Analogue outputs (either composite x2, or composite x1 and component x1.)

#### Applicable Models

DFS-800 Standard Definition DME Switcher

---

# MFS-2000 Multi-Format Switcher Processor

The MFS-2000 is a 3RU high compact and low-cost multi-format switcher that is suitable for use in small-scale OB vehicles, production studios and editing suites.

## Features

- High performance compact multi-format switcher
- Both multi-format and standard definition configurations are supported
- A standard definition configuration can be upgraded to a multi-format system with minimal cost by upgrading the software
- Useful preset effect patterns are provided as preset wipes and DME wipe patterns
- The FlexiPad control panel enables operations such as Macro, M/E and Effect Snapshot
- Colour touch-screen LCD panel
- Serial and parallel tally outputs
- Both the control panel and switcher processor can be fitted with redundant power supply units
- The optional 2-channel DME is capable of 2D/3D linear and non-linear effects and a variety of preset effects are included as standard
- The optional frame memory can store a remarkable 435 frames of HD images or 2184 frames of SD images
- Three types of control panels are provided; MKS-2010 1 M/E control panel, MKS-2015 1.5 M/E control panel, and MKS-2017 1.5 M/E wide control panel



## Supplied Accessories

AC power cord (1)  
Operation manual (1)

## Optional Accessories

MKS-2110M Input/Output Connector Board (MFS-2000)  
MKS-2440 Frame Memory Board Set (MFS-2000)  
MKS-2470 DME Board Set  
MKS-2700 Device Control Unit  
HK-PSU01 Power Supply Unit  
HK-PSU02 Power Supply Unit  
HK-PSU11 Power Supply Unit (Control Panel)  
MKS-2010 1 M/E Control Panel (MFS-2000)  
MKS-2015 1.5 M/E Control Panel (MFS-2000)  
MKS-2017 1.5 M/E Wide Control Panel (MFS-2000)

## Specifications

### General

Power requirements:  
AC 100 V to 240 V  $\pm$ 10% 50/60 Hz  
Power consumption:  
4.5 to 2.1 A (fully loaded)  
Operating temperature:  
5 °C to 40 °C (41 °F to 104 °F)  
Storage temperature  
-20 °C to +60 °C (-4 °F to +140 °F)  
Dimensions (W x H x D):  
440 x 132.4 x 520 mm  
(17 3/8 x 5 1/4 x 20 1/2 inches)  
Mass:  
22 kg (48 lb 8 oz, fully loaded)

### Input/output connectors

Primary inputs:  
Max. 16, BNC x 1 each  
SMPTE292M (HDTV), SMPTE259-C (SDTV)

### SDI video outputs:

Max. 8, BNC x 2 each  
SMPTE292M (HDTV), SMPTE259-C (SDTV)

### Reference inputs:

BNC x 2, 75 $\Omega$  with loop-through  
HDTV system: HD tri-level sync, Analogue black burst, or analogue sync  
SDTV system: Analogue black burst or analogue sync

### Reference output:

BNC x 1, 75  $\Omega$   
HDTV system: HD tri-level sync  
SDTV system: Analogue sync

### Control signals

#### Switcher interface:

Control LAN: RJ-45 x 1, 100BASE-TX  
Data LAN: RJ-45 x 1, 100BASE-TX

#### DME interface:

Control LAN: RJ-45 x 1, 100BASE-TX  
Data LAN: RJ-45 x 1, 100BASE-TX

#### GPI:

D-sub 25-pin (female) x 1, TTL level inputs x 8,  
Relay contact outputs x 4, Open collector outputs x 4

#### Tally:

D-sub 25-pin (female) x 1, Relay contact outputs x 4, Open collector outputs x 4

#### Serial tally:

D-sub 9-pin (female) x 1, RS-422A

## HK-PSU02 Power Supply Unit

Redundant power supply unit for the MFS-2000 Multi Format Switcher Processor and MKS-8010A System Control Unit

### Applicable Models

MFS-2000 Multi-Format Switcher Processor  
MKS-8010A System Control Unit  
MVE-8000A Multi-Format DME Processor  
MVS-8000G Multi-Format Switcher Processor  
MVS-8000GSF Multi-Format Switcher Processor

### Supplied Accessories

Installation Guide (1) (1)

### Specifications

#### General

Operating temperature:  
5 to 40 °C (41 to 104 °F)  
Storage temperature:  
- 20 to 60 °C (- 4 to 140 °F)  
Operating humidity:  
10% to 90% (nocondensation)

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## HK-PSU11 Power Supply Unit (Control Panel)

Redundant power supply unit for Control Panel Unit that can be used as second power supply unit for the MKS-2010, MKS-2015, and MKS-2017 Control Panels.

### Applicable Models

MFS-2000 Multi-Format Switcher Processor  
MKS-2010 1 M/E Control Panel (MFS-2000)  
MKS-2015 1.5 M/E Control Panel (MFS-2000)  
MKS-2017 1.5 M/E Wide Control Panel (MFS-2000)

### Supplied Accessories

Installation Guide (1) (1)

### Specifications

#### General

Operating temperature:  
5 to 40 °C (41 to 104 °F)  
Storage temperature:  
- 20 to 60 °C (- 4 to 140 °F)  
Operating humidity:  
10% to 90% (nocondensation)

## MKS-2010 1 M/E Control Panel (MFS-2000)

The MKS-2010 is a compact 1 M/E Control Panel which is 19 inches in width and offers 12-crosspoint buttons. Its FlexiPad control panel is equipped with colour LCD buttons that indicate assigned functions to give users extremely intuitive operation. An easy-to-use colour touch-screen LCD panel provides users with effective and straightforward menu control.

### Applicable Models

MFS-2000 Multi-Format Switcher Processor

### Optional Accessories

HK-PSU11 Power Supply Unit (Control Panel)

### Specifications

#### General

Power consumption:

1.0 to 0.5 A

Operating temperature:

5 °C to 40 °C (41 °F to 104 °F)

Storage temperature:

-20 °C to +60 °C (-4 °F to +140 °F)

Operation humidity:

10% to 90% RH

Dimensions (W x H x D):

440 x 167.5 x 353.9 mm (17 3/8 x 6 5/8 x 14 inches)

Mass:

10.3 kg (22 lb 11 oz)

#### Input/output connectors

Reference inputs

BNC connector x 2, 75 Ω with

loop-through

HDTV system: HD tri-level sync,

Analogue black burst, or analogue sync

SDTV system: Analogue black burst or

analogue sync

Ext display output:

Mini D-sub 15-pin x 1, Analogue RGB interface

#### Control signals

Control LAN:

RJ-45 x 1, 100BASE-TX

Data LAN:

RJ-45 x 1, 100BASE-TX

Peripheral LAN:

RJ-45 x 1, 100BASE-TX

Device:

USB type A x 1, compliance with USB 1.1

Remote:

BNC connector x 1, S-BUS

GPI:

D-sub 25-pin (female) x 1, TTL level inputs x 8, Relay contact outputs x 4, Open collector outputs x 4



## MKS-2015 1.5 M/E Control Panel (MFS-2000)

The MKS-2015 is a compact 1.5 M/E Control Panel which is 19 inches in width and offers 12-crosspoint buttons. Its FlexiPad control panel is equipped with colour LCD buttons that indicate assigned functions to give users extremely intuitive operation. An easy-to-use colour touch-screen LCD panel provides users with effective and straightforward menu control.

### Applicable Models

MFS-2000 Multi-Format Switcher Processor

### Optional Accessories

HK-PSU11 Power Supply Unit (Control Panel)

### Specifications

#### General

Power consumption:

1.0 to 0.5 A

Operating temperature:

5 °C to 40 °C (41 °F to 104 °F)

Storage temperature:

-20 °C to +60 °C (-4 °F to +140 °F)

Operation humidity:

10% to 90% RH

Dimensions (W x H x D):

440 x 167.5 x 448.1 mm (17 3/8 x 6 5/8 x 17 3/4 inches)

Mass:

11.3 kg (24 lb 15 oz)

#### Input/output connectors

Reference inputs

BNC type x 2, 75 Ω with loop-through

HDTV system: HD tri-level sync,

Analogue black burst, or analogue sync

SDTV system: Analogue black burst or

analogue sync

Ext display output:

Mini D-sub 15-pin x 1, Analogue RGB interface

#### Control signals

Control LAN:

RJ-45 x 1, 100BASE-TX

Data LAN:

RJ-45 x 1, 100BASE-TX

Peripheral LAN:

RJ-45 x 1, 100BASE-TX

Device:

USB type A x 1, compliance with USB 1.1

Remote:

BNC connector x 1, S-BUS

GPI:

D-sub 25-pin (female) x 1, TTL level

inputs x 8, Relay contact outputs x 4,

Open collector outputs x 4



## MKS-2017 1.5 M/E Wide Control Panel (MFS-2000)

The MKS-2017 is a compact 1.5 M/E Wide Control Panel which is 576-mm width and offers 20-crosspoint buttons. Its FlexiPad control panel is equipped with colour LCD buttons that indicate assigned functions to give users extremely intuitive operation. An easy-to-use colour touch-screen LCD panel provides users with effective and straightforward menu control.

### Applicable Models

MFS-2000 Multi-Format Switcher Processor

### Optional Accessories

HK-PSU11 Power Supply Unit (Control Panel)

### Specifications

#### General

Power consumption:

1.0 to 0.6 A

Operating temperature:

5 °C to 40 °C (41 °F to 104 °F)

Storage temperature:

-20 °C to +60 °C (-4 °F to +140 °F)

Operation humidity:

10% to 90% RH

Dimensions (W x H x D):

576 x 167.5 x 448.1 mm (22 3/4 x 6 5/8 x 17 3/4 inches)

Mass:

12.6 kg (27 lb 12 oz)

#### Input/output connectors

Reference inputs

BNC type x 2, 75 Ω with loop-through

HDTV system: HD tri-level sync,

Analogue black burst, or analogue sync

SDTV system: Analogue black burst or analogue sync

Ext display output:

Mini D-sub 15-pin x 1, Analogue RGB interface

#### Control signals

Control LAN:

RJ-45 x 1, 100BASE-TX

Data LAN:

RJ-45 x 1, 100BASE-TX

Peripheral LAN:

RJ-45 x 1, 100BASE-TX

Device:

USB type A x 1, compliance with USB 1.1

Remote:

BNC connector x 1, S-BUS

GPI:

D-sub 25-pin (female) x 1, TTL level

inputs x 8, Relay contact outputs x 4,

Open collector outputs x 4





### MKS-2110M Input/Output Connector Board (MFS-2000)

The optional MKS-2110M Input/Output Connector Board provides an additional 8 SDI input connectors and 4 SDI output connectors to the MFS-2000 Series Multi-Format Switchers.

#### Applicable Models

MFS-2000 Multi-Format Switcher Processor

#### Specifications

##### Input/output connectors

SDI video inputs:

Max.8, BNC connector x1 each

SMPTE292M(HDTV), SMPTE259-C(SDTV)

SDI video outputs:

Max.4, BNC connector x2 each

SMPTE292M(HDTV), SMPTE259-C(SDTV)

### MKS-2420M Colour Corrector Board

•The MKS-2420M adds two channel colour correction to an MFS-2000 system •Optional MKS-2440 board is required

#### Applicable Models

MFS-2000 Multi-Format Switcher Processor

### MKS-2440 Frame Memory Board Set (MFS-2000)

The MKS-2440 Frame Memory Board Set provides powerful 6-channel frame memory with animation capability to the MFS-2000 Series Multi-Format Switchers. The MKS-2440 offers two channel-source busses and six channel outputs with re-position capability. The frame memory stores 435 frames of HD images which translates into approximately 15 seconds at 1080/59.94i, or 2184 frames of SD images which translates into approximately 73 seconds at 480i/59.94.

#### Applicable Models

MFS-2000 Multi-Format Switcher Processor

#### Specifications

##### Control signals

Image file LAN:

RJ-45 x 1, 100BASE-TX

Device:

IEEE1394 6-pin x 1

### MKS-2470 DME Board Set

The MKS-2470 DME Board Set provides state-of-the-art integrated 2-channel effects as preset DME patterns to the MFS-2000 Series Multi-Format Switchers.

#### Applicable Models

MFS-2000 Multi-Format Switcher Processor

## **BZS-2000M** MFS-2000 processor Upgrade Software from SD to Multi Format Configuration

Applicable Models

MFS-2000 Multi-Format Switcher Processor

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## **BZS-2470M** DME Upgrade Software from SD to Multi Format Configuration

Applicable Models

MFS-2000 Multi-Format Switcher Processor

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## **BZS-2440M** Frame memory board Upgrade Software from SD to Multi Format Configuration

Applicable Models

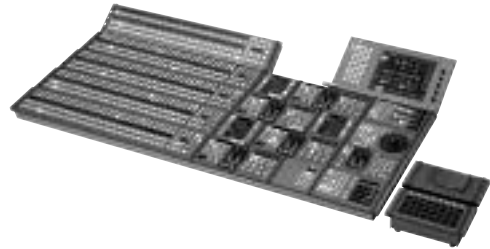
MFS-2000 Multi-Format Switcher Processor

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## MVS-8000G Multi-Format Switcher Processor

The MVS-8000G is a multi-format switcher processor with a compact frame size only 8 RU high. The MVS-8000G offers a variety of option boards for flexible configurations from 2M/E to 4M/E. The MVS-8000G works as the main processor of the MVS-8000G switcher system with the CCP-8000/CCP-9000 Center Control Panel, MVE-8000G/MVE-9000 Multi Format DME Processor, and MKS-8700/MKS-2700 Device Control Unit.

\* In order to enable multi format operation additional software BZS-8500/10/20/30 is required



### Features

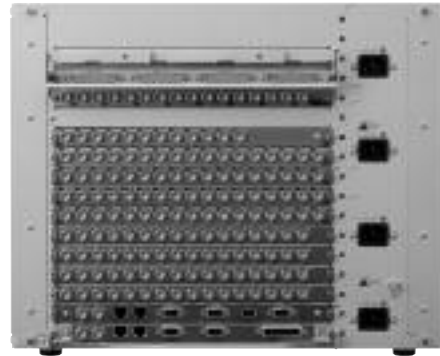
- Multi-format capability: 1080i/60, 59.94, 50, 1080p/30, 29.97, 25, 24, 23.976, 720p/59.94, 480i/59.94, 576i/50
- 2-, 2.5-, 3-, 3.5-, or 4-Mix/Effects configurations
- Layout free CCP-8000 series control panels
- Creative M/E functionality: Four full function keyers per M/E, Multiple M/E Program output configurations
- Independent M/E functionality, 4:3 / 16:9, Crosspoint Assignments and Bus Toggle on/off, Snapshots, Keyframe and various setups
- Up to 80 inputs and 56 outputs (including 8 monitor outputs)
- Integrated device control for VTRs, Digital Disc Recorders, Digital Multi-Effects, Routing Switchers and more
- Multi-panel / Multi-processor operations
- Can store 1000 frames of HD images (with optional MKS-8442G installed)
- The frame memory systems has eight simultaneous outputs
- Programmable Macro capability supported
- Integrated 3D DME or external DME control
- Remote maintenance and image file exchange via Ethernet network
- User programmable tally conditions and multi-level tally

### Supplied Accessories

- 75 Ω terminator (1)
- Bracket (4)
- Support angle (2)
- Screw (+B 4 x 10) (8)
- Screw (+PSW 4 x 10) (8)
- Operation manual (1)
- Installation manual (1)

For full list of options please refer to following product pages.

MVS Switcher Control Panel



MVS-8000G Multi-Format Switcher Processor

# Digital Video Switchers & Accessories

## Specifications

### General

#### Power requirements:

100-240 V AC +/- 10%, 50/60 Hz

#### Power consumption

MVS-8000G Switcher processor:  
15 to 6.25 A

MVE-8000A DME processor:  
2.5 to 1.0 A

MVE-9000 DME processor:  
6.0 to 2.5 A

MKS-8700 Device control unit:  
1.4 to 0.8A

MKS-2700 Device control unit:  
5.0 to 2.1A

#### Dimensions (W x H x D, without projection)

MVS-8000G Switcher processor:  
482 x 354 x 520 mm  
(19 x 14 x 20 1/2 inches)

MVE-8000A DME processor:  
440 x 87.5 x 520 mm  
(17 3/8 x 3 1/2 x 20 1/2 inches)

#### Main panel

4 M/E, 32 crosspoint buttons:  
1443 (with Mount Bracket) x 98 (max.) x  
528 mm  
(56 7/8 x 3 7/8 x 20 7/8 inches)

3 M/E, 32 crosspoint buttons:  
1443 (with mounting bracket) x 98 (max.)  
x 528 mm  
(56 7/8 x 3 7/8 x 20 7/8 inches)

2 M/E, 24 crosspoint buttons:  
1291 (with mounting bracket) x 92 (max.)  
x 396 mm  
(50 7/8 x 3 5/8 x 15 5/8 inches)

#### AUX BUS panel

32 crosspoint buttons:  
782 (with mounting bracket) x 132 x 80  
(max.) mm  
(30 7/8 x 5 1/4 x 3 1/4 inches)

24 crosspoint buttons:  
630 (with mounting bracket) x 132 x 80  
(max.) mm  
(24 7/8 x 5 1/4 x 3 1/4 inches)

#### Menu panel:

424 x 220 x 46 mm  
(16 3/4 x 83/4 x 1 13/16 inches)

#### Memory card/USB adaptor:

263 (with mounting bracket) x 132 x 78.5  
mm  
(10 3/8 x 5 1/4 x 3 1/8 inches)

#### Extension adaptor:

263 (with mounting bracket) x 132 x 78.5 mm  
(10 3/8 x 5 1/4 x 3 1/8 inches)

MKS-8700 Device control unit:  
482 x 132 x 520 mm  
(19 x 5 1/4 x 20 1/2 inches)

MKS-2700 Device control unit:  
440 x 43.6 x 520 mm  
(17 3/8 x 1 3/4 x 20 1/2 inches)

#### Mass

MVS-8000G Switcher processor:  
Approx. 51 kg (112 lb 7 oz) (fully loaded)

MVE-8000A DME processor:  
Approx. 16 kg (35 lb 4 oz) (fully loaded)

Main panel (4 M/E, 32 crosspoint buttons):  
Approx. 30 kg (66 lb 2 oz)

AUX BUS panel (32 crosspoint buttons):  
Approx. 3.7 kg (8 lb 2 oz)

#### Menu panel:

Approx. 2.2 kg (4 lb 13 oz)

#### Extension adaptor (with fader):

Approx. 1.5 kg (3 lb 4 oz) (with module)

#### Memory card/USB adaptor:

Approx. 1.2 kg (2 lb 10 oz) (with module)

#### MKS-8700 Device control unit:

Approx. 8 kg (17 lb 10 oz)

#### MKS-2700 Device control unit:

Approx. 9.8 kg (21 lb 10 oz) (fully loaded)

#### Operation temperature:

+5 °C to +40 °C (+41°F to +104°F)

#### Operating humidity:

10% to 90% (non-condensing)

### Serial digital video inputs

MVS-8000G Switcher processor

#### Primary Inputs:

Max. 80, BNC x 1 each,  
SMPTE292M (HDTV), SMPTE259M-C  
(SDTV)

### Serial digital video outputs

MVS-8000G Switcher processor

#### Assignable outputs:

Max. 48,  
OUT 1 to 4, 13 to 16, 25 to 28, 37 to 40:  
BNC x 2 each  
OUT 5 to 12, 17 to 24, 29 to 36, 41 to 48:  
BNC x 1 each  
SMPTE292M (HDTV), SMPTE259M-C  
(SDTV)

#### Monitor outputs:

Max. 12, BNC x 2 each  
SMPTE292M (HDTV), SMPTE259M-C  
(SDTV)

### Dedicated switcher/DME video I/O

MVS-8000G Switcher processor

#### Integrated DME I/O:

68-pin x 4, LVDS

MVE-8000A DME processor

#### Digital video I/O:

MDR 68-pin x 2 (inputs/outputs: 2 CH x 2),  
LVDS

MVE-9000 DME processor

#### Digital video I/O:

MDR 68-pin x 2 (inputs/outputs: 2 CH x 2),  
LVDS

### Reference

Switcher processor, DME processor, system  
control unit, device control unit

#### Reference input:

BNC x 2, 75 Ω with loop-through output  
HDTV systems: HD tri-level sync/SDTV  
analogue sync  
SDTV systems: Analogue black  
burst/analogue sync

#### Switcher processor

#### Reference output:

BNC x 1, 75 Ω  
HDTV systems: HD tri-level sync  
SDTV systems: Analogue sync

### System interface

MVS-8000G Switcher processor

#### Control LAN:

RJ-45 x 1, 100BASE-TX

#### Data LAN:

RJ-45 x 1, 100BASE-TX

#### Remote 1:

D-sub 9-pin, RS-422A

#### Remote 2:

D-sub 9-pin, RS-422A

#### Remote 3:

D-sub 9-pin, RS-422A

#### Remote 4:

D-sub 9-pin, RS-422A

#### Terminal:

D-sub 9-pin, RS-232C

#### GPI:

D-sub 25-pin, TTL level inputs x 8 /  
relay contact outputs x 4 /  
open collector outputs x 4

#### Extension:

BNC x 1

MVE-8000A DME processor

#### Control LAN:

RJ-45 x 1, 100BASE-TX

#### Data LAN:

RJ-45 x 1, 100BASE-TX

#### Editor:

D-sub 9-pin x 4, RS-422A

#### GPI:

D-sub 25-pin, TTL level inputs x 8 /  
relay contact outputs x 4 /  
open collector outputs x 4

MVE-9000 DME processor

#### Control LAN:

RJ-45 x 1, 100BASE-TX

#### Data LAN:

RJ-45 x 1, 100BASE-TX

#### Editor:

D-sub 9-pin x 4, RS-422A

#### GPI:

D-sub 25-pin x 2, dry contact or open  
collector inputs x 16/  
relay contact outputs x 8 /  
open collector outputs x 8

CCP-8000 Series System control unit

#### Control LAN:

RJ-45 x 1, 100BASE-TX

#### Data LAN:

RJ-45 x 1, 100BASE-TX

#### Peripheral LAN:

RJ-45 x 1, 100BASE-TX

#### GPI:

D-sub 25-pin, TTL Level inputs x 8 /  
relay contact outputs x 4 /  
open collector outputs x 4

#### Remote:

BNC x 1, S-BUS

#### LTC:

BNC x 1

#### Device:

USB type A

MKS-8700 Device control unit

#### Peripheral LAN:

RJ-45 x 1, 100BASE-TX

#### Serial tally 1:

D-sub 9-pin x 1, RS-422A

#### Serial tally 2:

D-sub 9-pin x 1, RS-422A

#### TALLY/GPI inputs:

D-sub 37-pin x 3, TTL level inputs x 34 each

#### TALLY/GPI outputs \*:

D-sub 37-pin, relay contact outputs 18ch,  
up to 270 ch in step of 5 ch in a frame

#### Remote\*:

D-sub 9-pin, RS-422A, various protocols,  
up to 30 ports in steps of 6 ports in a frame

MKS-2700 Device control unit

#### Peripheral LAN:

RJ-45 x 1, 100BASE-TX

#### TALLY/GPI inputs:

D-sub 37-pin x 1, TTL level inputs x 34

#### TALLY/GPI outputs :

D-sub 37-pin x 2, TTL level inputs x 18  
each

#### Remote:

D-sub 9-pin x 6, RS-422A, various protocols

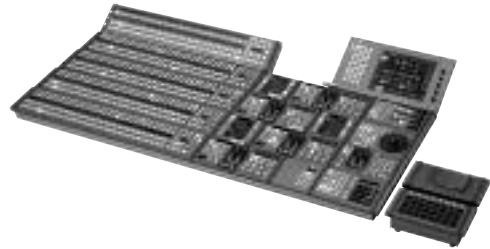
\* TALLY/GPI and REMOTE ports are alternatively installed. Mixed configuration of TALLY/GPI and REMOTE ports is supported.

## MVS-8000GSF Multi-Format Switcher Processor

The MVS-8000GSF is a multi-format switcher processor with a compact frame size only 4 RU high. The MVS-8000GSF offers a variety of option boards for flexible configurations from 1M/E to 2.5M/E.

The MVS-8000GSF works as the main processor of the MVS-8000GSF switcher system with the CCP-8000/CCP-9000 Center Control Panel, MVE-8000A/MVE-9000 Multi Format DME Processor, and MKS-8700/MKS-2700 Device Control Unit.

\* In order to enable multi format operation additional software BZS-8500/10/20/30 is required



MVS Switcher Control Panel

### Features

- Multi-format capability: 1080i/60, 59.94, 50, 1080p/30, 29.97, 25, 24, 23.976, 720p/59.94, 480i/59.94, 576i/50
- 1-, 1.5-, 2 or 2.5 -Mix/Effects configurations
- Layout free CCP-8000 series control panels
- Creative M/E functionality: Four full function keys per M/E, Multiple M/E Program output configurations
- Independent M/E functionality, 4:3 / 16:9, Crosspoint Assignments and Bus Toggle on/off, Snapshots, Keyframe and various setups
- Up to 34 inputs and 24 outputs
- Integrated Optional device control for VTRs, Digital Disc Recorders, Digital Multi-Effects, Routing Switchers and more
- Multi-panel / Multi-processor operations
- Can store 1000 frames of HD images (with optional MKS-8442G installed)
- The frame memory systems has eight simultaneous outputs
- Programmable Macro capability supported
- Integrated 3D DME or external DME control
- Remote maintenance and image file exchange via Ethernet network
- User programmable tally conditions and multi-level tally



MVS-8000GSF Multi-Format Switcher Processor

### Supplied Accessories

- 75  $\Omega$  terminator (1)
- Bracket (4)
- Support angle (2)
- Screw (+B 4 x 10) (8)
- Screw (+PSW 4 x 10) (8)
- Operation manual (1)
- Installation manual (1)

For full list of options please refer to following product pages.

# Digital Video Switchers & Accessories

## Specifications

### General

Power requirements:  
100-240 V AC +/- 10%, 50/60 Hz

Power consumption

MVS-8000GSF Switcher processor:  
7.5 to 3.1 A

MVE-8000A DME processor:  
2.5 to 1.0 A

MVE-9000 DME processor:  
6.0 to 2.5 A

MKS-8700 Device control unit:  
1.4 to 0.8A

MKS-2700 Device control unit:  
5.0 to 2.1A

Dimensions (W x H x D, without projection)

MVS-8000GSF Switcher processor:  
482 x 177 x 520 mm  
(19 x 7 x 20 1/2 inches)

MVE-8000A DME processor:  
440 x 87.5 x 520 mm  
(17 3/8 x 3 1/2 x 20 1/2 inches)

Main panel

4 M/E, 32 crosspoint buttons:  
1443 (with Mount Bracket) x 98 (max.) x 528 mm  
(56 7/8 x 3 7/8 x 20 7/8 inches)

3 M/E, 32 crosspoint buttons:  
1443 (with mounting bracket) x 98 (max.) x 528 mm  
(56 7/8 x 3 7/8 x 20 7/8 inches)

2 M/E, 24 crosspoint buttons:  
1291 (with mounting bracket) x 92 (max.) x 396 mm  
(50 7/8 x 3 5/8 x 15 5/8 inches)

AUX BUS panel

32 crosspoint buttons:  
782 (with mounting bracket) x 132 x 80 (max.) mm  
(30 7/8 x 5 1/4 x 3 1/4 inches)

24 crosspoint buttons:  
630 (with mounting bracket) x 132 x 80 (max.) mm  
(24 7/8 x 5 1/4 x 3 1/4 inches)

Menu panel:  
424 x 220 x 46 mm  
(16 3/4 x 83/4 x 1 13/16 inches)

Memory card/USB adaptor:  
263 (with mounting bracket) x 132 x 78.5 mm  
(10 3/8 x 5 1/4 x 3 1/8 inches)

Extension adaptor:  
263 (with mounting bracket) x 132 x 78.5 mm  
(10 3/8 x 5 1/4 x 3 1/8 inches)

MKS-8700 Device control unit:  
482 x 132 x 520 mm  
(19 x 5 1/4 x 20 1/2 inches)

MKS-2700 Device control unit:  
440 x 43.6 x 520 mm  
(17 3/8 x 1 3/4 x 20 1/2 inches)

Mass

MVS-8000GSF Switcher processor:  
Approx. 28 kg (61 lb 12 oz) (fully loaded)

MVE-8000A DME processor:  
Approx. 16 kg (35 lb 4 oz) (fully loaded)

Main panel (4 M/E, 32 crosspoint buttons):  
Approx. 30 kg (66 lb 2 oz)

AUX BUS panel (32 crosspoint buttons):  
Approx. 3.7 kg (8 lb 2 oz)

Menu panel:  
Approx. 2.2 kg (4 lb 13 oz)

Extension adaptor (with fader):  
Approx. 1.5 kg (3 lb 4 oz) (with module)

Memory card/USB adaptor:  
Approx. 1.2 kg (2 lb 10 oz) (with module)

MKS-8700 Device control unit:  
Approx. 8 kg (17 lb 10 oz)

MKS-2700 Device control unit:  
Approx. 9.8 kg (21 lb 10 oz) (fully loaded)

Operation temperature:  
+5 °C to +40 °C (+41°F to +104°F)

Operating humidity:  
10% to 90% (non-condensing)

### Serial digital video inputs

MVS-8000GSF Switcher processor

Primary Inputs:  
Max. 34, BNC x 1 each,  
SMPTE292M (HDTV), SMPTE259M-C (SDTV)

### Serial digital video outputs

MVS-8000GSF Switcher processor

Assignable outputs:  
OUT 1 to 4, 13 to 16: BNC x 2 each  
OUT 5 to 12, 17 to 24: BNC x 1 each

### Dedicated switcher/DME video I/O

MVS-8000GSF Switcher processor

Integrated DME I/O:  
68-pin x 4, LVDS

MVE-8000A DME processor

Digital video I/O:  
MDR 68-pin x 2 (inputs/outputs: 2 CH x 2), LVDS

MVE-9000 DME processor

Digital video I/O:  
MDR 68-pin x 2 (inputs/outputs: 2 CH x 2), LVDS

### Reference

Switcher processor, DME processor, system control unit, device control unit

Reference input:  
BNC x 2, 75 Ω with loop-through output  
HDTV systems: HD tri-level sync/SDTV analogue sync  
SDTV systems: Analogue black burst/analogue sync

Switcher processor

Reference output:  
BNC x 1, 75 Ω

HDTV systems: HD tri-level sync  
SDTV systems: Analogue sync

### System interface

MVS-8000GSF Switcher processor

Control LAN:  
RJ-45 x 1, 100BASE-TX

Data LAN:  
RJ-45 x 1, 100BASE-TX

Remote 1:  
D-sub 9-pin, RS-422A

Remote 2:  
D-sub 9-pin, RS-422A

Remote 3:  
D-sub 9-pin, RS-422A

Remote 4:  
D-sub 9-pin, RS-422A

Terminal:  
D-sub 9-pin, RS-232C

GPI:  
D-sub 25-pin, TTL level inputs x 8 / relay contact outputs x 4 / open collector outputs x 4

Extension:  
BNC x 1

MVE-8000A DME processor

Control LAN:  
RJ-45 x 1, 100BASE-TX

Data LAN:  
RJ-45 x 1, 100BASE-TX

Editor:  
D-sub 9-pin x 4, RS-422A

GPI:  
D-sub 25-pin, TTL level inputs x 8 / relay contact outputs x 4 / open collector outputs x 4

MVE-9000 DME processor

Control LAN:  
RJ-45 x 1, 100BASE-TX

Data LAN:  
RJ-45 x 1, 100BASE-TX

Editor:  
D-sub 9-pin x 4, RS-422A

GPI:  
D-sub 25-pin x 2, dry contact or open collector inputs x 16 / relay contact outputs x 8 / open collector outputs x 8

CCP-8000 Series System control unit

Control LAN:  
RJ-45 x 1, 100BASE-TX

Data LAN:  
RJ-45 x 1, 100BASE-TX

Peripheral LAN:  
RJ-45 x 1, 100BASE-TX

GPI:  
D-sub 25-pin, TTL Level inputs x 8 / relay contact outputs x 4 / open collector outputs x 4

Remote:  
BNC x 1, S-BUS

LTC:  
BNC x 1

Device:  
USB type A

MKS-8700 Device control unit

Peripheral LAN:  
RJ-45 x 1, 100BASE-TX

Serial tally 1:  
D-sub 9-pin x 1, RS-422A

Serial tally 2:  
D-sub 9-pin x 1, RS-422A

TALLY/GPI inputs:  
D-sub 37-pin x 3, TTL level inputs x 34 each

TALLY/GPI outputs \*:  
D-sub 37-pin, relay contact outputs 18ch, up to 270 ch in step of 5 ch in a frame

Remote\*:  
D-sub 9-pin, RS-422A, various protocols, up to 30 ports in steps of 6 ports in a frame

MKS-2700 Device control unit

Peripheral LAN:  
RJ-45 x 1, 100BASE-TX

TALLY/GPI inputs:  
D-sub 37-pin x 1, TTL level inputs x 34

TALLY/GPI outputs :  
D-sub 37-pin x 2, TTL level inputs x 18 each

Remote:  
D-sub 9-pin x 6, RS-422A, various protocols

\* TALLY/GPI and REMOTE ports are alternatively installed. Mixed configuration of TALLY/GPI and REMOTE ports is supported.

## BZS-8500M MVS-8000G Upgrade software from SD to Multi-format operation

Applicable Models

MVS-8000G Multi-Format Switcher Processor

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## BZS-8510M MVS-8000GSF Upgrade software from SD to Multi-format operation

Applicable Models

MVS-8000GSF Multi-Format Switcher Processor

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## BZS-8520M MVS-8210G Upgrade software from SD to Multi-format operation

Applicable Models

MVS-8000G/GSF Multi-Format Switcher Processor

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## BZS-8530M MVS-8210G Upgrade software from SD to Multi-format operation\*

\*for fourth ME in MVS-8000G only

Applicable Models

MVS-8000G Multi-Format Switcher Processor

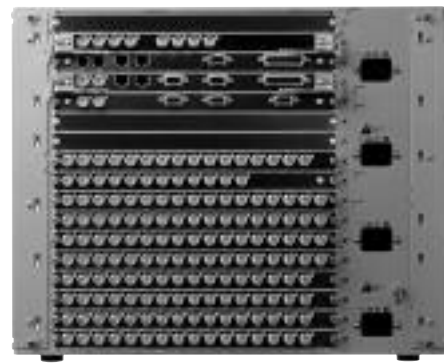
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## DVS-9000 Production Switcher Processor

Compared to conventional SD switchers, the DVS-9000 Series offers greater system flexibility, a range of enhanced functions and a more compact design. The system-control structure and setup/effect data of the DVS-9000 Series switchers are compatible with the MVS-8000 Series switchers. This enables you to configure a mixed DVS-9000 Series and MVS-8000 Series setup, and also provides a smooth migration path from SD to HD operations, with minimal cost and system reconfiguration.

### Features

- 525/625 switchable •8RU frame provides up to 80 primary inputs, 48 outputs and 8 monitor outputs
- 2, 2.5, 3,3.5, and 4-M/E configurations are available
- Creative M/E functionality — Four full-function keyers per M/E, Multiple M/E program output configuration
- Independent M/E functionality — 4:3/16:9 modes, crosspoint assignment, BUS toggle on/off, Snapshots, and keyframe can be set independently for each M/E
- Internal frame memory for storage of 444 SD images with 8 O/Ps •RGB colour-corrector option •Redundant power supply can be installed •Low power consumption — Switcher processor and built-in DME consume less than 750 W •Sophisticated DME — BKDS-9470 DME Board Set •Two 100base-TX network interfaces — Multi-panel and multi-processor operation, Remote maintenance and image file exchange, Set up, effect and image data transfer •Compatible panels and peripherals with MVS-8000 Series Switchers — CCP-8000 Series and CCP-9000 Series Control Panels, MKS-8700 Device Control Unit, MKS-8080/8082 Aux Bus Remote Panel, UCP-8060 Universal Control Panel



### Supplied Accessories

- 75  $\Omega$  terminator (1)
- Bracket (4)
- Support angle (2)
- Screw (+B 4 x 10) (8)
- Screw (+PSW 4 x 10) (8)
- Operation manual (1)
- Installation manual (1)

For full list of options please refer to following product pages.



# Digital Video Switchers & Accessories

## Specifications

### General

Power requirement:  
100 to 240 V AC,  $\pm 10\%$  50/60 Hz

Power consumption  
DVS-9000:  
8.6 to 4.2 A  
CCP-8000 Series:  
3.3 to 1.4 A  
CCP-9000 Series:  
0.9 to 0.4 A  
Device control unit:  
1.4 to 0.8 A

Operating temperature:  
5 °C to 40 °C (41 °F to 104 °F)

Storage temperature:  
-20 °C to +60 °C (-4 °F to +140 °F)

Operating humidity:  
10% to 90 % (Non-condensing)

Dimensions (W x H x D)  
DVS-9000:  
482 x 354 x 520 mm (19 x 14 x 20 1/2 inches)  
CCP-8000 Series  
Main Panel  
4M/E, 32-crosspoint buttons:  
1443 (with mount bracket) x 98.5 x 528 mm (56 7/8 x 4 x 20 7/8 inches)  
3M/E, 24-crosspoint buttons:  
1291 (with mount bracket) x 98.5 x 528 mm (50 7/8 x 4 x 20 7/8 inches)  
2M/E, 16-crosspoint buttons:  
1139 (with mount bracket) x 98.5 x 396 mm (44 7/8 x 4 x 15 5/8 inches)  
Auxiliary Bus Panel  
32-crosspoint buttons:  
782 (with mount bracket) x 132 x 80 mm (30 7/8 x 5 1/4 x 3 1/4 inches)  
24-crosspoint buttons:  
630 (with mount bracket) x 132 x 80 mm (24 7/8 x 5 1/4 x 3 1/4 inches)  
16-crosspoint buttons:  
478 (with mount bracket) x 132 x 80 mm (18 7/8 x 5 1/4 x 3 1/4 inches)  
Menu Panel:  
424 x 220 x 46 mm (16 3/4 x 8 3/4 x 1 13/16 inches)  
System Control Unit:  
482 x 132 x 520 mm (19 x 5 1/4 x 20 1/2 inches)  
CCP-9000 Series  
Main Panel  
2M/E, 12-crosspoint buttons/1M/E,  
12-crosspoint buttons:  
478 (with mount bracket) x 208 x 442 mm (18 7/8 x 8 1/4 x 17 1/2 inches)  
Menu Panel:  
424 x 220 x 46 mm (16 3/4 x 8 3/4 x 1 13/16 inches)  
Device Control Unit:  
482 x 132 x 520 mm (19 x 5 1/4 x 20 1/2 inches)  
Memory Card/USB Adaptor:  
263 (with mount bracket) x 132 x 78.5 mm (10 3/8 x 5 1/4 x 3 1/8 inches)

Extension Adaptor:  
263 (with mount bracket) x 132 x 78.5 mm (10 3/8 x 5 1/4 x 3 1/8 inches)

### Mass

DVS-9000:  
Approx. 43 kg (94 lb 13 oz)  
CCP-8000 Series  
Main Panel (4M/E, 32-crosspoint buttons):  
30 kg (66 lb 2 oz)  
Auxiliary Bus Panel (32-crosspoint buttons):  
3.7 kg (8 lb 2 oz)  
Menu Panel:  
2.2 kg (4 lb 13 oz)  
System Control Unit:  
12 kg (26 lb 7 oz)  
CCP-9000 Series  
Main Panel  
2M/E, 12-crosspoint buttons:  
12.5 kg (27 lb 9 oz)  
1M/E, 12-crosspoint buttons:  
11.5 kg (25 lb 6 oz)  
Menu Panel:  
2.2 kg (4 lb 13 oz)  
Device Control Unit:  
18 kg (39 lb 10 oz) (Fully loaded)  
Memory Card/USB Adaptor:  
1.2 kg (2 lb 10 oz) (with module)  
Extension Adaptor:  
1.5 kg (3 lb 4 oz) (with module)

### Video inputs

Primary inputs:  
BNC type connector x 1 each,  
Max.80  
Serial digital video signal, SMPTE259M-C,  
0.8 Vp-p  $\pm 10\%$ , 270 Mb/s, 75  $\Omega$   
Input return loss:  
15 dB  
Cable length:  
200 m (with Belden8281, 5C-2V or equivalent coaxial cable)  
External inputs (Built-in DME):  
BNC type connector x 4,  
Serial digital video signal, SMPTE259M-C,  
0.8 Vp-p  $\pm 10\%$ , 270 Mb/s, 75  $\Omega$   
Input return loss:  
15 dB  
Cable length:  
200 m (with Belden8281, 5C-2V or equivalent coaxial cable)  
Reference inputs:  
BNC type x 2, loop-through, analogue black burst or analogue sync

### Video outputs

OUT 1 to 48  
OUT 1 to 4, 13 to 16, 25 to 28, 37 to 40:  
BNC type connectors x 2 each  
Out 5 to 12, 17 to 24, 29 to 36, 41 to 48:  
BNC type connector x 1 each  
Serial digital video signal, SMPTE259M-C,  
0.8 Vp-p  $\pm 10\%$ , C135270 Mb/s, 75  $\Omega$   
OUT 49 to 56 (Monitor outputs):  
BNC type connectors x 2 each  
Serial digital video signal, SMPTE259M-C,  
0.8 Vp-p  $\pm 10\%$ , 270 Mb/s, 75  $\Omega$   
MONITOR OUT 1 to 4 (built-in DME)  
MONITOR OUTPUT):  
BNC type connector x 1 each  
Serial digital video signal, SMPTE259M-C,  
0.8 Vp-p  $\pm 10\%$ , 270 Mb/s, 75  $\Omega$   
Reference output:  
BNC type x 1, analogue sync

### Control

Control LAN:  
RJ-45, 100Base-TX  
Data LAN:  
RJ-45, 100Base-TX  
REMOTE 1 to 4:  
D-SUB 9-pin, RS-422A  
TERMINAL:  
D-SUB 9-pin, RS-232C  
GPI:  
D-SUB 25-pin, female, relay contact outputs x 4, open collector outputs x 4  
EXTENSION:  
BNC type connector x 1  
Built-in DME  
Control LAN:  
RJ-45, 100Base-TX  
Data LAN:  
RJ-45, 100Base-TX  
REMOTE:  
D-SUB 9-pin, RS-422A  
GPI:  
D-SUB 25-pin, female, relay contact outputs x 4, open collector outputs x 4  
CCP-9000 Series  
Control LAN:  
RJ-45, 100Base-TX  
Data LAN:  
RJ-45, 100Base-TX  
Peripheral LAN:  
RJ-45, 100Base-TX  
GPI:  
D-SUB 25-pin, relay contact outputs x 4, open collector outputs x 4  
Remote:  
BNC type, S-BUS  
Device:  
USB type A  
Main Panel:  
D-sub 50-pin  
Menu Panel:  
D-sub 50-pin  
Ext Panel:  
D-sub 50-pin  
Device Control Unit  
Peripheral LAN:  
RJ-45, 100Base-TX  
Serial tally 1 to 2:  
D-sub 9-pin, RS-422A  
TALLY/GPI inputs:  
D-sub 37-pin x3, TTL level inputs x 34 each,  
TALLY/GPI outputs \*:  
D-sub 37-pin, relay contact outputs 18-ch, up to 15 ports in steps of 3 ports in a frame  
REMOTE \*:  
D-sub 9-pin, RS-422A, various protocols, up to 30 ports in steps of 6 ports in a frame

TALLY/GPI and REMOTE ports are alternatively installed. Mixed configuration of TALLY/GPI and REMOTE ports are supported.

## DVS-9000SF Production Switcher Processor

Compared to conventional SD switchers, the DVS-9000 Series offers greater system flexibility, a range of enhanced functions and a more compact design. The system-control structure and setup/effect data of the DVS-9000 Series switchers are compatible with the MVS-8000 Series switchers. This enables you to configure a mixed DVS-9000 Series and MVS-8000 Series setup, and also provides a smooth migration path from SD to HD operations, with minimal cost and system reconfiguration.

### Features

- 525/625 switchable
- 4RU frame provides up to 34 primary inputs, 24 outputs
- 1, 1.5, 2 or 2.5-M/E configurations are available
- Creative M/E functionality — Four full-function keys per M/E, Multiple M/E program output configuration
- Independent M/E functionality — 4:3/16:9 modes, crosspoint assignment, BUS toggle on/off, Snapshots, and keyframe can be set independently for each M/E
- Internal frame memory for storage of 444 SD images with 8 O/Ps
- RGB colour-corrector option
- Redundant power supply can be installed
- Low power consumption — Switcher processor and built-in DME consume less than 750 W
- Sophisticated DME — BKDS-9470 DME Board Set
- Two 100base-TX network interfaces — Multi-panel and multi-processor operation, Remote maintenance and image file exchange, Set up, effect and image data transfer
- Compatible panels and peripherals with MVS-8000 Series Switchers — CCP-8000 Series and CCP-9000 Series Control Panels, MKS-8700 Device Control Unit, MKS-8080/8082 Aux Bus Remote Panel, UCP-8060 Universal Control Panel

### Supplied Accessories

- 75  $\Omega$  terminator (1)
- Bracket (4)
- Support angle (2)
- Screw (+B 4 x 10) (8)
- Screw (+PSW 4 x 10) (8)
- Operation manual (1)
- Installation manual (1)

For full list of options please refer to following product pages.



## Specifications

### General

Power requirement:  
100 to 240 V AC,  $\pm 10\%$  50/60 Hz

Power consumption  
DVS-9000SF:  
5.5 to 2.5 A  
CCP-8000 Series:  
3.3 to 1.4 A  
CCP-9000 Series:  
0.9 to 0.4 A  
Device control unit:  
1.4 to 0.8 A

Operating temperature:  
5 °C to 40 °C (41 °F to 104 °F)

Storage temperature:  
-20 °C to +60 °C (-4 °F to +140 °F)

Operating humidity:  
10% to 90 % (Non-condensing)

Dimensions (W x H x D)  
DVS-9000SF:  
482 x 177 x 520 mm (19 x 7 x 20 1/2 inches)  
CCP-8000 Series  
Main Panel  
4M/E, 32-crosspoint buttons:  
1443 (with mount bracket) x 98.5 x 528 mm (56 7/8 x 4 x 20 7/8 inches)  
3M/E, 24-crosspoint buttons:  
1291 (with mount bracket) x 98.5 x 528 mm (50 7/8 x 4 x 20 7/8 inches)  
2M/E, 16-crosspoint buttons:  
1139 (with mount bracket) x 98.5 x 396 mm (44 7/8 x 4 x 15 5/8 inches)  
Auxiliary Bus Panel  
32-crosspoint buttons:  
782 (with mount bracket) x 132 x 80 mm (30 7/8 x 5 1/4 x 3 1/4 inches)  
24-crosspoint buttons:  
630 (with mount bracket) x 132 x 80 mm (24 7/8 x 5 1/4 x 3 1/4 inches)  
16-crosspoint buttons:  
478 (with mount bracket) x 132 x 80 mm (18 7/8 x 5 1/4 x 3 1/4 inches)  
Menu Panel:  
424 x 220 x 46 mm (16 3/4 x 8 3/4 x 1 13/16 inches)  
System Control Unit:  
482 x 132 x 520 mm (19 x 5 1/4 x 20 1/2 inches)  
CCP-9000 Series  
Main Panel  
2M/E, 12-crosspoint buttons/1M/E, 12-crosspoint buttons:  
478 (with mount bracket) x 208 x 442 mm (18 7/8 x 8 1/4 x 17 1/2 inches)  
Menu Panel:  
424 x 220 x 46 mm (16 3/4 x 8 3/4 x 1 13/16 inches)  
Device Control Unit:  
482 x 132 x 520 mm (19 x 5 1/4 x 20 1/2 inches)  
Memory Card/USB Adaptor:  
263 (with mount bracket) x 132 x 78.5 mm (10 3/8 x 5 1/4 x 3 1/8 inches)

Extension Adaptor:  
263 (with mount bracket) x 132 x 78.5 mm (10 3/8 x 5 1/4 x 3 1/8 inches)

Mass  
DVS-9000SF:  
Approx. 25 kg (55 lb 8 oz)  
CCP-8000 Series  
Main Panel (4M/E, 32-crosspoint buttons):  
30 kg (66 lb 2 oz)  
Auxiliary Bus Panel (32-crosspoint buttons):  
3.7 kg (8 lb 2 oz)  
Menu Panel:  
2.2 kg (4 lb 13 oz)  
System Control Unit:  
12 kg (26 lb 7 oz)  
CCP-9000 Series  
Main Panel  
2M/E, 12-crosspoint buttons:  
12.5 kg (27 lb 9 oz)  
1M/E, 12-crosspoint buttons:  
11.5 kg (25 lb 6 oz)  
Menu Panel:  
2.2 kg (4 lb 13 oz)  
Device Control Unit:  
18 kg (39 lb 10 oz) (Fully loaded)  
Memory Card/USB Adaptor:  
1.2 kg (2 lb 10 oz) (with module)  
Extension Adaptor:  
1.5 kg (3 lb 4 oz) (with module)

### Video inputs

Primary inputs:  
BNC type connector x 1 each,  
Max.34  
Serial digital video signal,  
SMPTE259M-C, 0.8 Vp-p  $\pm 10\%$ , 270 Mb/s, 75  $\Omega$   
Input return loss:  
15 dB  
Cable length:  
200 m (with Belden8281, 5C-2V or equivalent coaxial cable)  
External inputs (Built-in DME):  
BNC type connector x 4,  
Serial digital video signal,  
SMPTE259M-C, 0.8 Vp-p  $\pm 10\%$ , 270 Mb/s, 75  $\Omega$   
Input return loss:  
15 dB  
Cable length:  
200 m (with Belden8281, 5C-2V or equivalent coaxial cable)  
Reference inputs:  
BNC type x 2, loop-through, analogue black burst or analogue sync

### Video outputs

OUT 1 to 24  
OUT 1 to 4, 13 to 16:  
BNC type connectors x 2 each  
OUT 5 to 12, 17 to 24:  
BNC type connector x 1 each  
Serial digital video signal,  
SMPTE259M-C, 0.8 Vp-p  $\pm 10\%$ , C135270 Mb/s, 75  $\Omega$   
MONITOR OUT 1 to 4 (built-in DME MONITOR OUTPUT):  
BNC type connector x 1 each  
Serial digital video signal,  
SMPTE259M-C, 0.8 Vp-p  $\pm 10\%$ , 270 Mb/s, 75  $\Omega$   
Reference output:  
BNC type x 1, analogue sync

### Control

Control LAN:  
RJ-45, 100Base-TX  
Data LAN:  
RJ-45, 100Base-TX  
REMOTE 1 to 4:  
D-SUB 9-pin, RS-422A  
TERMINAL:  
D-SUB 9-pin, RS-232C  
GPI:  
D-SUB 25-pin, female, relay contact outputs x 4, open collector outputs x 4  
EXTENSION:  
BNC type connector x 1  
Built-in DME  
Control LAN:  
RJ-45, 100Base-TX  
Data LAN:  
RJ-45, 100Base-TX  
REMOTE:  
D-SUB 9-pin, RS-422A  
GPI:  
D-SUB 25-pin, female, relay contact outputs x 4, open collector outputs x 4  
CCP-9000 Series  
Control LAN:  
RJ-45, 100Base-TX  
Data LAN:  
RJ-45, 100Base-TX  
Peripheral LAN:  
RJ-45, 100Base-TX  
GPI:  
D-SUB 25-pin, relay contact outputs x 4, open collector outputs x 4  
Remote:  
BNC type, S-BUS  
Device:  
USB type A  
Main Panel:  
D-sub 50-pin  
Menu Panel:  
D-sub 50-pin  
Ext Panel:  
D-sub 50-pin  
Device Control Unit  
Peripheral LAN:  
RJ-45, 100Base-TX  
Serial tally 1 to 2:  
D-sub 9-pin, RS-422A  
TALLY/GPI inputs:  
D-sub 37-pin x3, TTL level inputs x 34 each,  
TALLY/GPI outputs \*:  
D-sub 37-pin, relay contact outputs 18-ch, up to 15 ports in steps of 3 ports in a frame  
REMOTE \*:  
D-sub 9-pin, RS-422A, various protocols, up to 30 ports in steps of 6 ports in a frame

TALLY/GPI and REMOTE ports are alternatively installed. Mixed configuration of TALLY/GPI and REMOTE ports are possible.

### BKDS-9160 24-Output Board

The BKDS-9160 adds 24 outputs to the 24 outputs standard on the DVS-9000, making the total number of outputs 48.

#### Applicable Models

DVS-9000 Production Switcher Processor

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### BKDS-9161 8 Monitor Output Board

The BKDS-9161 is an optional SD SDI output board. With this option fitted, the DVS-9000 switcher processor offers eight re-clocked outputs to which the primary input signals can be routed with minimum delay. Those outputs are useful to monitor every primary input signal or to re-entry the primary input signals through the external processors such as colour correctors.

NOTE: Unlike the BKDS-9160, those monitor outputs cannot handle the processed signals.

#### Applicable Models

DVS-9000 Production Switcher Processor

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### BKDS-9162 12-Output Board

The BKDS-9162 adds 12 outputs to the 12 outputs standard on the DVS-9000SF, making the total number of outputs 24.

#### Applicable Models

DVS-9000SF Production Switcher Processor

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### BKDS-9210 Mix/Effect Board

The BKDS-9210 is an optional mix/effects board set. With this option installed, the DVS-9000 is expandable from two to four M/Es, and the DVS-9000SF is expandable from one to two M/Es

#### Applicable Models

DVS-9000 Production Switcher Processor  
DVS-9000SF Production Switcher Processor

# BKDS-9470 DME Board Set

By installing the BKDS-9470, the DVS-9000 Series Switcher processors offer four channels of high-quality DME.

### Features

- 4 DME channels
- Video, Key and SDI external video inputs per channel
- External video input for use as the background or border/trail source
- The four SDI monitor outputs allow monitoring of the video with graphic, the video without graphic, or the key
- Y/C/K 10-bit processing
- High-performance pixel-based anti-alias filter
- 8 x 8 multi-point interpolation
- Frame base processing
- 2D, 3D and non-linear effects
- Digital SKETCH, Digital SPARKLE, Colour Corrector and up to four channels of Intersect Combine
- Powerful lighting effects

### Applicable Models

DVS-9000 Production Switcher Processor  
DVS-9000SF Production Switcher Processor

### Optional Accessories

BZS-9471 Texture Lighting Software

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# BZS-9471 Texture Lighting Software

Texture Lighting Software for the Sony DME board set BKDS-9470

### Features

The BZS-9471 is Texture Lighting Software for use with the BKDS-9470 DME board installed in the DVS-9000 Production switcher processor. Its texture lighting function enables you to map a texture pattern onto a DME effect using the spotlight function. The Real Lighting Function can add more realistic lighting to several Non-linear effect patterns. Up to four light sources are available per DME channel. With its Test Sphere Function, the position and brightness of light sources can be confirmed with ease.

\*V3.0 or later software is required in the BKDS-9470 to install the BZS-9471 Texture Lighting Software.

### Applicable Models

BKDS-9470 DME Board Set

### MKS-8110SD 17-Input Board (SD)

The MKS-8110SD is an optional SD SDI input board. With this option fitted, the DVS-9000 Series switcher processor provides 17 SD SDI inputs.

#### Features

- The DVS-9000 switcher processor can expand up to 68 inputs
- The DVS-9000 SF switcher processor can expand up to 34 input

#### Applicable Models

DVS-9000 Production Switcher Processor  
DVS-9000SF Production Switcher Processor

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### MKS-8110G 17 Input Board

The MKS-8110G is an optional 17 I/P multi-format HD/SD SDI input board.

#### Features

- The MVS-8000G switcher processor can be expanded up to 68 inputs
- The MVS-8000GSF switcher processor can expand up to 34 inputs

#### Applicable Models

MVS-8000G Production switcher processor  
MVS-8000GSF Production switcher processor

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### MKS-8111SD Additional 12-Input Board (SD)

MKS-8111SD is an optional board that provides an additional 12 SD SDI inputs. The SD SDI inputs of the MVS-8000 and DVS-9000 switcher processor can be expanded up to 80 in combination use of four MKS-8110SD boards and one MKS-8111SD board.

#### Applicable Models

DVS-9000 Production Switcher Processor

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### MKS-8111G Additional 12-Input Board

MKS-8111SD is an optional board that provides 12 HD/SD SDI multi-format inputs. The HD/SD SDI inputs of MVS-8000G switcher processor can be expanded up to 80 in combination use of four MKS-8110G boards and a MKS-8111G board.

#### Applicable Models

MVS-8000G Multi-Format Switcher Processor

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### MKS-8160G 24 Output Board Set

The MKS-8160G is an optional HD SDI/SD SDI multi-format output board. With this option installed, the MVS-8000G Switcher processor offers 24 HD SDI or SD SDI outputs.

#### Applicable Models

MVS-8000G Multi-Format Switcher Processor

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### MKS-8161M Monitor Output Board

The MKS-8161M is an optional HD SDI/SD SDI multi-format output board. With this option fitted, the MVS-8000G Switcher processor offers eight re-clocked outputs to which the primary input signals can be routed with minimum delay. Those outputs are useful to monitor every primary input signal or to re-entry the primary input signals through the external processors such as colour correctors.

#### Applicable Models

MVS-8000G Multi-Format Switcher Processor

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### MKS-8162A 12-Output Board

The MKS-8162A adds 12 outputs to the 12 outputs standard on the MVS-8000GSF, making the total outputs 24.

#### Applicable Models

MVS-8000GSF Multi-Format Switcher Processor

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### MKS-8170G DME Interface Board

#### Features

A DME interface board for multi-format applications for MVS-8000 Series.

#### Applicable Models

MVS-8000G Multi-Format Switcher Processor

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### MKS-8210G Mix/Effect Board

The MKS-8210G mix/effects board is an optional board for the MVS-8000G and MVS-8000GSF production switcher systems. By installing the MKS-8210G, the MVS-8000G Switcher processor can be extended from two to four M/Es and the MVS-8000GSF Switcher processor can be extended from one to two M/Es.

#### Applicable Models

MVS-8000G Multi-Format Switcher Processor

MVS-8000GSF Multi-Format Switcher Processor

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### MKS-8442G Frame Memory Board

The MKS-8442G frame memory board is an optional board for the MVS-8000G and the MVS-8000GSF production switcher systems. By installing the MKS-8440G, the MVS-8000G Series can store 1030 frames of HD images. Images can either be stored separately or paired for video/key operation.

#### Applicable Models

MVS-8000G Multi-Format Switcher Processor

MVS-8000GSF Multi-Format Switcher Processor

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### MKS-8450G Format Converter Board

The MKS-8450G interface card offers 8 channels of input format conversion and two channels of output conversion. Up to two cards can be installed in an MVS-8000G/GSF processor. Note on MVS-8000GSF only two output conversion channels are available.

#### Applicable Models

MVS-8000G Multi-Format Switcher Processor  
MVS-8000GSF Multi-Format Switcher Processor

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### BZS-8250 Simple p/p software

Additional simple PGM/PST function for the MVS-8000G Series switcher system.

The BZS-8250 software allows the addition of a simple PGM/PST function to the MVS-8000G Series Switcher system to configure it as a 1.5/2.5/3.5 M/E system.

It can also be used to add two DSKs but without the simple PGM/PST function.

- Offers a simple PGM/PST function; BKGD A/B buses, two simple DSK and FTB
- Provides transition type; CUT, MIX, WIPE, SUPER MIX, NAM and PRESET COLOUR MIX
- Provides Transition Preview function
- DSK supports Luminance Key and Linear Key
- DSK provides modifiers such as CLEAN MODE, KEY EDGE POSITION, INVERT, SHOW KEY, AUTO/SELF/SPLIT mode
- FTB (FADE TO BLACK) function
- Memory system for WIPE SNAPSHOT, KEY SNAPSHOT, SNAPSHOT, EFFECT
- Controlled from PGM/PST control area on the CCP-8000/9000 Series control panel
- When the BZS-8250 is used to add DSKs (DSK Mode), the additional DSKs are operated from MKS-8034ADK or MKS-8032A

#### Applicable Models

MVS-8000GSF Multi-Format Switcher Processor  
MVS-8000G Multi-Format Switcher Processor

### BZS-9250 Simple p/p software

Additional simple PGM/PST function for the DVS-9000 Series switcher system.

The BZS-9250 software allows the addition of a simple PGM/PST function to the DVS-9000 Series Switcher system to configure it as a 1.5/2.5/3.5 M/E system.

It can also be used to add two DSKs but without the simple PGM/PST function.

- Offers a simple PGM/PST function; BKGD A/B buses, two simple DSK and FTB
- Provides transition type; CUT, MIX, WIPE, SUPER MIX, NAM and PRESET COLOUR MIX
- Provides Transition Preview function
- DSK supports Luminance Key and Linear Key
- DSK provides modifiers such as CLEAN MODE, KEY EDGE POSITION, INVERT, SHOW KEY, AUTO/SELF/SPLIT mode
- FTB (FADE TO BLACK) function
- Memory system for WIPE SNAPSHOT, KEY SNAPSHOT, SNAPSHOT, EFFECT
- Controlled from PGM/PST control area on the CCP-8000/9000 Series control panel
- When the BZS-9250 is used to add DSKs (DSK Mode), the additional DSKs are operated from MKS-8034ADK or MKS-8032A

#### Applicable Models

DVS-9000SF Production Switcher Processor

DVS-9000 Production Switcher Processor

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### BZS-8200 Simple p/p software

Additional software to allow split ME operation on MVS-8000A/G series switchers. This software effectively doubles your ME capability from a single switcher system and gives the operator the ability to produce two independent programmes from a single ME bank.

#### Applicable Models

MVS-8000G Multi-format production switcher

MVS-8000GSF Multi-format production switcher

## BZPS-8000 System Management Software

The BZPS-8000 running on a PC enables integrated management of all Sony live production products configured around and networked to the MVS/DVS Series Switchers. A software package for client and server PC.

### Features

- System data backup/restore — Setups, effects, images, etc. for MVS/DVS, PFV-SP and Router can be backup and restored at a time. Multiple system data can be handled easily per On-air program, per Event, per Operating clue, etc.
- File server — Individual file transfer control. File accessing from MVS/DVS panel.
- Status Monitoring/SNMP IF — System status (detected error per equipment) can be displayed on status menu. Convert MVS/DVS status to SNMP for Maintenance Manager.
- Server and Client — Server function is fundamental part: Gateway, File Server, SNMP IF, etc. Client function is user interface to operate System manager functions
- Launcher — There will be some plug-in application software available: MVS/DVS Setup, PFV-SP Setup, Router Setup, etc.

### Applicable Models

DVS-9000 Production Switcher Processor  
DVS-9000SF Production Switcher Processor  
MVS-8000G Multi-Format Switcher Processor  
MVS-8000GSF Multi-Format Switcher Processor

### Specifications

The required PC specifications for System Manager Server and Client as follows

#### Server PC

Model:  
Dell PowerEdge 350  
CPU:  
Celeron® 850 MHz or greater  
HDD:  
40 GB or more  
Memory:  
512 MB or more  
OS:  
Red Hat Linux 7.2

\* At the initial setup of PC, VGA Display and PS/2 Keyboard will be required. However, these are no longer required after the initial setup. RS-232C remote access from the other PC can update the software.

\* Dell PC Model is current and may be replaced with successor sooner or later. So, we will keep you updated if some changes happen.

#### Client PC

CPU:  
1 GHz or faster  
Memory:  
256 MB or more  
Ethernet:  
100Base-Tx  
OS:

Windows 2000 Professional

\* The target schedule to support Windows XP will be informed later.

## BZPS-8001 Switcher Setup Software

The BZPS-8001 for a client PC of the System Manager allows remote setup and control of MVS/DVS Series switchers. A software package for online software and offline software for a client PC.

### Features

- Online — Setup MVS/DVS panel menu can be operated on PC remotely (online).
- Offline Setup — MVS/DVS setup can be created on PC anytime/anywhere (offline). Source assignment, name settings, etc. on Windows circumstance.
- Remote Diagnosis — Remotely control MVS/DVS diagnosis.

### Applicable Models

DVS-9000 Production Switcher Processor  
DVS-9000SF Production Switcher Processor  
MVS-8000G Multi-Format Switcher Processor  
MVS-8000GSF Multi-Format Switcher Processor

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## HK-PSU04 Power supply unit

### Applicable Models

MVE-9000 Multi-format DME Processor  
DVS-9000SF Production Switcher Processor  
DVS-9000 Production Switcher Processor  
MVS-8000GSF Multi-Format Switcher Processor  
MVS-8000G Multi-Format Switcher Processor  
MVS-8000Multi-Format Switcher Processor

### Supplied Accessories

Installation Guide

### Specifications

#### General

Power requirements

100 to 240 V AC  $\pm$  10%, 50/60 Hz

Output power

12 V DC  $\pm$ 0.5V

Power consumption

10 to 5 A

Secondary power supply

Max. 60 A

Dimensions (W x H x D)

94 x 83 x 396 mm (3  $\frac{3}{4}$  x 3  $\frac{3}{8}$  x 15  $\frac{5}{8}$  inches)

Mass

Approx. 3 kg (6 lb 9 oz)

## MVE-8000A Multi-Format DME Processor

The MVE-8000A is a multi-format DME processor for the MVS-8000G Series Multi-Format Production Switcher System with its frame size only 2 RU. The MVE-8000A provides a wide variety of effects such as 2D/3D and linear/non-linear transforms in both HDTV and SDTV video formats, which can be easily switched from switcher control panel without swapping the boards. The MVE-8000A is integrated to the MVS-8000G Series switcher processor via dedicated cables without consuming the SDI inputs and outputs on the switcher processor. In conjunction with the MVE-8000A, the MVS-8000G Series system allows DME- Wipes, Processed Key, and a wide variety of attractive effects, which can be controlled from the control panel as if they were a part of the switcher functions.



### Applicable Models

MVS-8000G Multi-Format Switcher Processor  
MVS-8000GSF Multi-Format Switcher Processor

### Supplied Accessories

Operation Manual (1)  
Installation Manual (1)  
Switcher Video Interface Cable (3 m) (2)

### Optional Accessories

MKE-8021A Input/Output Board (SDI)  
MKE-8020A MVS Interface Board  
MKE-8040A Effects Board (MVE-8000A)  
HK-PSU02 Power Supply Unit

### Specifications

#### General

Power requirements:  
100 - 240 V  $\pm$  10%, 50/60 Hz  
Power consumption:  
2.5 to 1.0 A  
Dimensions (W/H/D):  
440 mm x 87.5 mm x 520 mm (17 3/8 x 3 1/2 x 20 1/2 inches)  
(without projection)  
Mass:  
16 kg (35 lb 4 oz) (fully loaded)  
Operation Temperature:  
+ 5 °C to + 40 °C (+ 41 °F to + 104 °F)  
Operating humidity:  
10% to 90% (non-condensing)

#### Inputs/outputs

MKE-8020A:  
MDR 68-pin x 2 (inputs/outputs: 2 CH x 2), LVDS  
MKE-8021A:  
Video inputs-Video/Key: BNC x 8, SDI  
Video outputs-Video/Key: BNC x 8, SDI  
Monitor outputs: BNC x 4, SDI  
Reference:  
BNC x 2, 75  $\Omega$  with loop-through output  
Analogue black burst or HD tri-level sync

#### System interface

Control LAN:  
RJ-45 x 1, 100BASE-TX  
DATA LAN:  
RJ-45 x 1, 100BASE-TX  
Editor:  
D-sub 9-pin x 4, RS-422A  
GPI:  
D-sub 25-pin, TTL level inputs x 8,  
relay contact outputs x 4, open collector  
outputs x 4

## MKE-8020A MVS Interface Board

The MKE-8020A is an optional board for the MVE-8000A Multi Format DME Processor. The MVE-8000A requires the MKE-8020A as an interface board to the MVS-8000G series production switcher system.

### Applicable Models

MVE-8000A Multi-Format DME Processor

### Supplied Accessories

Operation Manual (1)  
Dedicated Interface Cable (2)  
Installation Guide (1)

### Specifications

Video inputs/Video outputs  
MVS interface:  
MDR 68-pin x 2 (inputs/outputs:  
2 CH x 2), LVDS

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## MKE-8021A Input/Output Board (SDI)

The MKE-8021A is an optional board for the MVE-8000A Multi Format DME Processor. The MKE-8021A has input and output connectors for SDI signals and BNC connectors for monitoring.

### Applicable Models

MVE-8000A Multi-Format DME Processor

### Supplied Accessories

Operation Manual (1)  
Installation Guide (1)

### Specifications

Video inputs  
Video/Key: BNC connector x 8, SDI  
Video outputs  
Video/Key: BNC connector x 8, SDI  
Monitor outputs:  
BNC connector x 4, SDI

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## MKE-8040A Effects Board (MVE-8000A)

The MKE-8040A Effects Board provides excellent 2-channel effects to the MVE-8000A Multi Format DME Processor. The MKE-8040A provides the following stunning effects: Beveled Edge, Glow, Digital SKETCH., Metal, and Mask. Its multi-format capabilities make it suited to both content creation in high-end production and post-production. The MKE-8040A comprises a single board.

### Applicable Models

MVE-8000A Multi-Format DME Processor

## MVE-9000 Multi-format DME Processor

The MVE-9000 provides high picture quality and a rich set of features for the creation of stunning special effects in live environments and post-production.

### Features

- High-quality DME
- HD/SD multi-format capability
- HDTV: 1080i/50, 59.94, 60, 1080p/23.976, 24, 25, 29.97, 30, 720p/59.94
- SDTV: 480i/59.94, 576i/50
- A variety of effects
- 3D Linear/Nonlinear, Sparkle, Input Freeze, Defocus, Key Border, Beveled Edge, Glow, Sketch, Metal, Mask, Light, Shadow, Trail and more
- Up to four channels of Combine with Intersect and Dim/Fade
- Effect data compatible with the MVE-8000
- Y/C/K 10-bit processing
- Field/Frame-based processing
- High-performance pixel-based anti-alias filter
- High-quality multi-point interpolation
- Up to four channels can be configured on a channel basis
- One of the following video interface boards can be installed — The MKE-9021M for standalone operations or MKE-9020M for dedicated connection to the MVS Series switcher
- 4U high, less than 15 kg in weight, and less than 500 W consumed when fully loaded with its option boards
- Redundant power supply HK-PSU04 can be installed
- Four RS-422 interfaces for control from external editor
- Each channel can be independently controlled
- GPI and Tally interface
- 100Base-TX network interfaces allow the transfer of files (image, effect, setup, etc.) between equipment connected to the MVS Data LAN, and real time control via the MVS Control LAN



### Applicable Models

MVS-8000G Multi-Format Switcher Processor  
MVS-8000GSF Multi-Format Switcher Processor

### Supplied Accessories

Operation Manual (1)  
Installation Manual (1)  
75 Ω Terminator (1)  
Mounting Bracket (1)  
Support Angle (1)  
Screw (1)

### Optional Accessories

BZDM-9050 Texture Lighting Software

### Optional Boards

MKE-9020M MVS Interface Board Set for the MVE-9000  
MKE-9021M Input/Output Board Set for the MVE-9000  
MKE-9040M Advanced Effects Board for the MVE-9000  
HK-PSU04 Power Supply Unit

### Specifications

#### General

Power requirement:  
100 V to 240 V ±10% 50/60 Hz  
Power consumption:  
500 VA  
Operating temperature:  
5 °C to 40°C (41 °F to 104 °F)  
Storage temperature:  
-20 °C to + 60 °C (-4 °F to + 140 °F)  
Operating humidity:  
10% to 90% RH

#### Dimensions (W x H x D):

482 x 194 x 520 mm (19 x 7 3/4 x 20 1/2 inches)

#### Mass:

Approx. 20 kg (44 lb 1 oz)

#### Inputs

Video inputs (MKE-9021M)

SDI  
Video/Key:  
BNC-type connectors x 8  
Ext Video IN:  
BNC-type connectors x 4

#### Reference:

BNC type connectors x 2, 75 Ω with loop-through output  
Analogue black burst or HD tri-level sync

#### Outputs

Video outputs (MKS-9021M)

SDI  
Video/Key:  
BNC-type connectors x 8  
Monitor Out:  
BNC-type connectors x 4

Video inputs/Video outputs (MKE-9020M)

#### MVS interface:

MDR 68-pin x 2 (inputs/outputs: 2 CH x 2), LVDS

#### Control signals

Control LAN:  
RJ-45 x 1, 100Base-TX  
Data LAN:  
RJ-45 x 1, 100Base-TX  
Remote:  
D-SUB 9-pin x 4, RS-422

#### GPI:

D-SUB 25-pin x 2, dry contact or open collector inputs x 16, relay contact outputs x 8, open collector outputs x 8

### MKE-9020M MVS Interface Board Set for the MVE-9000

- Provides dedicated Video and Key I/O, SDI External video inputs per channel, and 4 SDI monitor outputs
- Provides a 68-pin multi-connector cables to connect to the MVS-8000 Series switcher

#### Applicable Models

MVS-8000GSF Multi-Format Switcher Processor  
MVS-8000G Multi-Format Switcher Processor  
MVE-9000 Multi-format DME Processor

#### Supplied Accessories

Operation and Installation Guide

#### Specifications

##### Video inputs/Video outputs

MVS interface

MDR 68-pin x 2

(inputs/outputs: 2 CH x 2), LVDS

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### MKE-9021M Input/Output Board Set for the MVE-9000

- Provides SDI interfaces for stand alone operations
- Provides Video, Key, and External video inputs per channel, Video and Key outputs per channel and 4 monitor outputs
- Provides SDI connectors to connect to the MVS-8000 Series switcher

#### Applicable Models

MVS-8000GSF Multi-Format Switcher Processor  
MVS-8000G Multi-Format Switcher Processor  
MVE-9000 Multi-format DME Processor

#### Supplied Accessories

Operation and Installation Guide

#### Specifications

##### Video inputs/Video outputs

Video/Key

BNC-type connectors x 8, SDI

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### MKE-9040M Advanced Effects Board for the MVE-9000

- Provides one channel of DME effects; 2D/3D Transform including non-linear effects, sketch, beveled edge and more
- Up to four MKE-9040M boards can be installed into an MVE-9000 unit on a channel basis

#### Applicable Models

MVS-8000GSF Multi-Format Switcher Processor  
MVS-8000G Multi-Format Switcher Processor  
MVE-9000 Multi-format DME Processor

#### Supplied Accessories

Operation and Installation Guide



## BZDM-9050 Texture Lighting Software

Texture Lighting Software for the Sony Multi-format DME processor MVE-9000

### Features

The BZDM-9050 is Texture Lighting Software for use with the MVE-9000 Multi-format DME processor. Its texture lighting function enables you to map a texture pattern onto a DME effect using the spotlight function. The Real Lighting Function can add more realistic lighting to several Non-linear effect patterns. Up to four light sources are available per DME channel. With its Test Sphere Function, the position and brightness of light sources can be confirmed with ease.

\*V3.0 or later software is required in the MVE-9000 to install the BZDM-9050 Texture Lighting Software.

### Applicable Models

MVE-9000 Multi-format DME Processor

## MKS-8700 Device Control Unit

The MKS-8700 is a device control unit for MVS-8000 Series in conjunction with MKS-8701 Tally/GPI Board and/or MKS-8702 Serial Interface Board. Up to five boards can be installed. One MKS-8700 can provide Tally/GPI port expansion in 3-port increments up to 15 ports (18 channels per one port) in combination with the MKS-8701. It can also provide RS-422A port expansion in 6-port increments up to 30 ports in combination with the MKS-8702.



### Applicable Models

DVS-9000 Production Switcher Processor  
 DVS-9000SF Production Switcher Processor  
 MVS-8000G Multi-Format Switcher Processor  
 MVS-8000GSF Multi-Format Switcher Processor

### Supplied Accessories

Operation Manual (1)  
 Installation Manual (1)  
 75 Ω terminator (1)  
 Redundant power supply unit (1)

### Optional Boards

MKS-8701 Tally/GPI Output Board  
 MKS-8702 Serial Interface Board

### Specifications

#### General

##### Power:

Power Requirement  
 100-240 V AC +/- 10% 50/60 Hz  
 Power Consumption  
 max. 250 W

##### Dimensions (W x H x D, without projection):

482 mm x 132 mm x 520 mm  
 (19 x 5 1/4 x 20 1/2 inches)

##### Mass:

18 kg (39 lb 10 oz) (Fully Loaded)

##### Operation Temperature:

+5 °C to +40 °C (+41°F to +104°F)

##### Relative Humidity:

Up to 90% (Non-Condensing)

##### Reference

##### Reference Input:

BNC connector x 2, Loop-through  
 HD Tri-level Sync (HDTV only) or  
 Analogue Black Burst or Sync

##### System Interface

##### Peripheral LAN :

RJ-45, 100BASE-TX

##### Serial Tally 1:

D-sub 9-pin, RS-422A

##### Serial Tally 2:

D-sub 9-pin, RS-422A

##### TALLY/GPI \* :

D-sub 37-pin, relay contact outputs 18-ch  
 up to 15 ports in steps of 3 ports in a  
 frame

##### REMOTE :

D-sub 9-pin, RS-422A, various protocols,  
 up to 30 ports in steps of 6 ports in a  
 frame

TALLY/GPI and REMOTE ports are alternatively installed. Mixed configuration of TALLY/GPI and REMOTE ports are possible.

## MKS-8701 Tally/GPI Output Board

The MKS-8701 is a tally/GPI output board for MVS-8000 Series in conjunction with MKS-8700 Device Control Unit and/or MKS-8702 Serial Interface Board. Up to five boards can be installed. One MKS-8700 can provide Tally/GPI port expansion in 3-port increments up to 15 ports (18 channels per one port) in combination with the MKS-8701. It can also provide RS-422A port expansion in 6-port increments up to 30 ports in combination with the MKS-8702.

Applicable Models  
MKS-8700 Device Control Unit

## MKS-8702 Serial Interface Board

The MKS-8702 is a serial interface board for MVS-8000 Series in conjunction with MKS-8700 Device Control Unit and/or MKS-8701 Tally/GPI Interface Board. Up to five boards can be installed. One MKS-8700 can provide RS-422A port expansion in 6-port increments up to 30 ports in combination with the MKS-8702. It can also provide Tally/GPI port expansion in 3-port increments up to 15 ports (18 channels per one port) in combination with the MKS-8701.

Applicable Models  
MKS-8700 Device Control Unit

## MKS-2700 Device Control Unit

The MKS-2700 Device Control Unit is a compact Device Control Unit for the MVS-8000G series, the DVS-9000 series, and the MFS-2000 production switcher system with its size 1RU. Redundant power supply is supported by using the optional HK-PSU01 Power Supply Unit. The MKS-2700 is suitable for small-scale systems with affordable price.



### Applicable Models

MFS-2000 Multi-Format Switcher Processor  
MVS-8000G Multi-Format Switcher Processor  
MVS-8000GSF Multi-Format Switcher Processor  
DVS-9000 Switcher Processor  
DVS-9000SF Switcher Processor

### Optional Accessories

HK-PSU01 Power Supply Unit

### Specifications

#### General

Power consumption:  
0.7 to 0.5 A  
Operating temperature:  
5 °C to 40 °C (41 °F to 104 °F)  
Storage temperature:  
-20 °C to +60 °C (-4 °F to +140 °F)  
Operation humidity:  
10% to 90% RH  
Dimensions (W x H x D):  
440 x 43.6 x 520 mm (17 3/8 x 1 3/4 x  
20 1/2 inches)  
Mass:  
9.8 kg (21 lb 10 oz)

### Control signals

Peripheral LAN:  
RJ-45 x 1, 100BASE-TX  
TALLY/GPI inputs:  
D-sub 37-pin x 1, TTL level inputs x 34  
TALLY/GPI outputs:  
D-sub 37-pin x 2, TTL level inputs x 18  
each  
REMOTE:  
D-sub 9-pin x 6, RS-422A, various  
protocols

## MKS-8010A System Control Unit

The MKS-8010A System Control Unit works as the central control over the CCP-8000Series Center Control Panel. The system control unit provides control functions for the center control panel, supplies power to various panel modules, and stores the whole setup data, effects data, snapshot data and still images.



### Features

- The MKS-8010A is a compact system control unit with its size compact 1RU
- Redundant power supply is supported by using the optional HK-PSU02 Power Supply Unit

### Optional Accessories

HK-PSU02 Power Supply Unit  
 SWC-5002 Control Panel Cable  
 SWC-5005 Control Panel Cable  
 SWC-5010 Control Panel Cable  
 MKS-8075 Extension Adaptor  
 MKS-8076 Memory Card/USB Adaptor

Mass:  
 11.5 kg (25 lb 6 oz)  
 Operating temperature:  
 5 to 40 °C (41to +104°F)  
 Operating humidity:  
 10% to 90% (Non-condensing)

GPI:  
 D-sub 25-pin, TTL level inputs x 8 /  
 relay contact outputs x 4 /  
 open collector outputs x 4  
 Remote:  
 BNC connector x 1, S-BUS  
 LTC:  
 BNC connector x 1  
 Device:  
 USB Type A

### Specifications

#### General

Power requirements:  
 100 to 240 V AC +/- 10%, 50/60 Hz  
 Power consumption:  
 Max. 250 W (incl. Center Control Panel,  
 Aux Panel and Menu Panel)  
 Dimensions (W x H x D, without projection):  
 440 x 43.6 x 520 mm (17 3/8 x 1 3/4 x  
 20 1/2 inches)

#### Inputs

Reference Input:  
 BNC connector x 2, Loop-through  
 HD Tri-level Sync (HDTV only) or  
 Analogue Black Burst or Sync

#### System interface

Control LAN:  
 RJ-45, 100BASE-TX  
 Data LAN:  
 RJ-45, 100BASE-TX  
 Peripheral LAN:  
 RJ-45, 100BASE-TX

## MKS-8011A Menu Panel

A menu panel is used to select different types of effects, such as transitions, keys, wipes, DME (digital multi effect) functions, etc. and to set up the operational mode and the system setting of peripherals. A 10.4-inch, touch-sensitive colour LCD screen is adopted for the menu panel to give intuitive and speedy operation.



### Applicable Models

DVS-9000 Production Switcher Processor  
 DVS-9000SF Production Switcher Processor  
 MKS-9011 1 M/E Control Panel  
 MKS-9012 2 M/E Control Panel  
 MVS-8000G Multi-Format Switcher Processor  
 MVS-8000GSF Multi-Format Switcher  
 Processor

### Specifications

#### General

Dimensions (W x H):  
 424 x 220 mm (5 RU) (16 3/4 x 8 3/4  
 inches)

## MKS-8013A 32 Aux Bus Module

The auxiliary module is used to select sources for monitoring and recording, and also to select material to the frame memory and DME. By changing their operational mode, these buses can then select the destinations and sources of a routing switcher. Each auxiliary bus has two crosspoint button rows, the allocation of which can be set independently. For instance, the DME video can be on the upper row and the DME key on the lower row, alternatively both Shifted and Non-shifted sources can be displayed at the same time.



### Applicable Models

DVS-9000 Production Switcher Processor  
DVS-9000SF Production Switcher Processor  
MVS-8000G Multi-Format Switcher Processor  
MVS-8000GSF Multi-Format Switcher Processor

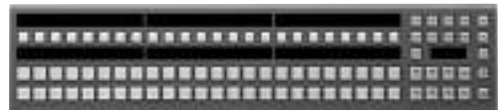
### Specifications

#### General

Dimensions (W x H):  
750 x 132 mm (3 RU)  
(29 5/8 x 5 1/4 inches)

## MKS-8014A 24 Aux Bus Module

The auxiliary bus module is used to select sources for monitoring and recording, and also to select material to the frame memory and DME. By changing their operational mode, these buses can then select the destinations and sources of a routing switcher. Each auxiliary bus has two crosspoint button rows, the allocation of which can be set independently. For instance, the DME video can be on the upper row and the DME key on the lower row, alternatively both Shifted and Non-shifted sources can be displayed at the same time.



### Applicable Models

DVS-9000 Production Switcher Processor  
DVS-9000SF Production Switcher Processor  
MVS-8000G Multi-Format Switcher Processor  
MVS-8000GSF Multi-Format Switcher Processor

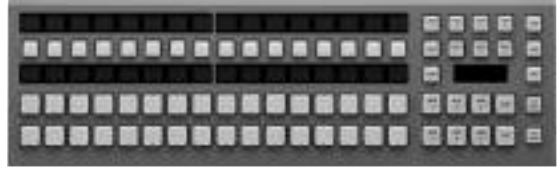
### Specifications

#### General

Dimensions (W x H):  
598 x 132 mm (3 RU)  
(23 1/2 x 5 1/4 inches)

## MKS-8015A 16 Aux Bus Module

The auxiliary bus module is used to select sources for monitoring and recording, and also to select material to the frame memory and DME. By changing their operational mode, these buses can then select the destinations and sources of a routing switcher. Each auxiliary bus has two crosspoint button rows, the allocation of which can be set independently. For instance, the DME video can be on the upper row and the DME key on the lower row, alternatively both Shifted and Non-shifted sources can be displayed at the same time.



### Applicable Models

DVS-9000 Production Switcher Processor  
DVS-9000SF Production Switcher Processor  
MVS-8000G Multi-Format Switcher Processor  
MVS-8000GSF Multi-Format Switcher Processor

### Specifications

#### General

Dimensions (W x H):  
444 x 132 mm (3RU)  
(17 1/2 x 5 1/4 inches)

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## MKS-8017A 32 Crosspoint Module

The Crosspoint module is used to select background and key sources for each M/E or PGM/PST bank. These modules provide two rows of key source selection buttons, plus a source name display row and two background source selection rows. On the key source selection rows, Keys 1/3 and Keys 2/4 can be interchanged. On the Background rows, sources can also be selected from the Utility 1/2 busses. Three-colour, backlit LCD displays are used on the source name display row. These enable text and graphics to be displayed in any one of three colours for easy user identification of source type.



### Applicable Models

DVS-9000 Production Switcher Processor  
DVS-9000SF Production Switcher Processor  
MVS-8000G Multi-Format Switcher Processor  
MVS-8000GSF Multi-Format Switcher Processor

### Specifications

#### General

Dimensions (W x H):  
750 x 132 mm (3 RU)  
(29 5/8 x 5 1/4 inches)

## MKS-8018A 24 Crosspoint Module

The crosspoint module is used to select background and key sources for each M/E or PGM/PST bank. These modules provide two rows of key source selection buttons, plus a source name display row and two background source selection rows. On the key source selection rows, Keys 1/3 and Keys 2/4 can be interchanged. On the Background rows, sources can also be selected from the Utility 1/2 bus. Three-colour, backlit LCD displays are used on the source name display row. These enable text and graphics to be displayed in any one of three colours for easy user identification of source type.



### Applicable Models

DVS-9000 Production Switcher Processor  
DVS-9000SF Production Switcher Processor  
MVS-8000G Multi-Format Switcher Processor  
MVS-8000GSF Multi-Format Switcher Processor

### Specifications

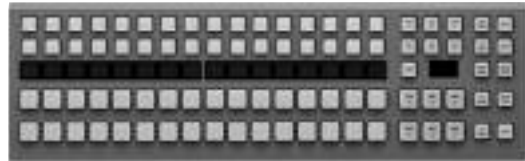
#### General

Dimensions (W x H):  
598 x 132 mm (3 RU)  
(23 1/2 x 5 1/4 inches)

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## MKS-8019A 16 Crosspoint Module

The crosspoint module is used to select background and key sources for each M/E or PGM/PST bank. These modules provide two rows of key source selection buttons, plus a source name display row and two background source selection rows. On the key source selection rows, Keys 1/3 and Keys 2/4 can be interchanged. On the Background rows, sources can also be selected from the Utility 1/2 bus. Three-colour, backlit LCD displays are used on the source name display row. These enable text and graphics to be displayed in any one of three colours for easy user identification of source type.



### Applicable Models

DVS-9000 Production Switcher Processor  
DVS-9000SF Production Switcher Processor  
MVS-8000G Multi-Format Switcher Processor  
MVS-8000GSF Multi-Format Switcher Processor

### Specifications

#### General

Dimensions (W x H):  
444 x 132 mm (3 RU)  
(17 1/2 x 5 1/4 inches)

# MKS-8020A Standard Transition Module

The standard transition module is used to cut or transition images on each M/E or PGM/PST bank. It consists of a standard transition area equipped with fader lever and four additional dedicated key transition areas, any of which can be used independently for transition selection and execution. This standard transition area allows priority setting of all four keys with transition preview, while the dedicated key transition area provides buttons for key snapshot store and recall operations.



### Applicable Models

DVS-9000 Production Switcher Processor  
DVS-9000SF Production Switcher Processor  
MVS-8000G Multi-Format Switcher Processor  
MVS-8000GSF Multi-Format Switcher Processor

### Specifications

#### General

Dimensions (W x H):  
293 x 132 mm (3 RU)  
(11 5/8 x 5 1/4 inches)

## MKS-8024A Flexipad Module

The Flexipad Module has 12 Memory Recall buttons, each with a three-colour backlit LCD. These LCDs provide a text/graphic display showing the effects stored for each operational mode. This module is used in combination with Wipe and DME Wipe, and operations such as M/E or PGM/PST. It can also be used for Effects, Shot Box and Macros, and even has an undo capability.

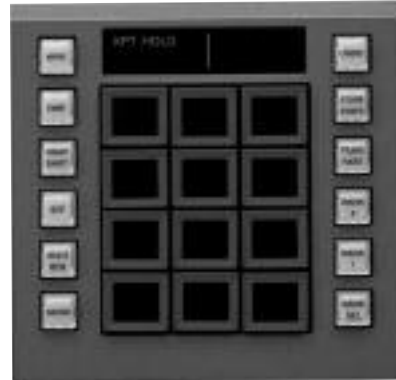
### Applicable Models

DVS-9000 Production Switcher Processor  
 DVS-9000SF Production Switcher Processor  
 MVS-8000G Multi-Format Switcher Processor  
 MVS-8000GSF Multi-Format Switcher Processor

### Specifications

#### General

Dimensions (W x H):  
 147 x 132 mm (3 RU)  
 (5 7/8 x 5 1/4 inches)



## MKS-8025MS Memory Stick /USB Module

The MKS-8025MS Memory Stick/USB module is used to store and load data such as snapshots, effects, set-up data, images, etc. from Memory Stick. It provides a slot for a Memory Stick and has three USB connectors. These connectors provide interfaces for other types of storage media and for menu operating devices such as a mouse, keyboard, and pen/tablet.

\*The MKS-8025MS works exclusively with MKS-8010A System Control Unit

### Specifications

#### General

Dimensions (W x H):  
 220 x 132 mm (3 RU)  
 (8 3/4 x 5 1/4 inches)





## MKS-8026A 10 Keypad Module

The 10 keypad module is used to select, store, recall and execute snapshots or effects, and recall and execute Shot Box and Macros. It can also be used to input transition rates. It provides a 12-digit alphanumeric display to show reference region names plus register numbers, depending on its operational mode.

### Applicable Models

DVS-9000 Production Switcher Processor  
DVS-9000SF Production Switcher Processor  
MVS-8000G Multi-Format Switcher Processor  
MVS-8000GSF Multi-Format Switcher Processor

### Specifications

#### General

Dimensions (W x H):  
220 x 132 mm (3 RU)  
(8 3/4 x 5 1/4 inches)



## MKS-8027A Compact Transition Right Module

The compact 1/2 rack-width transition module fits in a small-scale control panel for edit suits require less space. The module is based on the design of the MKS-8020A Standard Transition Module with simple key transition operations.

### Features

- Size reduced to 1/2 rack-width to fit in a compact switcher system
- Uses the same design as the MKS-8020A Standard Transition Module for common transition part
- Key transition part consists of transition button
- Using the MKS-8027A and MKS-8028A for adjacent M/Es, the fader levers do not interfere with each other

### Applicable Models

DVS-9000 Production Switcher Processor  
DVS-9000SF Production Switcher Processor  
MVS-8000G Multi-Format Switcher Processor  
MVS-8000GSF Multi-Format Switcher Processor

### Specifications

#### General

Dimensions (W x H):  
220 x 132 mm (3 RU)  
(8 3/4 x 5 1/4 inches)



## MKS-8028A Compact Transition Left Module

The compact 1/2 rack-width transition module fits in a small-scale control panel for edit suits require less space. The module is based on the design of the MKS-8020A Standard Transition Module with simple key transition operations.

### Features

- Size reduced to 1/2 rack-width to fit in a compact switcher system
- Uses the same design as the MKS-8020A Standard Transition Module for common transition part
- Key transition part consists of transition button
- Using the MKS-8027A and MKS-8028A for adjacent M/Es, the fader levers do not interfere with each other

### Applicable Models

DVS-9000 Production Switcher Processor  
DVS-9000SF Production Switcher Processor  
MVS-8000G Multi-Format Switcher Processor  
MVS-8000GSF Multi-Format Switcher Processor

### Specifications

#### General

Dimensions (W x H):  
220 x 132 mm (3 RU)  
(8 3/4 x 5 1/4 inches)



## MKS-8030A Key Frame Module

The key frame module is used to set and edit keyframes and to execute effects. It consists of an effects execution block and a keyframe setting and editing block. The effects execution block is equipped with a fader lever for manual execution of effects.

### Applicable Models

DVS-9000 Production Switcher Processor  
DVS-9000SF Production Switcher Processor  
MVS-8000G Multi-Format Switcher Processor  
MVS-8000GSF Multi-Format Switcher Processor

### Specifications

#### General

Dimensions (W x H):  
220 x 132 mm (3 RU)  
(8 3/4 x 5 1/4 inches)



## MKS-8031AJS Joy Stick Module

The joy stick module has identical functionality and are used to position wipes, the 3D Transform of the DME, and also to control tape and disc recorder functions. The parameters of control knobs 1-3 on the main menu panel can also be adjusted using the joy stick.

### Applicable Models

DVS-9000 Production Switcher Processor  
DVS-9000SF Production Switcher Processor  
MVS-8000G Multi-Format Switcher Processor  
MVS-8000GSF Multi-Format Switcher Processor

### Specifications

#### General

Dimensions (W x H):  
220 x 132 mm (3 RU)  
(8 3/4 x 5 1/4 inches)



## MKS-8031ATB Track Ball Module

The track ball module has identical functionality and are used to position wipes, the 3D Transform of the DME, and also to control tape and disc recorder functions. The parameters of control knobs 1-3 on the main menu panel can also be adjusted using the track ball.

### Applicable Models

DVS-9000 Production Switcher Processor  
DVS-9000SF Production Switcher Processor  
MKS-9011 1 M/E Control Panel  
MKS-9012 2 M/E Control Panel

### Specifications

#### General

Dimensions (W x H):  
220 x 132 mm (3 RU)  
(8 3/4 x 5 1/4 inches)



## MKS-8032A DSK Fader Module

The DSK fader module is used to set up and execute transitions of the four keyers on the PGM/PST bank. A fader lever is included to execute manual transitions of one or more keyers.

### Applicable Models

DVS-9000 Production Switcher Processor  
DVS-9000SF Production Switcher Processor  
MKS-9011 1 M/E Control Panel  
MKS-9012 2 M/E Control Panel  
MVS-8000G Multi-Format Switcher Processor  
MVS-8000GSF Multi-Format Switcher Processor

### Specifications

#### General

Dimensions (W x H):  
220 x 132 mm (3RU)  
(8 3/4 x 5 1/4 inches)



## MKS-8033A Utility/Shotbox Module

The 24 memory recall buttons of this module have three-colour, backlit LCDs to display the selection of effects and functions in text or graphics. Any Shot Box or Macro, plus a variety of utility functions, can be allocated to the module and any of these preset effects and functions can be instantly executed at the press of a single button. The delegation of all 24 memory recall buttons can be collectively changed at any one time by pressing the bank buttons.

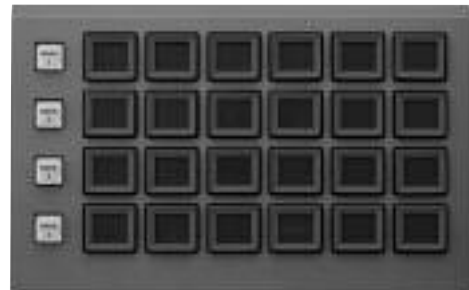
### Applicable Models

DVS-9000 Production Switcher Processor  
DVS-9000SF Production Switcher Processor  
MKS-9011 1 M/E Control Panel  
MKS-9012 2 M/E Control Panel  
MVS-8000G Multi-Format Switcher Processor  
MVS-8000GSF Multi-Format Switcher Processor

### Specifications

#### General

Dimensions (W x H):  
220 x 132 mm (3 RU)  
(8 3/4 x 5 1/4 inches)



## MKS-8034ADK DSK/FTB Module

The DSK/FTB module is used to execute Fade-To-Black, and to conduct preview switching using the Edit Preview BUS. Control of externally connected DSKs (PFV-SP Series) is available from the DSK/FTB module.

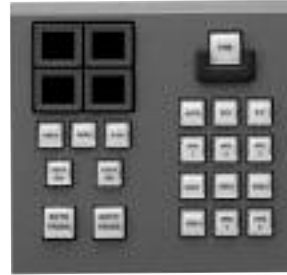
### Applicable Models

DVS-9000 Production Switcher Processor  
DVS-9000SF Production Switcher Processor  
MVS-8000G Multi-Format Switcher Processor  
MVS-8000GSF Multi-Format Switcher Processor

### Specifications

#### General

Dimensions (W x H):  
147 x 132 mm (3 RU)  
(5 7/8 x 5 1/4 inches)



## MKS-8034AFB FTB Module

The FTB module is used to execute Fade-To-Black, and to conduct preview switching using the Edit Preview Bus. Control of externally connected DSKs (PFV-SP Series) is available from the DSK/FTB module.

### Applicable Models

DVS-9000 Production Switcher Processor  
DVS-9000SF Production Switcher Processor

### Specifications

#### General

Dimensions (W x H):  
147 x 132 mm (3 RU)  
(5 7/8 x 5 1/4 inches)



## MKS-8035A Key Control Module

The key control module is used to adjust and modify each keyer on any of the M/E or PGM/PST banks. It is also used to assign the DME keyers. The DME allocation block not only displays the current status of the allocation of each DME channel or which key is on-air, but also outputs desired channels to monitors. It can also change the allocated channel to another keyer in a mandatory way.

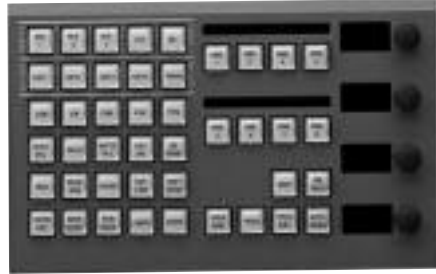
### Applicable Models

DVS-9000 Production Switcher Processor  
DVS-9000SF Production Switcher Processor  
MKS-9011 1 M/E Control Panel  
MKS-9012 2 M/E Control Panel  
MVS-8000G Multi-Format Switcher Processor  
MVS-8000GSF Multi-Format Switcher Processor

### Specifications

#### General

Dimensions (W x H):  
220 x 132 mm (3 RU)  
(8 3/4 x 5 1/4 inches)



## MKS-8036A Device Control Module

The device control module offers VTR style control of all connected VTR, Servers and PII bus devices. Using the jog/shuttle dial allows operators to easily locate and cue-up the remote devices. It is also possible to jog through an internal frame memory clip using this module.

### Supplied Accessories

Operation and Installation Guide (supplied only when the product is purchased separately) (1)

### Specifications

#### General

Power consumption  
Max. 1 A  
Dimensions (W x H):  
220 x 132 mm (8 3/4 x 5 1/4 inches)  
Mass  
Approx. 0.8 kg (1 lb 12 oz)



## MKS-8040 Blank Panel

### Features

- 1/3 rack width size blank panel

### Applicable Models

DVS-9000 Production Switcher Processor  
DVS-9000SF Production Switcher Processor  
MVS-8000G Multi-Format Switcher Processor  
MVS-8000GSF Multi-Format Switcher Processor

### Specifications

#### General

Dimensions (W x H):  
147 x 132 mm (3 RU)  
(5 7/8 x 5 1/4 inches)



## MKS-8041 Blank Panel

### Features

- 1/2 rack width size blank panel

### Applicable Models

DVS-9000 Production Switcher Processor  
DVS-9000SF Production Switcher Processor  
MKS-9011 1 M/E Control Panel  
MKS-9012 2 M/E Control Panel  
MVS-8000G Multi-Format Switcher Processor  
MVS-8000GSF Multi-Format Switcher Processor

### Specifications

#### General

Dimensions (W x H):  
220 mm x 132 mm (3 RU)  
(8 3/4 x 5 1/4 inches)



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## MKS-8042 1/6 width size blank panel

### Applicable Models

MKS-8041 Blank Panel



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## MKS-8075 Extension Adaptor

### Applicable Models

DVS-9000 Production Switcher Processor  
DVS-9000SF Production Switcher Processor  
MKS-8010A System Control Unit  
MKS-9011 1 M/E Control Panel  
MKS-9012 2 M/E Control Panel  
MVS-8000G Multi-Format Switcher Processor  
MVS-8000GSF Multi-Format Switcher Processor

### Specifications

#### General

Dimensions (W x H):  
220 mm x 132 mm (3 RU)  
(8 3/4 x 5 1/4 inches)

# MKS-8076 Memory Card/USB Adaptor

## Applicable Models

- DVS-9000 Production Switcher Processor
- DVS-9000SF Production Switcher Processor
- MKS-8010A System Control Unit
- MVS-8000G Multi-Format Switcher Processor
- MVS-8000GSF Multi-Format Switcher Processor

## Specifications

### General

- Dimensions (W x H):  
220 mm x 132 (3 RU)  
(8 3/4 x 5 1/4 inches)

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# MKS-8080 Aux Bus Remote Panel

## Features

- Compact 1 RU design •Single destination •32 source select buttons and four re-entry buttons •Provides the same button arrangements as those on the CCP-8000/ CCP-9000 Series Center Control Panel for intuitive operation



## Applicable Models

- DVS-9000 Production Switcher Processor
- DVS-9000SF Production Switcher Processor
- MVS-8000G Multi-Format Switcher Processor
- MVS-8000GSF Multi-Format Switcher Processor

## Supplied Accessories

- Operational Manual (1)
- T-Bridge and 75 Ω Terminator (1)

## Specifications

### General

- Power requirements:  
100 to 240 V AC, 50/60 Hz
- Power consumption:  
10 W
- Operating temperature:  
5 to 40 °C (41 to 104 °F)
- Storage temperature:  
- 20 to 60 °C (- 4 to 140 °F)
- Operating humidity:  
10 to 90%
- Dimensions (W x H x D):  
440 x 44 x 116.5 mm  
(17 3/8 x 1 3/4 x 4 5/8 inches)
- Mass:  
Approx. 1.4 kg (3 lb)

### Remote

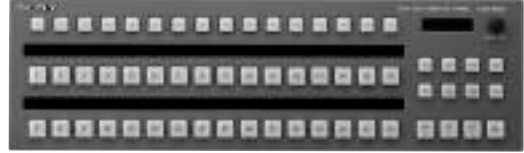
- Remote 1 S-BUS
  - Connector type:  
BNC connector (1)
  - Data transfer method:  
BI-PHASE SPACE
  - Data transfer rate:  
312 kb/s / 1250 kb/s
- Remote 2 RS-422A
  - Connector type:  
D-sub 9-pin female (1)
  - Data transfer method:  
Conforming to the EIA RS-422A
  - Data transfer rate:  
38.4 kb/s
- Remote 3 RS-232C
  - Connector type:  
D-sub 9-pin male (1)
  - Data transfer method:  
8 bits, Non parity, No check
  - Data transfer rate:  
38.4 kb/s
- Signal transfer distance:  
500 m (75 Ω coaxial cable, BELDEN 8281 or equivalent)



## MKS-8082 Aux Bus Remote Panel

### Features

- 3 RU height
- Assignable 16 delegation buttons for immediate access to multiple destinations
- 32 source select buttons and four re-entry buttons
- Provides the same button sizes as those on the CCP-8000/CCP-9000 Series Center Control Panel to offer same touch and feel
- Provides source name display



### Applicable Models

DVS-9000 Production Switcher Processor  
DVS-9000SF Production Switcher Processor  
MVS-8000G Multi-Format Switcher Processor  
MVS-8000GSF Multi-Format Switcher Processor

### Supplied Accessories

Operational Manual (1)  
T-Bridge and 75  $\Omega$  Terminator (1)

### Specifications

#### General

Power requirements:  
100 to 240 V AC, 50/60 Hz  
Power consumption:  
25 W  
Operating temperature:  
5 to 40 °C (41 to 104 °F)  
Storage temperature:  
- 20 to 60 °C (4 to 140 °F)  
Operating humidity:  
10 to 90%  
Dimensions (W /H /D):  
440 x 132 x 120 mm (17 3/8 x 5 1/4 x 4 3/4 inches)  
Mass:  
Approx. 2.6 kg (5 lb 12 oz)

#### Remote

Remote 1 S-BUS  
Connector type:  
BNC connector (1)  
Data transfer method:  
BI-PHASE SPACE  
Data transfer rate:  
312 kb/s / 1250 kb/s  
Remote 2 RS-422A  
Connector type:  
D-sub 9-pin female (1)  
Data transfer method:  
Conforming to the EIA RS-422A  
Data transfer rate:  
38.4 kb/s  
Remote 3 RS-232C  
Connector type:  
D-sub 9-pin male (1)  
Data transfer method:  
8 bits, Non parity, No check  
Data transfer rate:  
38.4 kb/s  
Signal transfer distance:  
500 m (75  $\Omega$  coaxial cable, BELDEN 8281 or equivalent)

# MKS-9011A 1 M/E Control Panel

The MKS-9011A allows the configuration of a compact 1 ME switcher system that offers the operational convenience and system performance. This compact control panel is well suited for use in small OB VANs and edit suites or as sub remote panels for the MVS-8000/DVS-9000 Series switchers.



## Features

- 19-inch rack width with 1 M/E, 12 crosspoint buttons, source name display and 1 Key bus row
- Built-in SCU (System Control Unit)
- Can be used with the MVS-8000 /DVS-9000 Series switchers
- Can be used as a sub M/E remote panel for the MVS-8000/DVS-9000 Series switchers

## Applicable Models

DVS-9000 Production Switcher Processor  
 DVS-9000SF Production Switcher Processor  
 MVS-8000G Multi-Format Switcher Processor  
 MVS-8000GSF Multi-Format Switcher Processor

## Supplied Accessories

Menu Panel Stand Brackets (1)  
 75 Ω terminator (1)  
 BNC T-bridge connector (1)  
 Panel Cable (D-sub 50-pin, 0.4 m) (1)  
 Switch cover (1)  
 Key top removing tool (1)  
 CD-R (\*) (1)  
 Operation manual (1)  
 Installation manual (1)  
 Maintenance manual part I (1)

## Optional Accessories

HK-PSU11 Redundant PSU  
 SWC-5002 Control Panel Cable  
 SWC-5005 Control Panel Cable  
 SWC-5010 Control Panel Cable

## Optional Panels

MKS-8011A Menu Panel  
 MKS-8031ATB Track Ball Module  
 MKS-8032A DSK Fader Module  
 MKS-8033A Utility/Shotbox Module  
 MKS-8035A Key Control Module  
 MKS-8041A Blank Panel

## Optional Peripherals

MKS-8075 Extension Adaptor  
 (\*) Software and Users guide (E/J)

## Specifications

### General

Power requirement:  
 100 to 240 V AC, ±10% 50/60 Hz  
 Power consumption:  
 0.9 to 0.4 A  
 Operating temperature:  
 5 °C to 40 °C (41 °F to 104 °F)  
 Storage temperature:  
 -20 °C to +60 °C (-4 °F to +140 °F)  
 Operating humidity:  
 10% to 90 % (Non-condensing)

## Dimensions (W x H x D)

Main Panel:  
 440 x 175 x 386 mm  
 (17 3/8 x 7 x 15 1/4 inches)  
 Menu Panel:  
 424 x 220 x 46 mm  
 (16 3/4 x 8 3/4 x 1 13/16 inches)

## Mass

Main Panel:  
 10 kg (22 lb)  
 Menu Panel:  
 2.2 kg (4 lb 13 oz)

## Control

Control LAN:  
 RJ-45, 100Base-TX  
 Data LAN:  
 RJ-45, 100Base-TX  
 Peripheral LAN:  
 RJ-45, 100Base-TX  
 GPI:  
 D-SUB 25-pin, relay contact outputs x 4,  
 open collector outputs x 4  
 Remote:  
 BNC connector, S-BUS  
 Device:  
 USB type A  
 Main Panel:  
 D-sub 50-pin  
 Menu Panel:  
 D-sub 50-pin  
 Ext Panel:  
 D-sub 50-pin

## MKS-9012A 2 M/E Control Panel

The MKS-9012A allows the configuration of a compact 2 M/E switcher system that offers the operational convenience and system performance. This compact control panel is well suited for use in small OB VANS and edit suites or as sub remote panels for the MVS-8000/DVS-9000 Series switchers.

### Features

- 19-inch rack width with 2 M/E, 12 crosspoint buttons, source name display and 1 Key bus row
- Built-in SCU (System Control Unit)
- Can be used with the MVS-8000 /DVS-9000 Series switchers
- Can be used as a sub M/E remote panel for the MVS-8000/DVS-9000 Series switchers



### Applicable Models

DVS-9000 Production Switcher Processor  
 DVS-9000SF Production Switcher Processor  
 MVS-8000G Multi-Format Switcher Processor  
 MVS-8000GSF Multi-Format Switcher Processor

### Supplied Accessories

Menu Panel Stand Brackets (1)  
 75 Ω terminator (1)  
 BNC T-bridge connector (1)  
 Panel Cable (D-sub 50-pin, 0.4 m) (1)  
 Switch cover (1)  
 Key top removing tool (1)  
 CD-R (\*) (1)  
 Operation manual (1)  
 Installation manual (1)  
 Maintenance manual part I (1)

### Optional Accessories

HK-PSU11 Redundant PSU  
 SWC-5002 Control Panel Cable  
 SWC-5005 Control Panel Cable  
 SWC-5010 Control Panel Cable

### Optional Panels

MKS-8011A Menu Panel  
 MKS-8031ATB Track Ball Module  
 MKS-8032A DSK Fader Module  
 MKS-8033A Utility/Shotbox Module  
 MKS-8035A Key Control Module  
 MKS-8041A Blank Panel

### Optional Peripherals

MKS-8075 Extension Adaptor

(\*) Software and Users guide (E/J)

### Specifications

#### General

Power requirement:  
 100 to 240 V AC, ±10% 50/60 Hz  
 Power consumption:  
 0.9 to 0.4 A  
 Operating temperature:  
 5 °C to 40 °C (41 °F to 104 °F)  
 Storage temperature:  
 -20 °C to +60 °C (-4 °F to +140 °F)  
 Operating humidity:  
 10% to 90 % (Non-condensing)

### Dimensions (W x H x D)

Main Panel:  
 440 x 186.6 x 442 mm  
 (17 3/8 x 7 3/8 x 17 1/2 inches)  
 Menu Panel:  
 424 x 220 x 46 mm  
 (16 3/4 x 8 3/4 x 1 13/16 inches)

### Mass

Main Panel  
 11.5 kg (25 lb 5 oz)  
 Menu Panel:  
 2.2 kg (4 lb 13 oz)

### Control

Control LAN:  
 RJ-45, 100Base-TX  
 Data LAN:  
 RJ-45, 100Base-TX  
 Peripheral LAN:  
 RJ-45, 100Base-TX  
 GPI:  
 D-SUB 25-pin, relay contact outputs x 4,  
 open collector outputs x 4  
 Remote:  
 BNC type, S-BUS  
 Device:  
 USB type A  
 Main Panel:  
 D-sub 50-pin  
 Menu Panel:  
 D-sub 50-pin  
 Ext Panel:  
 D-sub 50-pin

## SWC-5002 Control Panel Cable

### Features

- 50-pin •2 m •MKS-8010A <—> CCP-8000 Series, MKS-8011A, external panel modules
- MKS-9011/9012 <—> MKS-8011A, external panel modules

### Applicable Models

DVS-9000 Production Switcher Processor  
DVS-9000SF Production Switcher Processor  
MKS-8010A System Control Unit  
MKS-9011 1 M/E Control Panel  
MKS-9012 2 M/E Control Panel

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## SWC-5005 Control Panel Cable

### Features

- 50-pin •5 m •MKS-8010A <—> CCP-8000 Series, MKS-8011A, external panel modules
- MKS-9011/9012 <—> MKS-8011A, external panel modules

### Applicable Models

DVS-9000 Production Switcher Processor  
DVS-9000SF Production Switcher Processor  
MKS-8010A System Control Unit  
MKS-9011 1 M/E Control Panel  
MKS-9012 2 M/E Control Panel  
MVS-8000G Multi-Format Switcher Processor  
MVS-8000GSF Multi-Format Switcher Processor

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## SWC-5010 Control Panel Cable

### Features

- 50-pin •10 m •MKS-8010A <—> CCP-8000 Series, MKS-8011A, external panel modules
- MKS-9011/9012 <—> MKS-8011A, external panel modules

### Applicable Models

DVS-9000 Production Switcher Processor  
DVS-9000SF Production Switcher Processor  
MKS-8010A System Control Unit  
MKS-9011 1 M/E Control Panel  
MKS-9012 2 M/E Control Panel  
MVS-8000G Multi-Format Switcher Processor  
MVS-8000GSF Multi-Format Switcher Processor

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### MKS-2050 Editing Keyboard (MVS-8000A, DVS-9000, MFS-2000)

The MKS-2050 Editing Keyboard adds editing functions to the MVS-8000G series, the DVS-9000 series, and MFS-2000 production switcher systems by connecting the MKS-2050 to the MKS-8010A System Control Unit, the MKS-2010, the MKS-2015, or the MKS-2017 Control Panels. The MKS-8010A, the MKS-2010, the MKS-2015, and the MKS-2017 require the BZS-8050 Editing Control Software to be installed.

**Supplied Accessories**  
User Guide (1)  
15-pin 10m cable (1)

**Optional Accessories**  
BZS-8050 Editing Control Software  
(MVS-8000A, DVS-9000, MFS-2000)



### MKS-8050 Editing Keyboard (MVS-8000A, DVS-9000, MFS-2000)

The MKS-8050 Editing Keyboard adds editing functions to the MVS-8000G series, the DVS-9000 series, and MFS-2000 production switcher systems by connecting the MKS-8050 to the MKS-8010A System Control Unit, the MKS-2010, the MKS-2015, or the MKS-2017 Control Panels. The MKS-8010A, the MKS-2010, the MKS-2015, and the MKS-2017 require BZS-8050 Editing Control Software to be installed. The MKS-8050 is a QWERTY keyboard.

**Supplied Accessories**  
User Guide (1)  
15-pin 10m cable (1)

**Optional Accessories**  
BZS-8050 Editing Control Software (MVS-8000A,  
DVS-9000, MFS-2000)



### BZS-8050 Editing Control Software (MVS-8000A, DVS-9000, MFS-2000)

The BZS-8050 Editing Control Software adds editing functions to the MVS-8000G series, the DVS-9000 series, and MFS-2000 production switcher systems. The BZS-8050 requires to be installed to the MKS-8010A System Control Unit, the MKS-2010, the MKS-2015, or the MKS-2017 Control Panels. The MKS-8050 or the MKS-2050 Editing Keyboard is required.

**Applicable Models**  
MKS-2050 Editing Keyboard (MVS-8000A,  
DVS-9000, MFS-2000)  
MKS-8050 Editing Keyboard (MVS-8000A,  
DVS-9000, MFS-2000)



**SONY**

# Sony Creative Software

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# Vegas + DVD Production Suite

## Professional HD Video, Audio and DVD creation

The Vegas™+DVD Production Suite combines Vegas 7, DVD Architect™ 4, and Dolby Digital® AC-3 encoding software to offer an integrated environment for all phases of video, audio, DVD, and broadcast production. A must for the professional media producer, this suite lets you edit and process DV, HDV, SD/HD-SDI, and all XDCAM formats in real time, fine-tune audio with unparalleled precision, and author surround sound, dual-layer DVDs.

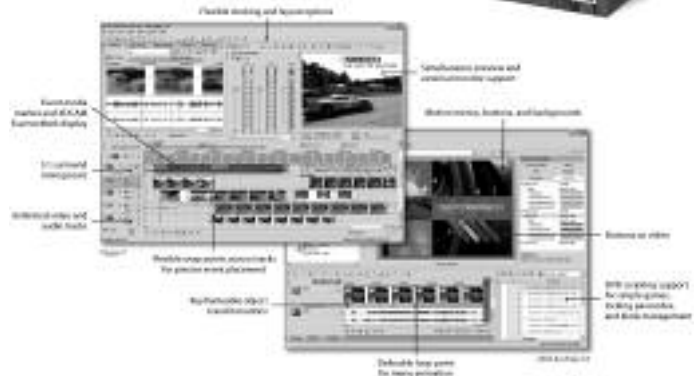


### Video Features

- Improved HDV, SD/HD-SDI support
- XDCAM SD and HD import and export
- XDCAM Proxy Data support
- XDCAM iLink FAM and Network support
- XDCAM browser
- XDCAM Master to disc
- Multitrack video editing on unlimited tracks
- 3D track motion
- Keyframeable Bézier masks
- Keyframeable transitions, filters, and track motion
- 3-wheel primary and secondary color correction filters
- Waveform, Vectorscope, Parade, and Histogram monitors
- Real-time playback of effects, processes and transitions to external monitor
- Credit rolls and text animation
- Alpha channel support
- Flash™ (.swf) format import
- Support for any aspect ratio (4:3, 16:9, etc)
- Supports multiple file formats and frame rates
- 24p DV support

### Audio Features

- Improved multi-processor support
- Broadcast Wave format multichannel support
- AAF track volume and pan info support
- Cinescore plug-in support
- VST plug-in effect support
- Tape-style audio scrubbing
- Audio recording, editing, and mixing on unlimited tracks
- 24-bit/192 kHz audio support
- 5.1 surround mixing tools
- On-the-fly punch-in recording
- Auto-input record monitoring
- 5.1 audio plug-in support for the master bus
- Film-style 5.1 surround panning
- Downmix monitoring
- DirectX® plug-in effects automation
- ACID™ loop properties support
- ASIO driver support
- Keyboard event pitch shifting
- Fader automation
- 32 assignable effects and 26 Master and Aux outputs
- Bus-to-bus routing
- Master, auxiliary, and effects bus tracks



### Editing/Workflow Features

- Save and recall window layouts
- Flexible window docking
- Support for XDCAM essence markers
- Envelope brush “painting”
- Improved project copy and trim operations
- Improved multiprocessor rendering
- System-wide media management
- AAF Import/Export
- A/V synchronization detect and repair
- Real-time nondestructive editing
- Split-screen A/B previewing
- Simple drag-and-drop operations
- Network rendering
- Envelope automation recording
- High Definition editing and output
- Searchable Media Pool bins
- Media subclips
- Trimmer window
- Real-time A/V event reverse
- Dual monitor support
- Customizable keyboard mapping
- Dual processor DV rendering support
- Keyboard trimming and event shuffling
- Edit on 23.976, native 24, 25, 29.97 or 30 fps timelines



## Capture/Export/Hardware Features

- Export directly to PSP
- AVC/AAC support
- MPEG-2, Insert I-Frame at markers
- ATRAC 3 input and output
- Import from DVD camcorder disc
- SDI deck insert editing per channel
- Render to mxf for XDCAM
- Blackmagic Design DeckLink™ board support
- External control surface support
- Advanced streaming media tools
- Application scripting for task automation
- Subtitle time/text export to DVD Architect software
- Windows Media™ 9 Series support, including surround encoding
- RealVideo™ 9 support
- QuickTime® format support
- VideoCD and multimedia CD burning
- Red Book audio CD production
- EDL export
- MPEG-1&2 support
- Supports Windows Media® and RealMedia® commands
- Sony DSR-DU1 and DSR-DR1000 disc recorder support
- J-H3 HDCAM player support for DV downconverts
- 3:2 pulldown removal from DV .AVI files
- Exports chapter markers and subtitles to DVD Architect™ 4 software

## DVD Architect 4 Features

### General Features

- Scripting support
- Random playlist playback
- Parental control
- Cinescore plug-in integration
- Photoshop® (PSD) layer support
- Jacket picture creation
- Theme export
- Integration with Vegas™ software
- Menu-based and single movie DVD creation
- Media Explorer
- Adjustable Project and File Optimization Settings
- Multi-monitor support
- Multi-processor support
- Fully customizable toolbars

### DVD Editing and Layout Features

- Keyframeable transformations
- Keyframeable crop and effects
- Graphical subtitles
- Title reordering
- Snap to I-Frame
- 4:3 and 16:9 preview settings
- DVD Mastering tools: DLT, DDP, CMF
- Project playlists
- Copy-protection tools (CSS and Macrovision®)
- Media effects
- Project navigation tool

- Still and motion menu creation
- Support for multiple video titles
- Real-time external monitor preview via i.LINK®/IEEE-1394
- Subtitle creation and support
- Multiple audio track support
- Programmable end actions for menus and media
- Project overview window
- Enhanced asset behavior control
- Multiple menus with up to 36 buttons per menu
- Menu object editing, alignment and sizing tools
- Text editing and shadow effects
- Slide image rotation
- Add, edit, and move chapter points
- Title and Action safe grid area
- Customizable Themes
- Menu looping

### Video Features

- Buttons on video
- Crop and adjust dialog
- Slideshow animations
- Multiangle video selection
- DVD movie creation
- Picture slideshows
- Elementary stream import
- 24p DVD encoding
- No re-encoding of compliant files
- NTSC and PAL in normal (4:3) and wide-screen (16:9) formats
- Imports AVI, MPEG-1, MPEG-2, MOV, WMV, and a variety of still image formats

### Audio Features

- ATRAC Support
- Multiple audio track support
- Music compilations
- Attach audio files to menus
- Media file previewing
- Import WAV, MP3, WMA, PCA, AIF, MPEG audio, AC-3 5.1 or stereo into your DVD Architect project
- 24-bit/192kHz audio support

### Testing and Burning Features

- Burn mastered folder
- 8cm to 12cm DVD Copy
- Button overlap indication
- Smart-project reprepare
- Dual-layer burning and authoring support
- Real-time project previewing with virtual DVD remote control or to external monitor
- DVD project verification and preparation
- Advanced DVD disc optimization with adjustable bitrates
- Fit to disc option
- Supports a wide variety of DVD burners

## Supported Formats:

Imports: AA3, AAF, AIF, ASF, AVI, BMP, BWF, DLX, DV, GIF, JPG, M2T, MOV, Sony MXF, MP3, MP4, M4A, MPEG-1 and MPEG-2 video, OGG, OMA, PCA, PNG, PSD, QT, SFA, SND, SWF\*, TIFF, TGA, W64, WAV, WMA, WMV

Renders: AA3, AIF, ATRAC, AVI, MP3, MOV, MP2, MP4, Sony MXF, OGG, PCA, RM, W64, WAV, WMA, WMV

DVD encoding, Video: NTSC 4:3, NTSC Widescreen, PAL 4:3, PAL Widescreen  
DVD encoding, Audio: AC-3 5.1 or stereo, PCM

\*ActionScripting, motion video, and audio not supported.

## System Requirements:

Microsoft® Windows® 2000 SP4, XP Home, or XP Professional  
(Windows XP SP2 required for HDV and XDCAM)  
800 MHz processor (2.8 GHz recommended for HDV)  
200 MB hard-disk space for program installation  
600 MB hard-disk space for optional Sony Sound Series Loops & Samples reference library installation  
256 MB RAM, 512 MB recommended for HDV  
Windows-compatible sound card  
OHCI compatible i.LINK connector/IEEE-1394DV card (for DV and HDV capture and print-to-tape)  
DVD-ROM drive (for installation from a DVD only)  
Supported DVD-recordable drive (for DVD burning only)  
Supported CD-recordable drive (for CD burning only)  
DirectX 9.0c or later (included on DVD-ROM)  
Microsoft .NET Framework 2.0 (included on DVD-ROM)  
Internet Explorer 5.1 or later (included on DVD-ROM)

Please Note: Product requires online registration within 30 days.

## Related Items:

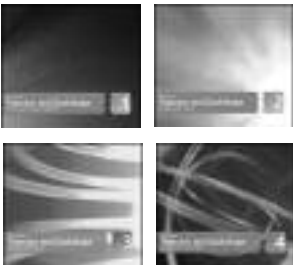
### Sony Pictures Sound Effects Series

Sony Pictures Entertainment has opened its audio archives to producers everywhere. These exclusive collections of essential sound effects represent the best in sound design and field-recorded materials. Created by the industry's most respected audio professionals, these effects come from one of the world's leading motion picture studios.



### Sony Vision Series: 3D Textures & Backdrops

The Vision Series multimedia creation assets deliver unlimited creative potential. These libraries are packed full of textures, backdrops, and stock footage that provide dynamic, royalty-free solutions to enhance any desktop video production. Vision Series libraries ensure that projects are always broadcast quality. Collect them all to keep your video productions looking distinctive.



# Vegas Pro 8

## Professional HD Video, Audio, and DVD Creation

Vegas Pro 8 combines Vegas Pro 8, DVD Architect™ Pro 4.5, and Dolby Digital® AC-3 encoding software to offer an integrated environment for all phases of video, audio, DVD, and broadcast production. This suite has all the tools needed to edit and process DV, HDV, AVCHD, SD/HD-SDI, and all XDCAM formats in real time, fine-tune audio, and author surround sound, dual-layer DVDs. Key features include: comprehensive XDCAM support, Cinescore™ software plug-in support, ProType Titling Technology, Multicam, 32 bit floating point video processing, and 5.1-channel AC-3 encoding.

### Video Features

- NEW! ProType Titler
- NEW! Multicamera editing tools
- NEW! 32-bit floating point video engine
- NEW! Digital signage support
- Improved HDV and SD/HD-SDI support
- Redeye reduction (stills only)
- Comprehensive XDCAM support
- Enhanced video monitoring
- Superior frame rate conversions
- Multitrack video editing on unlimited tracks
- 3D track motion
- Enhanced video compositing
- Keyframeable Bézier masks
- Keyframeable transitions, filters, and track motion
- 3-wheel primary and secondary color correction filters
- Waveform, Vectorscope, Parade, and Histogram monitors
- Real-time playback of effects, processes and transitions to external monitor
- Credit rolls and text animation
- Transition progress envelopes
- Alpha channel support
- Flash™ (.swf) format import
- Support for any aspect ratio (4:3, 16:9, etc)
- Supports multiple file formats and frame rates
- 24p DV support

### Audio Features

- NEW! Audio Mixer Console
- Broadcast Wave format multichannel support
- AAF track volume and pan info support
- Cinescore plug-in support
- Gracenote CDDDB support for CD extractions
- VST plug-in effect support
- Tape-style audio scrubbing
- Audio recording, editing, and mixing on unlimited tracks
- 24-bit/192 kHz audio support
- 5.1 surround mixing tools
- On-the-fly punch-in recording
- Auto-input record monitoring
- 5.1 audio plug-in support for the master bus
- Film-style 5.1 surround panning
- Downmix monitoring



- DirectX® plug-in effects automation
- Includes over 30 DirectX audio effects
- ACID® loop properties support
- ASIO driver support
- Keyboard event pitch shifting
- Fader automation
- Real-time record meters
- 32 assignable effects and 26 Master and Aux outputs
- Bus-to-bus routing
- Solo or mute tracks
- Master, auxiliary, and effects bus tracks

### Editing/Workflow Features

- NEW! Enhanced video previewing
- NEW! Interactive tutorials
- NEW! Scripting extensions
- Save and recall window layouts
- Flexible window docking
- Cursor object "snapping"
- Support for XDCAM essence markers
- Envelope brush "painting"
- Improved multiprocessor rendering
- Project nesting
- System-wide media management
- AAF Import/Export
- A/V synchronization detect and repair
- Real-time nondestructive editing
- Split-screen A/B previewing
- Simple drag-and-drop operations
- Network rendering
- Envelope automation recording
- High Definition editing and output
- Searchable Media Pool bins
- Media subclips
- Automatic crossfades

Trimmer window  
JKL scrub; timeline and keyboard trimming  
Real-time A/V event reverse  
Dual monitor support  
Multiple docking windows  
User-definable window layouts  
Customizable keyboard mapping  
Dual processor DV rendering support  
Keyboard trimming and event shuffling  
Edit on 23.976, native 24, 25, 29.97 or 30 fps timelines  
Unlimited undo/redo  
Media Explorer window

## Capture/Export/Hardware Features

NEW! Blu-ray burning directly from the timeline  
NEW! No-recompress rendering for Long GOP HDV  
NEW! XDCAM partial conform for FAM mode  
Export directly to PSP  
AVC/AAC support  
MPEG-2, Insert I-Frame at markers  
ATRAC 3 input and output  
Import from DVD Camcorder disc  
Enhanced capture and print-to-tape tools  
SDI deck insert editing per channel  
Render to mxf for XDCAM  
Blackmagic Design DeckLink™ board support  
External control surface support  
Advanced streaming media tools  
Application scripting for task automation  
Subtitle time/text export to DVD Architect software  
Windows Media™ 9 Series support, including surround encoding  
RealVideo™ 9 support  
QuickTime® format support  
VideoCD and multimedia CD burning  
Red Book audio CD production  
Advanced encoding tools  
EDL export  
MPEG-1&2 support  
Supports Windows Media® and RealMedia® commands  
Sony DSR-DU1 and DSR-DR1000 disc recorder support  
J-H3 HDCAM player support for DV downconverts  
3:2 pulldown removal from DV .AVI files  
Exports chapter markers and subtitles to DVD Architect™ 3 software

### Supported Formats:

Opens: AA3, AAF, AIF, ASF, AU, AVI, BMP, BWF, CDA, DIG, DLX, DV, FLAC, GIF, IVC, JPG, M2T, M2TS, MOV, Sony MXF, MP3, MP4, M4A, MPEG-1 and MPEG-2 video, OGG, OMA, PCA, PNG, PSD, QT, SFA, SND, SWF1, TIFF, TGA, VOX, W64, WAV, WMA, WMV  
Saves: AA3, AC3, AIF, ATRAC, AVC, AVI, FLAC, MOV, MP3, MPEG-1 and MPEG-2 video, MP4, M2T, Sony MXF, OGG, PCA, RM, W64, WAV, WMA, WMV  
DVD encoding, Video: NTSC 4:3, NTSC Widescreen, PAL 4:3, PAL Widescreen  
DVD encoding, Audio: AC-3 5.1 or stereo, PCM

\*ActionScripting, motion video, and audio not supported.

### System Requirements:

Microsoft® Windows® XP SP2 or Windows Vista™  
1 GHz processor (2.8 GHz recommended for HDV)  
200 MB hard-disk space for program installation  
600 MB hard-disk space for optional Sony Sound Series  
Loops & Samples reference library installation  
1 GB RAM  
OHCI-compatible i.LINK® connector1/IEEE-1394DV card  
(for DV and HDV capture and print-to-tape)  
Windows-compatible sound card  
DVD-ROM drive (for installation from a DVD only)  
Supported CD-recordable drive (for CD burning only)  
Supported DVD-recordable drive (for DVD burning only)  
Supported Blu-ray recordable drive (for Blu-ray burning only)  
Microsoft .NET Framework 3.02  
QuickTime 7.1.6 or later  
Product requires online registration within 30 days

# Vegas Movie Studio Platinum 8

## Video Editing and DVD Creation Software

Vegas Movie Studio Platinum Edition software provides the power, features, and advanced tools you need to edit video in nearly any format, including HDV and Sony AVCHD. It includes hundreds of built-in video and audio effects as well as integrated tools for professional-level compositing, color correction, and 5.1 surround mixing. Vegas Movie Studio Platinum software gives you complete control over your video and audio projects.



### General Features

- NEW! Microsoft® Windows Vista™ support
- NEW! Improved native HDV .m2t playback performance and improved memory handling for HDV long form projects
- NEW! Gracenote® MusicID™ technology for extracted audio from CDs.
- NEW! Freehand envelope drawing on the timeline.
- NEW! Display of media marker names in events.
- NEW! Improved snapping — color-coded visual snap indicator and the ability to snap to event edges on other tracks.

### Multitrack Video and Audio Editing

- Real-time editing of parameters during playback
- Support for any aspect ratio (4:3, 16:9, etc)
- Supports multiple file formats and frame rates
- High Definition editing and output
- Simple drag-and-drop operations
- Interactive Show Me How tutorials and online help
- Explorer view
- Project media bins
- Track markers and regions
- Unlimited undo/redo
- Includes 1,001 sound effects
- DVD Architect Studio 4.5 software included

### Audio Features

- NEW! Multithreaded audio engine maximizes performance
- NEW! Basic surround support
- NEW! Support for multichannel (5.1) source files for Sony HDV Handycam® camcorders
- Gracenote MusicID™
- 16-bit, 44.1 kHz song quality for exceptional performance
- Volume and pan envelopes
- Audio time stretching
- Event normalization
- CD audio extraction
- Master, auxiliary, and effects bus tracks

### Video Features

- NEW! Full-screen preview to a secondary Windows display
- Real-time playback of effects, processes and transitions to external monitor
- Color Corrections Tools
- MPEG-1&2 support



- Superior frame rate conversions
- Credit rolls and text animation
- Over 500 Video Effects and Transitions
- External monitor preview
- Ripple editing across tracks

### Capture/Export/Hardware Features

- NEW! Sony AVCHD import and edit support
- NEW! Import and Export ATRAC3™, ATRAC3plus™, and ATRAC Advanced Lossless™ files.
- NEW! Insert I-frames at marker positions when rendering MPEG-2 (works in conjunction with I-frame viewer in DVD Architect Studio 4.5).
- NEW! AC3 Stereo and 5.1 encoding
- NEW! MainConcept AVC/AAC, read/write (Templates only) iPod Format
- NEW! PSP® (PlayStation®Portable) integration
- Sony AVC/AAC (Templates only)
- Connectivity and media transfer facilitation
- NEW! ATRAC audio plug-in (Templates only)

### Third-party added value

- NEW! Includes NewBlue® VideoFX MSP, over 100 video effects and transitions
- Includes over 20 Animattes video masks by FreedomFX

## DVD Architect Studio 4.5 Features

### General Features

- NEW! Microsoft® Windows Vista™ support
- Built-in interactive Show Me How tutorials
- End actions for menus and media
- Project overview window
- Customizable user interface
- DVD theme export
- Project playlists
- Smart reprepare

### DVD design and authoring

- Menu-based and single movie DVD creation
- Picture slide shows and music compilations
- Easy to use drag-and drop interface
- Unlimited number of undo/redo
- Media Explorer
- Adjustable Project and file optimization Settings
- Multi-monitor support
- Multi-processor support
- Fully customizable toolbars
- Get Media from the web
- DVD Editing and Layout
- Still and motion menu creation
- Support for multiple video titles
- Multiple menus with up to 36 buttons per menu
- Menu object editing, alignment, and sizing tools
- Text editing and shadow effects
- Object snapping
- Slide image rotation
- Add, edit, and move chapter points
- Title and Action safe grid area
- Customizable Themes
- Menu looping

### Video

- Fit to disc compression
- DVD movie creation
- Picture slide shows
- NTSC and PAL in standard (4:3) and widescreen (16:9) formats
- Imports AVI, MPEG-1, MPEG-2, MOV, WMV, and a variety of still image formats

### Audio

- Music compilations
- Attach audio files to menus
- Media file previewing
- Import WAV, MP3, WMA, PCA, AIF, MPEG audio

### Testing and Burning

- Dual-layer drive support
- Real-time project previewing with virtual DVD remote control or to external monitor
- DVD project verification and preparation
- Supports a wide variety of DVD burners



### Supported Formats:

Opens: AIFF, ATRAC, AVI, BMP, GIF, JPG, MMV, MP3, MPEG-1, MPEG-2, MPEG-4, Sony M2TS, OGG, PCA, PNG, PSD, QuickTime®, SFA, SWF, TGA, TIF, W64, WAV, WMA

Saves: AC-3, ATRAC, AVI, MP3, MPEG-1, MPEG-2, MPEG-4, OGG, PCA, QuickTime, RealAudio®, RealVideo®, W64, WAV, WMA, WMV

### System Requirements:

Microsoft® Windows® XP SP2 or Windows Vista™  
800 MHz processor (2.8 GHz recommended for HDV)  
200 MB hard-disk space for program installation  
256 MB RAM (512 MB RAM recommended for HDV)  
OHCI-compatible i.LINK® connector1/IEEE-1394DV card (for DV and HDV capture and print-to-tape)  
Windows-compatible sound card  
DVD-ROM drive (for installation from a DVD only)  
Supported CD-Recordable drive (for CD burning only)  
Supported DVD- R /- RW /+ R /+ RW drive (for DVD burning only)  
Microsoft DirectX® 9.0c or later  
Microsoft .NET Framework 2.0

# Cinescore

## Professional soundtrack creation software

Cinescore™ software is a breakthrough in professional soundtrack creation, generating fully composed, multi-genre, royalty-free production music in a matter of seconds. Adjust parameters such as mood, intensity, tempo, and variation to create a virtually unlimited number of musical variations, then save your custom variations for use in future projects. Cinescore software imports a wide range of file formats, including PSD, JPG, SWF, PCA, AVI, MP3, WMV, and WAV. There's no need to use separate applications to transcode your media. Create dynamic and effective musical tracks for movies, slideshows, commercials, radio productions and more with the push of a button.

### Features

- Automatically generates music to fit project length
- Includes 20 fully customizable Themes in multiple genres
- 16-bit, 44.1/48 kHz song quality for high-fidelity performance
- User-defined settings yield unlimited musical results
- Custom variations can be created and saved
- Hint Markers control changes in tempo, mood, and intensity
- Multiple ending types for generated media
- Includes over 300 sound effects and audio transitions
- Themes sorted based on instruments, keywords, and more
- Video scoring track and real-time preview window
- Audio sweetening track
- Real-time editing during playback
- Interactive Show Me How tutorials and online help
- Volume and pan envelopes
- Audio time stretching
- Track markers and regions
- CD audio extraction
- External monitor preview
- Unlimited undo/redo
- Project media bins

### Supported Formats:

Imports: AA3, AIF, ASF, AVI, BMP, DV, GIF, JPG, MOV, MP3, MP4, M4A, MPEG-1 and MPEG-2 video, OGG, OMA, PCA, PNG, PSD, QT, SFA, SND, SWF\*, TIFF, TGA, W64, WAV, WMA, WMV

Renders: AA3, AIF, AVI, MP3, MOV, MP2, MP4, OGG, PCA, RM, W64, WAV, WMA, WMV

\*ActionScripting, motion video, and audio not supported.

### System Requirements:

- Microsoft® Windows® 2000 (SP4) or XP
- 1.5 GHz processor
- 512 MB RAM (1 GB recommended)
- 200 MB hard-disk space for program installation
- 1.7 GB hard-disk space for optional Cinescore Theme installation
- Windows-compatible sound card
- CD-ROM drive (for installation from a CD only)
- DVD-ROM drive (for installation of Themes and audio transitions)
- DirectX 9.0c or later (included on DVD-ROM)
- Internet Explorer 5.1 or later (included on DVD-ROM)

### Related Items:

#### Cinescore Theme Packs: Royalty-Free Production Music

Each Cinescore Theme Pack is a collection of ten Cinescore Themes designed for a general purpose that can be opened and adjusted within Cinescore software. While Theme Packs are geared to provide soundtracks for specific situations, the flexibility of the Themes themselves ensures that Theme Packs will provide perfect musical solutions across an extraordinarily wide range of scenes. Each Theme contains multiple mood and variation presets that you can easily fine-tune to produce an unlimited number of unique, royalty-free compositions that fit perfectly to the length of your video clip.



### Cinescore Theme Packs



Pass the Ring



High Tech World



Ideal Vacation



Incredible Vistas

# ACID Pro 6

## Professional Music Workstation

ACID™ Pro 6 software is a professional music workstation for composing, recording, mixing, and arranging audio and MIDI tracks. New multitrack technologies and full MIDI sequencing join legendary ACID looping functionality to form an incomparable environment for music creation and production. ACID Pro 6 software includes a custom edition of Native Instruments™ Kompakt and over 1,000 loops so you can start making music right out of the box. Native support for VST instruments and plug-ins expands your palette of available sounds.

### Features

#### Fundamentals

- Unlimited tracks of audio and MIDI
- 24-bit, 192 kHz hard disk recording
- Real-time nondestructive editing
- Over 1,000 music loops in multiple genres
- Preview loops in real-time with your project
- Alternate time signature support
- ASIO driver support
- Support for control surfaces including Mackie Control and Frontier Design TranzPort
- Dual/Multi-core processor support
- Master, auxiliary, soft synth, and effects bus tracks
- System-wide media management
- Metronome for playback and record
- Customizable UI and keyboard mapping
- Multiple file format support
- Unlimited undo/redo history
- External monitor support
- Get Media option to download media from the Web
- Integrated disc-at-once and track-at-once CD burning
- Sony Net MD format export
- ATRAC3™, ATRAC3plus™, and ATRAC Advanced Lossless™ support
- Gracenote MusicID™ CD album identification
- CD extraction
- One-click music publishing to ACIDplanet.com

#### Mixing and Editing

- Multitrack audio and MIDI recording
- Multiple media events per track with automatic crossfades
- On-the-fly punch-in recording
- Beatmapper remixing tool
- Chopper editing tool with loop cloning
- Track mute and solo
- Tempo, time signature, and key change markers
- Tempo and key mapping
- Project sections for easy arranging
- Freehand envelope drawing on the timeline
- 5.1 surround film-style panning
- Nestable folder tracks
- Volume and Pan envelopes



- Ripple editing across multiple tracks
- Real-time placement of markers during playback
- Drop one-shots in real time
- Real-time event reverse
- Frame-accurate video scoring
- Bus-to-bus routing
- Downmix monitoring
- Attack, Sustain, and Release (ASR) envelopes

#### MIDI

- Inline MIDI editing
- MIDI track envelopes and keyframes
- Drum grid editing mode with drum key maps
- MIDI piano roll snap-to-scale filtering
- Real-time MIDI quantization
- VSTi soft synth support and parameter automation
- DLS 1 & 2 soft synth support
- MIDI filtering and processing
- MIDI event list editing and step recording
- MIDI Time Code (MTC) generation and triggering
- MIDI file export
- MIDI piano roll editing
- MIDI event list editing
- MIDI step recording

#### Audio Control

- Includes Native Instruments KOMPACT Sony ACID Pro edition
- Over 20 DirectX audio effects including delay, EQ, compressor, resonant filter, reverb, flange, chorus, and distortion
- VST effects support with automation and tempo sync
- Envelope automation recording
- Record input monitoring
- Groove quantization tools
- ReWire mixer and device support
- Audio plug-in manager
- Bypass all effects command
- 32 assignable effect chains
- 26 auxiliary busses
- Direct links to audio editors



## Supported Formats:

Imports: Macintosh® AIFF (uncompressed) (.aif), Adaptive Transform Acoustic Coding (unprotected) (ATRAC), Windows® Video (.avi), Windows® Bitmap (.bmp), CompuServe Graphics Interchange Format (.gif), Joint Picture Experts Group (.jpg), MIDI (.mid), QuickTime® Movie (.mov), MPEG-1 Layer 3 (Audio) (.mp3), MPEG-1 and MPEG-2 Video\*\* (.mpg), OGG Vorbis (.ogg), Perfect Clarity Audio™ (.pca), Portable Network Graphics (.png), Adobe® Photoshop® (.psd), Macromedia Flash\*\*\* (.swf), Targa™ File Format (.tga), Tagged Image File Format (.tif), Sony Wave64 (.w64), Microsoft Wave® (uncompressed) (.wav), Windows Media® Audio 9 Series (.wma), Windows Media Video 9 Series (.wmv)

Saves: Dolby Digital AC-3 (.ac3)\*, Macintosh® AIFF (uncompressed) (.aif), Adaptive Transform Acoustic Coding (unprotected) (ATRAC), Windows® Video (.avi), MIDI (.mid), QuickTime Movie (.mov), MPEG-1 Layer 3 (Audio) (.mp3), MPEG-1 and MPEG-2 Video\*\* (.mpg), OGG Vorbis (.ogg), Perfect Clarity Audio™ (.pca), RealAudio® (.rm), RealVideo® (.rm), Sony Wave64 (.w64), Microsoft Wave® (uncompressed) (.wav), Windows Media® Audio 9 Series (.wma), Windows Media® Video 9 Series (.wmv)

\*AC-3 encoding requires separate purchase of the Sony Media Software AC-3 encoder.

\*\*MPEG-1&2 support requires the purchase of the MainConcept MPEG plug-in from Sony Media Software.

\*\*\*ActionScripting, motion video and audio not supported.

## System Requirements:

Microsoft® Windows® 2000 (SP4) or XP

1 GHz processor (1.2 GHz if using video)

150MB hard-disk space for program installation

600 MB hard-disk space for optional Sony Sound Series Loops & Samples reference library installation

2.2 GB hard-disk space for installation of Native Instruments Kompakt Sony ACID Pro edition

256 MB RAM, 512 MB recommended

Windows-compatible sound card

DVD-ROM drive (for installation from a DVD only)

Supported CD-Recordable drive (for CD burning only)

DirectX 9.0c or later (included on DVD-ROM)

Microsoft .NET Framework 1.1 SP1 (included on DVD-ROM)

Internet connection (for Gracenote MusicID™)

Internet Explorer 5.1 or later (included on DVD-ROM)

Please Note: Some features may require product registration.

## Related Items:

### Sony Sound Series: Loops & Samples

The Sony Sound Series collection has over 125 CD libraries of loops and samples, with new titles added monthly. Find royalty-free audio content in nearly every music genre and style. Optimized for use in ACID software applications, each loop contains our signature time-stretching and pitch-matching metadata. Now an industry standard, the "ACIDized™" loop format is supported by all leading music creation applications.



**Global Groove Standard  
Collection library**



**Dr. Fink's Funk Factory  
Premium Collection library**



**Chicago Fire box set**

# Sound Forge 9

## Professional Digital Audio Production Suite

The Sound Forge™ 9 professional digital audio production suite includes everything you need to quickly get from raw audio to finished master. Use this suite to create and edit stereo and multichannel audio files with speed and precision, efficiently analyze, record and edit audio, digitize and restore old recordings, model acoustic environments, design sound for multimedia, and master replication-ready CDs. Sound Forge 9 new features include multichannel file recording, editing and processing, phase scope metering, and Dolby® Digital AC-3 export. Includes CD Architect™ 5 software, Noise Reduction 2 plug-ins, and Mastering Effects Bundle powered by iZotope™. Works with Windows® Vista™.



### Features

#### Processes

- NEW! Channel converter for multichannel files
- Auto Trim/Crop
- Mute
- Normalize peak or RMS Level
- Stereo Pan/Expand (supports mid-side mixing)
- Graphic, Paragraphic, and Parametric EQ
- DC Offset
- Resample
- Reverse
- Graphic Fade with noise-shaping and dithering
- Smooth/Enhance
- Fade In/Out
- Time Compress/Expand
- Insert Silence
- Volume
- Invert/Flip
- Bit Depth Converter (to 8-bit, 16-bit, 24-bit, or 32-bit)

#### Effects

- NEW! Includes Mastering Effects Bundle powered by iZotope™
- New! Wet/dry mix and crossfade options
- VST plug-in effect support
- DirectX® plug-in effects automation
- DirectX Plug-in Manager
- Real-time effects previewing
- Modeless audio plug-in Chainer
- Acoustic Mirror environment simulator
- Amplitude Modulation
- Chorus
- Distortion
- Delay/Echo (Simple and Multi-Tap)
- Graphic Dynamics
- Multi-Band Dynamics
- Envelope
- Flange/Wah-Wah/Phaser
- Gapper/Snipper

- Noise Gate
- Pitch Bend/Shift
- Reverb
- Vibrato
- Wave Hammer Compressor/Volume Maximizer

#### Tools

- NEW! Includes Noise Reduction 2.0
- NEW! Multichannel capable Spectrum Analysis™ tools
- NEW! Phase and mono-compatibility meters
- NEW! Gracenote® MusicID™ technology
- NEW! Access to Sony Music Studios Internet Mastering (Sony Music SIM)
- Includes CD Architect 5.2
- Direct file export to CD Architect software
- Application scripting
- Script editor window
- Batch conversion
- Copy Statistics to clipboard
- Drag-and-drop CD extraction
- Clipped peak detection and marking
- FM Synthesis with envelope
- White, pink, brown and filtered noise generators
- Simple synthesis sweep
- Auto Region (using beats and measures, or peak detection)
- Crossfade Loop
- Extract Regions
- Find Tool
- Preset Manager
- Sampler Tool
- Statistics Tool (Max, RMS, DC offset, Zero Crossings)
- DTMF/MF Tone Synthesis

#### Editing/Workflow

- NEW! Multichannel file editing and processing
- NEW! Enhanced user interface with color customization
- NEW! Fade in/out curve types
- Audio scrubbing tool
- JKL keyboard commands for scrub

- Customizable keyboard mapping
- Windows XP theme support
- Project paths in rendered media
- Real-time nondestructive editing
- Simple drag-and-drop operations
- Multitask background rendering
- Media Explorer window
- Undo/redo history
- Docking windows

## Recording/Playback

- NEW! Multichannel audio recording
- NEW! Hardware meters with output gain control
- ASIO driver support
- Automated time-based recording
- Audio threshold record triggering
- Prerecord buffer
- Auto calibration for DC Offset
- Generate SMPTE/MIDI Time Code
- Glitch/Gap Detection
- Punch In option
- Pre-roll to Cursor
- Real-time record/playback meters (VU/PPM and standard)
- Remote record function

## Regions and Playlists

- Updated Regions List and Playlist windows
- Real-time editing of fields
- List sorting
- Nondestructive playlist
- Name markers, loops, regions
- Trigger with sequencers
- Trigger with MIDI event-generating devices
- Trigger with time code-generating devices

## Sample Editing

- Pop-up MIDI keyboard to test samples
- Sustaining Loop
- Release Loop
- Real-time loop tuning window
- Generate/Receive MIDI Time Code
- SCSI/SMDI or MIDI/SDS sample transfer
- Sustaining Loop, Release Loop

## Timing Basis

- Absolute Frames
- Measures and Beats
- Samples, Time, Seconds
- SMPTE Drop/Non-Drop
- SMPTE EBU/Film Sync
- Time and Frames

## Encoding/Video Support

- NEW! Dolby® Digital AC-3 export
- NEW! Multichannel Windows Media format support
- Flash™ (.swf) format import
- Video saving and render options (fast video resizing, deinterlace, source video resampling, and video stretching)
- Windows Media® 9 Series import and export
- QuickTime® 6 import and export, RealMedia® 9 export
- Support for 24fps DV video files
- Option to compensate for non-square pixels in Video preview window
- Display exact video frame animation above waveform
- .MOV and MPEG-1 and MPEG-2 format import
- Windows Media Video 9 format support
- External monitor support using DV and IEEE 1394 devices
- Maintain perfect sync while working with full NTSC and PAL video
- Sound and video synchronization with sub-frame accuracy
- Various video and audio compression options

## Tools for ACID Software

- Publish to ACIDplanet.com®
- Create loops for ACID software
- Loop-editing toolbar
- Assign root notes, number of beats, and tempo

\*MPEG-1&2 support requires the purchase of the MainConcept™ MPEG plug-in.

### Supported Formats:

Opens: AA3\*, AAC, AIF, ASF, AU, AVI\*, CDA, DIG, DV, FRG, GIF, IVC, M2T, M4A, MOV, Sony MXF\*, MP1, MP3, MP4, M2A, M2P, M2T, M4A, M4B, MPEG, MMV, MPEG-1 and MPEG-2 video, OGG, PCA, QT, RAW, SD, SFA, SND, SWF3, TIF, TIFF, VOB\*, VOX, W64\*, WAV\*, WMA\*, WMV  
\*Multichannel formats supported for reading.

Saves: AA3, AC3, AIF, ATRAC, AU, AVI, DIG, FRG, IVC, M1A, M1P, M2T, M2A, M2P, MMV, MOV, MP1, MP2, MP3, MPA, MPG, MPEG-1 and MPEG-2 video, MP4, Sony MXF, OGG, PCA, RAW, RM, VOX, W64, WAV, WMA, WMV

### System Requirements:

Microsoft® Windows® Vista™, XP, or 2000 SP4  
800 MHz processor  
150 MB hard-disk space for program installation  
256 MB RAM  
Windows-compatible sound card  
DVD-ROM drive (for installation)  
Supported CD-Recordable drive (for CD burning)  
Microsoft DirectX® 9.0c or later (included on DVD-ROM)  
Microsoft .NET Framework 2.02 (included on DVD-ROM)  
Internet Explorer 5.1 or later (included on DVD-ROM)

PLEASE NOTE: You must provide your registration information to Sony Creative Software, Inc., a US company and subsidiary of Sony Corporation of America, in order to activate the software. Product requires online registration within 30 days.

# CD Architect 5.2

## Professional Red Book audio CD mastering software

Produce professional audio CDs to Red Book specification with CD Architect™ software. It's everything you need to produce professional CDs from beginning to end. Perform full PQ code editing including track and index positions, ISRC codes, and pause times. With CD Architect software you can apply effects to individual tracks, sections of a track, or the master bus. Create live-style CDs with audio in the time between tracks, apply volume envelopes and event ASR envelopes, and even create hidden tracks. Create custom crossfades and generate disc-at-once premasters suitable for professional replication. CD Architect software uses simple drag-and-drop operations and supports most CD burners.



### Features

#### General Editing

- Support for up to 32-bit, 192kHz source audio
- High-quality resampling and dithering with noiseshaping
- Single or multi-file playlisting
- Volume and ASR envelopes for any event
- CD Text support
- Multiple levels of undo/redo
- Override validation errors option
- Mono-to-stereo conversion on the fly
- CD transport controls
- Direct file open into Sound Forge™ software
- Track creation from Sound Forge regions
- Trimmer window
- Media Explorer
- Ripple editing
- CD Image file rendering
- Automatic crossfades
- Greater than 1:1 time zoom
- Reading and extraction of PQ data along with audio tracks
- Complete control over tracks, marker placements, and indices
- Preview multiple tracks or ranges of audio before extraction from a supported CD device
- Stereo master volume fader and adjustable envelope controls for any region.
- Media Pool
- Multiple file format support without conversion
- Autosave crash recovery
- Undo/redo history list
- Supports MP3, AIFF, Ogg Vorbis, Windows Media® Audio, and more

#### Mastering

- Over 20 real-time DirectX® plug-ins
- Event and master bus effects model
- Audio layering to create complex crossfades
- Event Normalization
- Real time pitch shift/time stretch
- Slip trimming
- Audio phase invert
- Audio scrubbing
- Unlimited volume envelope points

#### CD Design

- Full PQ code editing support, including track and index positions and pause times
- Absolute times for replication
- Print cue sheets and format CD liner notes
- Up to 99 tracks
- Up to 99 subindices per track
- Smart track reordering
- Automatic pause time indication
- Relative times for liner notes
- Timeline event locking
- Adjustable pause times
- Audio CD player un-mute fade emulation

## CD Writing

Burns disc-at-once premaster CDs for professional replication

USB, FireWire, SCSI and IDE/ATAPI CD-R and CD-RW drive support

Overburn support of 80 minute and other size CD-Rs

Buffer underrun protection

Test burn mode

PQ list verification for Red Book compatibility prior to burn

Burn speed selection

Copy-inhibit flags

Pre-emphasis flags

Audio clipping detection

International Standard Recording Codes (ISRC)

Universal Product Codes (UPC)

Media Catalog Numbers (MCN)

## Supported Formats:

Imports: Wave (.wav), CD Audio (.cda), CD Architect™ 4 or 5 project (.cdp), Audio Interchange File Format (.aif, .aiff), MPEG-1 Layer 3 (.mp3), Windows Media Audio (.wma), Ogg Vorbis (.ogg), QuickTime® audio (.qt, .mov), Perfect Clarity Audio (.pca), Wave64 (.w64), Sony Pictures Digital Audio (.sfa), Dialogic VOX ADPCM (.vox), Intervoice (.ivc), NeXT/Sun (.au, .snd), Sound Designer 1 (.dig, .sd)

Exports: Wave Image (.wav), CD Architect 5 Project (.cdp)

## System Requirements:

Microsoft® Windows® 2000, XP Home, or XP Professional

500 MHz processor

40 MB hard-disk space for program installation

128 MB RAM

Windows-compatible sound card

CD-ROM drive

Supported CD-Recordable drive (for CD burning only)

Microsoft DirectX® 8 or later (included on CD-ROM)

Internet Explorer 5.1 or later (included on CD-ROM)

Please Note: Some features may require product registration.

**SONY**

## Audio Mixer & Consoles

DMX-P01 .....	314
SRP-X700P .....	315
SRP-X500P .....	316

## DMX-P01 Portable digital mixer

### Features

- Portable, digital field-mixer designed for ENG/EPF application
- Compact (266 x 68 x 206 mm) and lightweight (Approx. 2.2 kg)
- 24-bit A/D and D/A converters and internal 32-bit DSP for excellent sound quality
- 4 microphone/line inputs with +48 V mic power (on/off)
- 2 channels of balanced analogue output and AES/EBU digital output (stereo) via XLR-type connectors
- Digital cascade input with phono connector
- Coaxial output connector for mix-bus output or S/PDIF digital output
- Selectable sampling rate: 48 kHz or 96 kHz
- Full control of every parameter from the front panel using physical and menu-driven controls
- Digital limiters on both inputs and outputs, and digital compressors on outputs
- A scene memory recall feature to instantly recall up to ten different user-defined parameter settings or factory default settings
- A power-on memory function recalls parameters in three different ways: default factory settings, the last used settings or parameters of one specific scene memory
- Easy-to-read backlit LCD panel displays output levels and setup menus, and allows various parameter settings
- Meter calibrations can be selected from six types: VU, BBC type, DIN type, NORDIC type, IEC type1, and dBFS
- Camera-audio return-level check via 12-pin connector
- Panel lock and parameter lock function
- Adjustable HPF with two user settings
- Operates on eight AA-size alkaline (LR6) batteries or external DC 10 to 15 V power
- Spare battery-compartment for quick battery change



### Applicable Models

- PDW-510 XDCAM Camcorder (DVCAM Recording)
- PDW-510P XDCAM Camcorder (DVCAM Recording)
- PDW-530 XDCAM Camcorder (MPEG IMX/DVCAM Recording)
- PDW-530P XDCAM Camcorder (MPEG IMX/DVCAM Recording)

### Supplied Accessories

- Spare battery compartment (1)
- Meter scale sheets (6)
- Ferrite clamp filters (2)
- 12-pin male connector (1)
- Rubber foot (4)



## SRP-X700P Digital Powered Mixer (220/230V)

### Features

- Ideal for conference rooms, lecture theatres and other presentation applications
- Contains the functions of a high-quality digital audio mixer, power amplifier, wireless mic receiver, RGB/video switcher, feedback reducer and equalizer in a compact 3U high unit
- Accepts 3 RGB/component, 3 composite and 3 S-video inputs, and selects 1 RGB/component, 1 composite, and 1 S-video for outputs
- High-quality component signals (480p/1080i) and RGB signals with 150 MHz frequency response (1280x1024 pixels, SXGA)
- Mixes wireless mic and wired mic inputs with audio from video/DVD players for 10 outputs
- 24-bit AD/DA conversion at 48kHz sampling frequency
- 6 mic inputs with phantom powering, 2 wireless mic (or line) inputs, and 2 line inputs
- Wireless mic slots for storing 2 WRU-806A/806B tuner modules
- 200W+200W(4Ω)/150W+150W(8Ω)/max.150W (70V Line) digital power amp
- Feedback reducer, parametric EQ, LCF (100Hz), compressor/limiter, delay, automatic mixing and flexible signal routing all performed in a digital domain
- 20 scene memories with quick memory recall capacity
- Remote control of SRP-X700P via USB, RS-232C or parallel ports from a PC, a system controller or a control panel
- RS-232C output port for remote control of a projector/plasma display unit
- Control-S ports for remote control of VCRs, DVD/CD/MD players and video/data projectors
- Parallel output port for remote control of environment devices
- Supplied software for comprehensive set-up and controls of SRP-X700P



### Supplied Accessories

- AC power cord (1)
- IR Transmitter (1)
- Foot (4)
- Control software disc\* (1)
- Operation manual (1)

### Optional Peripherals

- WRU-806A UHF Synthesized Tuner Unit (64U)
- WRU-806A UHF Synthesized Tuner Unit (66U)
- WRU-806A UHF Synthesized Tuner Unit (68U)
- WRU-806B UHF Synthesized Tuner Unit (6264U)
- WRU-806B UHF Synthesized Tuner Unit (6668U)
- AN-820A UHF Antenna

\*System requirements PC: Windows 98SE, Windows 2000, Windows ME, or Windows XP

## SRP-X500P Digital Powered Mixer/Switcher (220V)

### Features

- Same as the flagship model SRP-X700P, the SRP-X500P integrates the functionality of the following seven devices to prepare for the scenes of today's modern presentations requiring a wide range of A/V sources, in its compact 3U height, 19-inch rack-mountable chassis
- Ideal for conference rooms, lecture theatres and other presentation applications
- Contains the functions of a high-quality digital audio mixer • RGB Switcher • Video Switcher
- Wireless Tuner Base Unit • Audio Mixer • Power Amplifier
- Feedback Reducer • Equalizer • All-In-One Design
- High Quality Digital Processor • Versatile Interface
- Integrated Wireless Tuner Unit Slots • Comprehensive Remote Control • Built-in Four-Channel Digital Power Amplifier



### Supplied Accessories

- Power cord (1)
- Feet (4)
- CD-ROM (1)
- Operating Instructions (1)
- Antenna (2)

### Optional Peripherals

- AN-820A UHF Antenna
- UWP-X1/X2 Wireless Microphone Package
- WRU-806A UHF Synthesizer Tuner Unit
- RM-AV3000 series Universal Remote Commander

# Wired Microphones

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ECM-77BMP	333
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ECM-88BC	336
ECM-88BPT	337
ECM-88FPT	337
F-112	338
F-710	339
F-720	339
F-780	340
AD-KIT88B	341
SAD-H88B	341
SAD-V88B	341
SAD-W88BL	341
SAD-S88B	342
AD-KIT88	342
SAD-88B	342
SAD-P88	342
SAD-W88B	343
AD-R88B	343
AD-C88	343
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SAD-H77B	344
SAD-V77B	344
SAD-W77B	344
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AD-R55B	346
SAD-H44B	346
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## DC-78 Power Supply Unit

### Features

- Designed for use with Sony lavalier microphones equipped with a Sony 4-pin (SMC9-4P) connector
- Two-way powering: battery operation (using an AA-size (LR6) alkaline battery) or external DC operation (12 to 48 V)
- Supplied with an SMC9-4S input connector and an XLR 3-pin output connector

### Applicable Models

ECM-88 Lavalier Microphone

### Specifications

#### Power requirements:

Internal battery: DC 1.5 V (AA-size (LR6) alkaline battery)

External battery: DC 12 to 48 V

#### Battery life:

Approx. 6000 h

#### Input connector:

Sony 4-pin (SMC9-4S)

#### Output connector:

XLR-3-12C type

#### Dimensions:

20.0 dia. x 144.0 (h) mm

(13/16 x 5 3/4 inches)

#### Mass:

Approx. 130 g (4.59 oz) including batteries



## ECM-166BC Lavalier Microphone

### Features

- Uni-directional, electret condenser microphone
- Resistant to howling by rejecting indirect sound
- Ideal for institutional uses and sound contracting applications such as speeches, lectures and conferences
- Microphone head: 12.5 mm dia x 23.5 mm (1/2 inch dia. x 15/16 inch), 3.5 g (0.12 oz, microphone only)
- SMC9-4P type connector for use with WRT-822A/822B/860A



### Supplied Accessories

Urethane wind screen (1)

Holder clip (1)

### Specifications

#### Capsule type:

Electret Condenser

#### Directivity:

Uni-directional

#### Frequency response:

100 Hz to 10 kHz

#### Sensitivity (0 dB = 1 V/Pa, at 1 kHz):

-45 dB (5.6 mV)

#### Output impedance (at 1 kHz):

2.5 k $\Omega$   $\pm$ 30% (unbalanced)

#### Dynamic range:

96 dB or more

#### Signal-to-noise ratio (A-weighted, 1 kHz, 1 Pa.):

60 dB or more

#### Inherent noise:

34 dB SPL or less

#### Max. input sound pressure level:

130 dB SPL

#### Normal operating voltage:

DC 3 V (supply range: DC 3 to 10 V)

#### Current drain:

0.4 mA or less

#### Output connector:

SMC9-4P type

#### Cable length:

1.2 m (3.9 feet)

#### Dimensions (microphone head):

12.5 mm dia. x 23.5 mm

(1/2 inch dia. x 15/16 inch)

#### Mass (microphone head):

3.5 g (0.12 oz)

\*0 dB SPL = 2E-5 Pa.

# ECM-166BMP Lavalier Microphone

### Features

- Uni-directional, electret condenser microphone
- Resistant to howling by rejecting indirect sound
- Ideal for institutional uses and sound contracting applications such as speeches, lectures and conferences
- Microphone head: 12.5 mm dia x 23.5 mm (1/2 inch dia. x 15/16 inch), 3.5 g (0.12 oz, microphone only)
- 3-pole mini plug with a stable lock mechanism for use with WRT-805A/805B



### Supplied Accessories

- Urethane wind screen (1)
- Holder clip (1)
- Operation manual (1)

### Specifications

#### Capsule type:

Electret condenser

#### Directivity:

Uni-directional

#### Frequency response:

100 Hz to 10 kHz

#### Sensitivity (0 dB = 1 V/Pa, at 1 kHz):

-45 dB (5.6 mV)

#### Output impedance (at 1 kHz):

2.5 k $\Omega$   $\pm$ 30% (unbalanced)

#### Dynamic range:

96 dB or more

#### Signal-to-noise ratio (A-weighted, 1 kHz, 1 Pa.):

60 dB or more

#### Inherent noise:

34 dB SPL or less

#### Max. input sound pressure level:

130 dB SPL

#### Normal operating voltage:

DC 3 V (supply range: DC 3 to 10 V)

#### Current drain:

0.4 mA or less

#### Output connector:

3.5 mm dia., 3-pole mini plug

#### Cable length:

1.2 m (3.9 feet)

#### Dimensions (microphone head):

12.5 mm dia. x 23.5 mm  
(1/2 inch dia. x 15/16 inch)

#### Mass (microphone head):

3.5 g (0.12 oz)

\*0 dB SPL = 2E-5 Pa.

# ECM-322BC Electret Condenser Microphone

### Features

- Supplied with a Sony 4-pin connector (SMC9-4P) for use with the WRT-8B/822B bodypack transmitter
- Optimum sound pickup
- Ear-clip style
- Adjustable microphone position
- Secure and comfortable fit
- Compact and lightweight design

### Supplied Accessories

- Operating instructions (1)
- Carrying case (1)

### Specifications

- Capsule type
  - Electret Condenser
- Frequency response
  - 70 Hz to 15 kHz
- Directivity
  - Omn-directional
- Sensitivity (0 dB=1 V/Pa, at 1 kHz)
  - 43 dB (7.1 mV)  $\pm$ 3dB
- Output impedance at 1 kHz
  - 1.8 k $\Omega$   $\pm$ 30% (unbalanced)
- Maximum input sound pressure level (0 dB SPL=2E-5 Pa)
  - 110.2 dB SPL
- Connector type
  - SMC9-4P
- Cable length
  - 1.4 m (4.5 feet)
- Dimensions Boom:
  - $\varnothing$ 3 x 140 mm (5 5/8 inches)
- Mass
  - 15 g (0.5 oz) excluding cable



# ECM-322BMP Electret Condenser Microphone

### Features

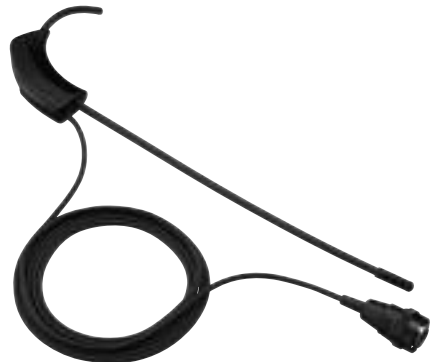
- Supplied with 3-pole mini-jack with a stable lock mechanism for use with the UWP series bodypack transmitter
- Optimum sound pickup
- Ear-clip style
- Adjustable microphone position
- Secure and comfortable fit
- Compact and lightweight design

### Supplied Accessories

- Operating instructions (1)
- Carrying case (1)

### Specifications

- Capsule type
  - Electret Condenser
- Frequency response
  - 70 Hz to 15 kHz
- Directivity
  - Omn-directional
- Sensitivity (0 dB=1 V/Pa, at 1 kHz)
  - 43 dB (7.1 mV)  $\pm$ 3dB
- Output impedance at 1 kHz
  - 1.8 k $\Omega$   $\pm$ 30% (unbalanced)
- Maximum input sound pressure level (0 dB SPL=2E-5 Pa)
  - 110.2 dB SPL
- Connector type
  - 3-pole mini-jack
- Cable length
  - 1.4 m (4.5 feet)
- Dimensions Boom:
  - $\varnothing$ 3 x 140 mm (5 5/8 inches)
- Mass
  - 15 g (0.5 oz) excluding cable



# ECM-44B Lavalier Microphone

## Features

- Omni-directional, electret condenser microphone
- Superior sound quality
- Complete with in-line battery unit
- Microphone head: 8.5 mm dia. x 14.5 mm (11/32 inch dia. x 19/32 inch), 2g (0.07 oz)
- Microphone cable length: 3.0 m (9.8 feet)

## Supplied Accessories

- Holder clip (single/horizontal type) (1)
- Urethane wind screen (1)
- Microphone case (1)

## Optional Accessories

- SAD-H44B Lavalier-Microphone Holder Clip
- AD-R44B Urethane Windscreen

## Specifications

### Capsule type:

Electret condenser

### Frequency response:

40 Hz to 15 kHz

### Directivity:

Omn-directional

### Sensitivity (0 dB = 1 V/Pa, at 1 kHz):

-53.0 dB  $\pm$ 3 dB

### Output impedance (at 1 kHz):

250  $\Omega$   $\pm$ 20% (balanced)

### Dynamic range:

90 dB or more

### Signal-to-noise ratio (A-weighted, 1 kHz,

1 Pa.):

62 dB or more

### Inherent noise:

32 dB SPL or less

### Wind noise (with wind screen, at 2 m/s):

40 dB SPL or less

### Induction noise from external magnetic field

(dB SPL/(1E-7) T):

5 dB SPL or less

### Max. input sound pressure level:

122 dB SPL

### Output connector:

XLR-3-12C type

### Cable length:

3.0 m (9.8 feet)

### Power supply:

R6 (1.5V) (R6P battery life: approx. 5,000 h)

### Normal operating voltage:

DC 1.5 V

### Current drain:

0.3 mA or less

### Dimensions:

#### Microphone head:

8.5 mm dia. x 14.5 mm  
(11/32 inch dia. x 19/32 inch)

#### Power unit:

20.0 mm dia. x 126 mm  
(13/16 inch dia. x 5 inches)

### Mass:

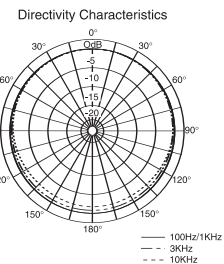
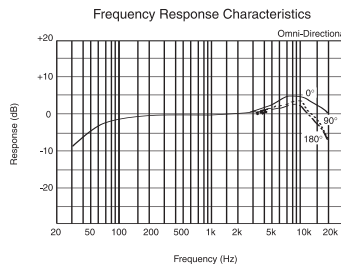
#### Microphone head:

2 g (0.07 oz)

#### Total:

121 g (4.3 oz)

<sup>0</sup> dB SPL = 2E-5 Pa.



# ECM-44BC Lavalier Microphone

## Features

- Omni-directional, electret condenser microphone
- Superior sound quality •SMC9-4P type connector for use with WRT-822A/822B/860A
- Microphone head: 8.5 mm dia. x 14.5 mm (11/32 inch dia. x 19/32 inch), 2g (0.07 oz)
- Microphone cable length: 1.2 m (3.9 feet)



## Applicable Models

WRT-8B UHF Synthesised Transmitter (6668U)

## Supplied Accessories

- Holder clip (single/horizontal type) (1)
- Urethane wind screen (1)
- Microphone case (1)

## Optional Accessories

- SAD-H44B Lavalier-Microphone Holder Clip
- AD-R44B Urethane Windscreen

## Specifications

Capsule type:

Electret condenser

Frequency response:

40 Hz to 15 kHz

Directivity:

Omni-directional

Sensitivity (0 dB = 1 V/Pa, at 1 kHz):

-40 dB (10 mV)

Dynamic range:

90 dB or more

Signal-to-noise ratio (A-weighted, 1 kHz,

1 Pa.):

62 dB or more

Inherent noise:

32 dB SPL or less

Wind noise (with wind screen, at 2 m/s):

40 dB SPL or less

Induction noise from external magnetic field

(dB SPL/(1E-7) T):

5 dB SPL or less

Max. input sound pressure level:

122 dB SPL

Output connector:

SMC9-4P type

Cable length:

1.2 m (3.9 feet)

Normal operating voltage:

DC 3 V (supply range: DC 3 to 10 V)

Current drain:

0.3 mA or less

Dimensions (microphone head):

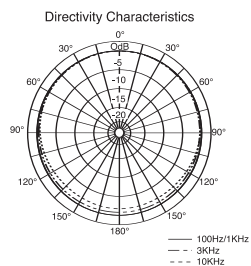
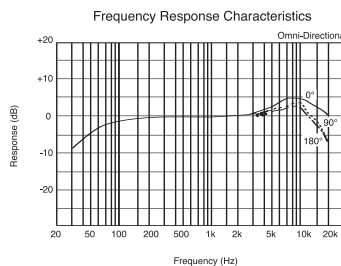
8.5 mm dia. x 14.5 mm

(11/32 inch dia. x 19/32 inch)

Mass (microphone head):

2 g (0.07 oz)

\*0 dB SPL = 2E-5 Pa.





# ECM-44BMP Lavalier Microphone

## Features

- Omni-directional, electret condenser microphone
- Superior sound quality •3.5 mm dia., 3-pole mini plug for use with WRT-805A/805B
- Microphone head: 8.5 mm dia. x 14.5 mm (11/32 inch dia. x 19/32 inch), 2g (0.07 oz)
- Microphone cable length: 1.2 m (3.9 feet)

## Supplied Accessories

- Holder clip (single/horizontal type) (1)
- Urethane wind screen (1)
- Microphone case (1)

## Optional Accessories

- SAD-H44B Lavalier-Microphone Holder Clip
- AD-R44B Urethane Windscreen

## Specifications

### Capsule type:

Electret condenser

### Frequency response:

40 Hz to 15 kHz

### Directivity:

Omni-directional

### Sensitivity (0 dB = 1 V/Pa, at 1 kHz):

-40 dB (10 mV)

### Dynamic range:

90 dB or more

### Signal-to-noise ratio (A-weighted, 1 kHz,

1 Pa.):

62 dB or more

### Inherent noise:

32 dB SPL or less

### Wind noise (with wind screen, at 2 m/s):

40 dB SPL or less

### Induction noise from external magnetic field

(dB SPL/(1E-7) T):

5 dB SPL or less

### Max. input sound pressure level:

122 dB SPL

### Output connector:

3.5 mm dia., 3-pole mini plug

### Cable length:

1.2 m (3.9 feet)

### Normal operating voltage:

DC 3 V (supply range: DC 3 to 10 V)

### Current drain:

0.3 mA or less

### Dimensions (microphone head):

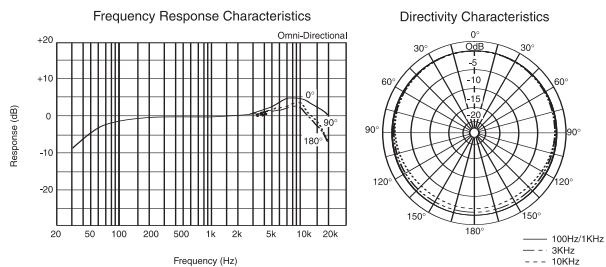
8.5 mm dia. x 14.5 mm

(11/32 inch dia. x 19/32 inch)

### Mass (microphone head):

2 g (0.07 oz)

\*0 dB SPL = 2E-5 Pa.



## ECM-530 Electret Condenser Microphone

### Features

- Compact and high-quality table-top microphone
- Goose-neck and extendable stem allow flexible microphone positioning for precise voice pick-up
- 2-way powering: internal AA-size battery or external power supply (DC 12 to 48 V)

### Supplied Accessories

- Operation manual (1)
- Wind screen (1)

### Specifications

Capsule type:  
Electret condenser

Frequency response:  
70 Hz to 18 kHz

Directivity:  
Uni-directional

Effective output level at 1 kHz  
(0 dBm = 1 mW/1 Pa.):  
-46.8 dBm

Sensitivity (0 dB = 1 V/1 Pa., at 1 kHz):  
-49.0 dB  $\pm$ 3.0 dB

Output impedance at 1 kHz (balanced):  
150  $\Omega$   $\pm$ 20%

Dynamic range:  
95 dB or more

Signal-to-noise ratio (A-weighted, 1 kHz,  
1 Pa.):  
63 dB or more

Inherent noise:  
31 dB SPL or less

Induction noise from external magnetic field  
(dB SPL/(1E-7) T):  
5 dB SPL or less

Wind noise:  
55 dB SPL or less

Max. Input sound pressure level:  
126 dB SPL

Microphone connector:  
XLR-3-12C type

Cable length:  
2 m

Available receptacle:  
XLR-3-11C type

Power supply:  
Battery power (R6 or LR6) or external  
power supply (AC-148F or equivalent)

Recommended Sony battery:  
R6P (R6P battery life: approx. 5,000 h)

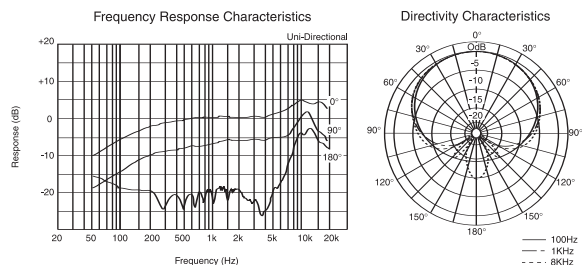
Standard operating voltage:  
Battery: 1.5 V  
External power: DC 24 to 48 V

Current drain:  
Battery: 0.23 mA or less  
AC power: 2 mA or less

Dimensions:  
12 dia. x 326 to 448 mm  
86 dia. mm (Table Stand)  
(1/2 dia. x 12 7/8 to 17 3/8 inches)  
(Table stand: 3 1/2 dia. inches)

Mass (without battery):  
325 g (11.5 oz)

\*0 dB SPL = 2E-5 Pa.



# ECM-55B Lavalier Microphone

## Features

- Omni-directional, electret condenser microphone
- Complete with in-line battery unit for 2-way powering (AA-size battery or external power supply (DC 12 to 48 V))
- Frequency response tailored for enhanced presence and improved voice quality in lavalier applications
- Microphone head: 10.6 mm dia. x 21 mm (7/16 inch dia. x 27/32 inch), 6.5 g (0.2 oz)
- Mic cable length: 3.0 m (9.8 feet)



## Supplied Accessories

- Holder clip (single/horizontal type) (1)
- Holder clip (single/vertical type) (1)
- Metal wind screen (1)
- Microphone case (1)

## Power unit:

- 20.0 mm dia. x 133 mm (13/16 inch dia. x 5 1/4 inches)

## Mass:

- Microphone head: 6.5 g (0.23 oz)
- Total (without power unit): 127 g (4.5 oz)

## Optional Accessories

- AD-R55B Metal Windscreen
- SAD-H55B Lavalier-Microphone Holder Clip

## Specifications

\*0 dB SPL = 2E-5 Pa.

### Capsule type:

Electret condenser

### Frequency response:

30 Hz to 18 kHz

### Directivity:

Omn-directional

### Sensitivity (0 dB=1 V/Pa, at 1 kHz):

-52.0 dB  $\pm$ 2 dB

### Output impedance (at 1 kHz):

100  $\Omega$   $\pm$ 20% (balanced)

### Dynamic range:

98 dB or more

### Signal-to-noise ratio (A-weighted, 1 kHz, 1 Pa.):

66 dB or more

### Inherent noise:

28 dB SPL or less

### Wind noise (with wind screen, at 2 m/s):

40 dB SPL or less

### Induction noise from external magnetic field (dB SPL/(1E-7) T):

5 dB SPL or less

### Max. input sound pressure level:

126 dB SPL

### Output connector:

XLR-3-12C type

### Cable length:

3.0 m (9.8 feet)

### Power supply:

#### Battery:

R6 (1.5 V) (R6P battery life: approx. 5,000 h)

#### Ext. power:

DC 12 to 48 V

### Normal operating voltage:

DC 1.5 V

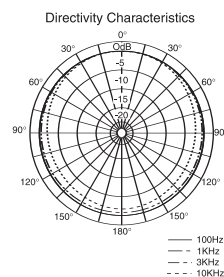
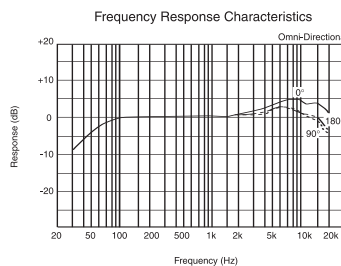
### Current drain:

3.5 mA or less

### Dimensions:

#### Microphone head:

10.6 mm dia. x 21 mm (7/16 inch dia. x 27/32 inch)



# ECM-66B Lavalier Microphone

## Features

- Designed for instrumental applications
- Uni-directional electret condenser microphone
- Complete with in-line battery unit for 2-way powering (AA-size battery or external power supply (DC 24 to 48 V))
- Max. 130 dB SPL input sound pressure level
- Microphone head: 10.6 mm dia. x 24.3 mm (7/16 inch dia. x 31/32 inch), 7 g (0.24 oz)
- Mic cable length: 3.0 m (9.8 feet)



## Supplied Accessories

- Holder clip (single/horizontal type) (1)
- Holder clip (single/vertical type) (1)
- Urethane wind screen (1)
- Microphone case (1)

## Optional Accessories

- AD-R66B Urethane Windscreen
- SAD-H55B Lavalier-Microphone Holder Clip

## Specifications

### Capsule type:

Electret condenser

### Directivity:

Uni-directional

### Frequency response:

70 Hz to 14 kHz

### Sensitivity (0 dB=1 V/Pa, at 1 kHz):

-50.0 dB  $\pm$  2 dB

### Output impedance (at 1 kHz):

100  $\Omega$   $\pm$  20% (balanced)

### Dynamic range:

101 dB or more

### Signal-to-noise ratio (A-weighted, 1 kHz, 1 Pa.):

65 dB or more

### Inherent noise:

29 dB SPL or less

### Wind noise (with wind screen, at 2 m/s):

50 dB SPL or less

### Induction noise from external magnetic field (dB SPL/(1E-7) T):

5 dB SPL or less

### Max. input sound pressure level:

130 dB SPL

### Output connector:

XLR-3-12C type

### Cable length:

3.0 m (9.8 feet)

### Power supply:

#### Battery:

R6 (1.5 V) (R6P battery life: approx.

300 h)

#### Ext. power:

DC 24 to 48 V

### Normal operating voltage:

DC 1.5 V

### Current drain:

0.3 mA or less

### Dimensions:

#### Microphone head:

10.6 mm dia. x 24.2 mm  
(7/16 inch dia. x 31/32 inch)

### Power unit:

20.0 mm dia. x 163 mm  
(13/16 inch dia. x 6 2/1 inches)

### Mass:

Microphone head:

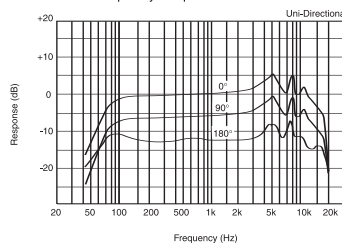
7 g (0.25 oz)

Total (without power unit):

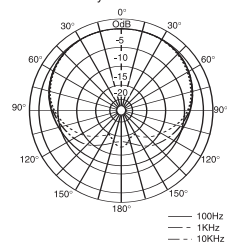
167 g (5.9 oz)

\*0 dB SPL = 2E-5 Pa.

## Frequency Response Characteristics



## Directivity Characteristics



# ECM-673 Electret Condenser Microphone

## Features

- Shotgun-type electret condenser microphone
- Super-cardioid microphone with minimum sensitivity to ambient noise
- Compact and light weight design
- Suitable for mounting on Sony cameras and camcorders
- External power supply (DC 40 to 52 V)

## Supplied Accessories

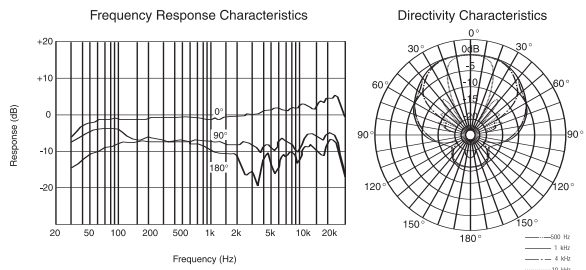
- Wind screen (1)
- Microphone holder (1)
- Microphone spacer (1)
- Microphone cable (1)
- Operating instructions (1)

## Specifications

- Capsule type
  - Electret condenser
- Directivity
  - Uni-directional (super-cardioid)
- Frequency response
  - 40 Hz to 20 kHz
- Sensitivity (at 1 kHz)
  - 36 dB<sup>1</sup> ±3 dB
- Output impedance (at 1 kHz)
  - 220 Ω ±20%
- Dynamic range
  - 107 dB or more
- Signal-to-noise ratio
  - 77 dB or more (IEC179 A-weighted, 1 kHz, 1Pa)
- Inherent noise
  - 17 dB SPL<sup>2</sup> or less
- Wind noise
  - 45 dB SPL<sup>2</sup> or less (with windscreen),
  - 50 dB SPL<sup>2</sup> (without windscreen)
- Induction noise from external magnetic field
  - 0 dB SPL<sup>2</sup> or less
- Maximum input sound pressure level
  - 124 dB SPL<sup>2</sup>
- Power requirements
  - DC 40 to 52 V
- Dimensions
  - ø20 x 200 mm
  - (ø13/16 x 7 7/8 inches)
- Mass Approx.
  - 135 g (4.76 oz)

<sup>1</sup> 0 dB=1 V/Pa, at 1 kHz

<sup>2</sup> 0 dB=20µ Pa



# ECM-674 Electret Condenser Microphone

## Features

- Superior sound quality with a newly developed microphone capsule
- Excellent sensitivity of -36 dB (0 dB=1 V/Pa.)
- Low inherent-noise level of less than 17 dB SPL
- Flat-and-wide frequency response (40 Hz to 20 kHz)
- Compact and lightweight design - 268 mm in length and 185 g weight
- Two-way powering - Internal AA-size battery operation or External DC (40 to 52 V) operation
- Built-in low cut filter switch (M, V) for reducing undesired ambient noise
- Built-in battery liquid leakage protection circuit



## Supplied Accessories

- Windscreen (1)
- Microphone holder (1)
- Microphone spacer (1)
- Microphone cable (1)
- Operating instructions (1)

## Applicable Models

- DVW-970P Digital Betacam Camcorder
- DVW-970 Digital Betacam Camcorder
- MSW-970P MPEG IMX Camcorder
- MSW-970 MPEG IMX Camcorder

## Specifications

- Capsule type
  - Electret condenser
- Directivity
  - Uni-directional (super-cardioid)
- Frequency response
  - 40 Hz to 20 kHz
- Sensitivity (at 1 kHz)
  - 36 dB<sup>(\*)</sup> ±3 dB
- Output impedance (at 1 kHz)
  - 220 Ω ±20%
- Dynamic range
  - Phantom: 107 dB or more,
  - Battery: 98 dB or more
- Signal-to-noise ratio
  - 77 dB or more
  - (IEC179 A-weighted, 1 kHz, 1Pa.)
- Inherent noise
  - 17 dB SPL<sup>(\*\*)</sup> or less
- Wind noise
  - 50 dB SPL<sup>(\*\*)</sup> or less (with windscreen)
- Induction noise from external magnetic field
  - 0 dB SPL<sup>(\*\*)</sup> or less
- Maximum input sound pressure level
  - Phantom: 124 dB SPL<sup>(\*\*)</sup>,
  - Battery: 115 dB SPL<sup>(\*\*)</sup>
- Power requirements
  - External: DC 40 to 52 V, Battery: 1.5 V

## Dimensions

- 20 dia. x 268 mm
- (13/16 dia. x 10 5/8 inches)

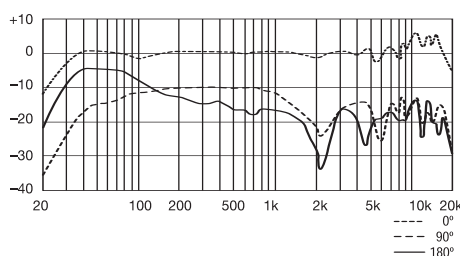
## Mass

- Approx. 185 g (6.5 oz) without battery
- Approx. 208 g (7.3 oz) with battery

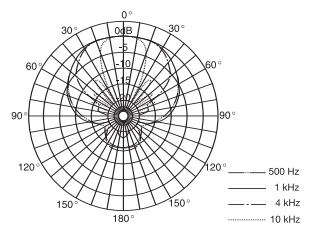
(\*1) 0 dB=1 V/Pa., at 1 kHz

(\*2) 0 dB=20μ Pa.

Frequency Reponse Characteristics



Directivity Characteristics



# ECM-678 Electret Condenser Microphone

### Features

- Shotgun-type electret condenser microphone
- Superior sound quality
- Flat and wide frequency response
- Compact design
- Built-in low cut filter
- High durability and reliability
- Suitable for mounting on Sony cameras and camcorders

### Supplied Accessories

- Windscreen (x1)
- Microphone holder (x1)
- Microphone spacer (x1)
- Carrying case (x1)
- Operating instructions (x1)

### Specifications

- Capsule type
  - Electret condenser
- Directivity
  - Uni-directional (Super-cardioid)
- Frequency response
  - 40 Hz to 20 kHz
- Sensitivity (at 1 kHz)
  - 28 dB<sup>1</sup> ±3 dB
- Output impedance (at 1 kHz)
  - 200 Ω ±20%
- Dynamic range
  - 111 dB or more
- Signal-to-noise ratio
  - 78 dB or more
  - (IEC179 A-weighted, 1 kHz, 1Pa.)
- Inherent noise
  - 16 dB SPL<sup>2</sup> or less
- Wind noise
  - 60 dB SPL<sup>2</sup> or less
- Induction noise from external magnetic field
  - 0 dB SPL<sup>2</sup> or less
- Maximum input sound pressure level
  - 127 dB SPL<sup>2</sup>
- Power requirements
  - External, DC 48 V ±4 V
- Dimensions
  - ø20 x 250 mm (ø13/16 x 9 7/8 inches)
- Mass
  - 200 g (7 oz)

<sup>1</sup>1 0 dB=1 V/Pa., at 1 kHz

<sup>2</sup>0 dB SPL=20µ Pa.



## ECM-680S Electret Condenser Microphone

### Features

- Excellent sound quality
- Superb sensitivity of -28 dB (stereo)/-32 dB (monaural)(\*2)
- Extremely low inherent noise of less than 20 dB SPL (stereo/monaural)
- Stereo and monaural switchable
- Flat-and-Wide frequency response (50 Hz to 20 kHz (stereo)/40 Hz to 20 kHz (monaural))
- Built-in low cut filter (M, V)
- Compact and lightweight design: 250 mm (9 7/8 inches) in length and weighs less than 140 g (4.9 oz)

\*2 0 dB=1 V/Pa

### Supplied Accessories

- Windscreen 1
- Microphone holder 1
- Microphone spacer 1
- Microphone cable (XLR-5-pin to XLR-5-pin) 1
- Stand screw adaptor (PF1/2 thread - NS5/8 thread) 1
- Stand screw adaptor (PF1/2 thread - W3/8 thread) 1
- Carrying case 1
- Operating instructions 1

### Applicable Models

- HDW-790P HDCAM Camcorder
- HDW-F900R HDCAM Camcorder
- HDW-790 HDCAM Camcorder
- PDW-F330L XDCAM HD Camcorder (without lens)
- PDW-F330K XDCAM HD Camcorder (with lens)
- PDW-F350L XDCAM HD Camcorder (without lens)

### Specifications

Capsule type  
Electret condenser

Stereo type  
MS (Mid-Side) stereo microphone

Directivity  
Uni-directional

Frequency response  
Stereo: 50 Hz to 20 kHz  
Monaural: 40 Hz to 20 kHz

Sensitivity (at 1 kHz)  
Stereo: -28 dB(\*1)  $\pm$ 3 dB  
Monaural: -32 dB(\*1)  $\pm$ 3 dB

Output impedance (at 1 kHz)  
100  $\Omega$   $\pm$ 20%

Dynamic range  
Stereo: 104 dB or more  
Monaural: 106 dB or more

Signal-to-noise ratio (IEC179 A-weighted, 1 kHz, 1Pa)  
Stereo: 74 dB or more  
Monaural: 76 dB or more

Inherent noise  
20 dB SPL(\*2) or less

Wind noise  
60 dB SPL(\*2) or less (with windscreen), 55 dB SPL(\*2) (without windscreen)

Induction noise from external magnetic field  
0 dB SPL(\*2) or less

Maximum input sound pressure level  
124 dB SPL(\*2)

Power requirements  
DC 40 to 52 V

Power consumption  
Stereo: 4 mA or less x 2ch  
Monaural: 4 mA or less

Dimensions  
 $\phi$ 20 x 250 mm ( $\phi$ 13/16 x 9 7/8 inches)

Mass  
Approx. 140 g (4.9 oz)





# ECM-77B Lavalier Microphone

## Features

- High performance, ultra miniature microphone
- Omni-directional, electret condenser microphone
- Microphone head: approx. 5.6 mm dia. x 12.5 mm (1/4 inch dia. x 1/2 inch), 1.5 g (0.04 oz)
- Frequency response: 40 Hz to 20 kHz
- Complete with in-line battery unit for 2-way powering (AA-size battery or external power supply (DC 12 to 48 V))
- Mic cable length: 3.0 m (9.8 feet)



## Supplied Accessories

- Holder clip (single/horizontal type) (1)
- Holder clip (single/vertical type) (1)
- Metal wind screen (1)
- Microphone case (1)

## Optional Accessories

- AD-KIT77 Lavalier-Microphone Accessory Kit
- SAD-H77B Lavalier-Microphone Holder Clip
- SAD-W77B Lavalier-Microphone Holder Clip
- SAD-V77B Lavalier-Microphone Holder Clip
- AD-C77B Urethane Windscreen
- AD-R77B Metal Windscreen
- AD-C77 Colour Urethane Windscreen

## Current drain:

0.4 mA or less

## Dimensions:

Microphone head:  
ø5.6 mm x 12.5 mm  
(ø1/4 inch x 1/2 inch)

## Power unit:

20.0 mm dia. x 133 mm  
(13/16 inch dia. x 5 1/4 inches)

## Mass:

Microphone head:  
1.5 g (0.05 oz)

## Total:

122 g (4.3 oz)

## Specifications

### Capsule type:

Electret condenser

### Directivity:

Omni-directional

### Frequency response:

40 Hz to 20 kHz

### Sensitivity (0 dB=1 V/Pa, at 1 kHz):

-52.0 dB ±2 dB

### Output impedance (at 1 kHz):

150 Ω ±20% (balanced)

### Dynamic range:

90 dB or more

### Signal-to-noise ratio (A-weighted, 1 kHz, 1 Pa.):

64 dB or more

### Inherent noise:

30 dB SPL or less

### Wind noise (with wind screen, at 2 m/s):

40 dB SPL or less

### Induction noise from external magnetic field (dB SPL/(1E-7) T):

5 dB SPL or less

### Max. input sound pressure level:

120 dB SPL

### Output connector:

XLR-3-12C type

### Cable length:

3.0 m (9.8 feet)

### Power supply:

#### Battery:

R6 (1.5 V) (R6P battery life: approx.

5,000 h)

#### Ext. power:

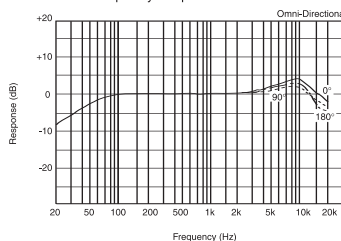
DC 12 to 48 V

### Normal operating voltage:

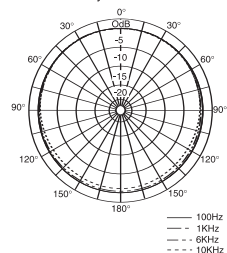
DC 1.5 V

\*0 dB SPL = 2E-5 Pa.

Frequency Response Characteristics



Directivity Characteristics



# ECM-77BC Lavalier Microphone

## Features

- High performance, ultra miniature microphone
- Omni-directional, electret condenser microphone
- Frequency response: 40 Hz to 20 kHz
- Microphone head: approx. 5.6 mm dia. x 12.5 mm (1/4 inch dia. x 1/2 inch), 1.5 g (0.04 oz)
- 1.2 m (3.9 feet) cable terminating in a SMC9-4P type connector for use with WRT-822A/822B/860A



## Applicable Models

WRT-8B UHF Synthesised Transmitter

## Supplied Accessories

- Holder clip (single/horizontal type) (1)
- Holder clip (single/vertical type) (1)
- Metal wind screen (1)
- Microphone case (1)

## Optional Accessories

- AD-KIT77 Lavalier-Microphone Accessory Kit
- SAD-H77B Lavalier-Microphone Holder Clip
- SAD-W77B Lavalier-Microphone Holder Clip
- SAD-V77B Lavalier-Microphone Holder Clip
- AD-C77B Urethane Windscreen
- AD-R77B Metal Windscreen
- AD-C77 Colour Urethane Windscreen

## Specifications

### Capsule type:

Electret condenser

### Directivity:

Omni-directional

### Frequency response:

40 Hz to 20 kHz

### Sensitivity (0 dB=1 V/Pa, at 1 kHz):

-39.0 dB (11.2 mV)

### Dynamic range:

90 dB or more

### Signal-to-noise ratio (A-weighted, 1 kHz, 1 Pa.):

64 dB or more

### Inherent noise:

30 dB SPL or less

### Wind noise (with wind screen, at 2 m/s):

40 dB SPL or less

### Induction noise from external magnetic field (dB SPL/(1E-7) T):

5 dB SPL or less

### Max. input sound pressure level:

120 dB SPL

### Output connector:

SMC9-4P type

### Cable length:

1.2 m (3.9 feet)

### Normal operating voltage:

DC 3 V (supply range: 3 to 10 V)

### Current drain:

0.4 mA or less

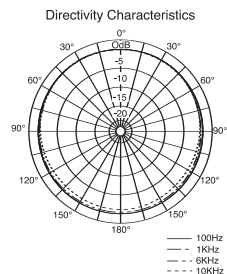
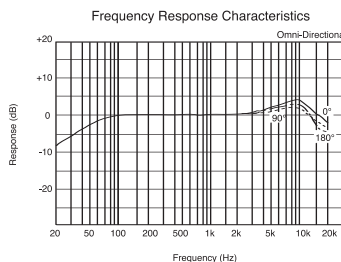
### Dimensions:

- Microphone head: 5.6 mm dia. x 12.5 mm (1/4 inch dia. x 1/2 inch)

### Mass (microphone head):

1.5 g (0.05 oz)

\*0 dB SPL = 2E-5 Pa.



# ECM-77BMP Lavalier Microphone

## Features

- High performance, ultra miniature microphone
- Omni-directional, electret condenser microphone
- Frequency response: 40 Hz to 20 kHz
- Microphone head: approx. 5.6 mm dia. x 12.5 mm (1/4 inch dia. x 1/2 inch), 1.5 g (0.04 oz)
- 1.2 m (3.9 feet) cable terminating in a 3.5 mm dia., 3-pole mini plug for use with WRT-805A/805B



## Supplied Accessories

- Holder clip (single/horizontal type) (1)
- Holder clip (single/vertical type) (1)
- Metal wind screen (1)
- Microphone case (1)

## Optional Accessories

- AD-KIT77 Lavalier-Microphone Accessory Kit
- SAD-H77B Lavalier-Microphone Holder Clip
- SAD-W77B Lavalier-Microphone Holder Clip
- SAD-V77B Lavalier-Microphone Holder Clip
- AD-C77B Urethane Windscreen
- AD-R77B Metal Windscreen
- AD-C77 Colour Urethane Windscreen

## Specifications

### Capsule type:

Electret condenser

### Directivity:

Omni-directional

### Frequency response:

40 Hz to 20 kHz

### Sensitivity (0 dB=1 V/Pa, at 1 kHz):

-39.0 dB (11.2 mV)

### Dynamic range:

90 dB or more

### Signal-to-noise ratio (A-weighted, 1 kHz,

1 Pa.):

64 dB or more

### Inherent noise:

30 dB SPL or less

### Wind noise (with wind screen, at 2 m/s):

40 dB SPL or less

### Induction noise from external magnetic field

(dB SPL/(1E-7) T):

5 dB SPL or less

### Max. input sound pressure level:

120 dB SPL

### Output connector:

3.5 mm dia., 3-pole mini plug

### Cable length:

1.2 m (3.9 feet)

### Normal operating voltage:

DC 3 V (supply range: 3 to 10 V)

### Current drain:

0.4 mA or less

### Dimensions:

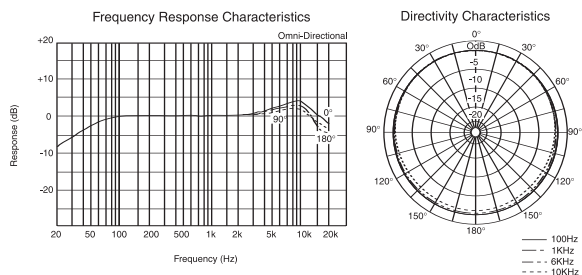
#### Microphone head:

5.6 mm dia. x 12.5 mm  
(1/4 inch dia. x 1/2 inch)

#### Mass (microphone head):

1.5 g (0.05 oz)

\*0 dB SPL = 2E-5 Pa.



# ECM-77BPT Lavalier Microphone

## Features

- High performance, ultra miniature microphone
- Omni-directional, electret condenser microphone
- Frequency response: 40 Hz to 20 kHz •Pigtail connection, without battery unit or connector
- Microphone head: approx. 5.6 mm dia. x 12.5 mm (1/4 inch dia. x 1/2 inch), 1.5 g (0.04 oz)
- Mic cable length: 3.0 m (9.8 feet)



## Supplied Accessories

- Holder clip (single/horizontal type) (1)
- Holder clip (single/vertical type) (1)
- Metal wind screen (1)
- Microphone case (1)

## Optional Accessories

- AD-KIT77 Lavalier-Microphone Accessory Kit
- SAD-H77B Lavalier-Microphone Holder Clip
- SAD-W77B Lavalier-Microphone Holder Clip
- SAD-V77B Lavalier-Microphone Holder Clip
- AD-C77B Urethane Windscreen
- AD-R77B Metal Windscreen
- AD-C77 Colour Urethane Windscreen

## Specifications

### Capsule type:

Electret condenser

### Directivity:

Omn-directional

### Frequency response:

40 Hz to 20 kHz

### Sensitivity (0 dB=1 V/Pa, at 1 kHz):

-39.0 dB (11.2 mV)

### Dynamic range:

90 dB or more

### Signal-to-noise ratio (A-weighted, 1 kHz,

1 Pa.):

64 dB or more

### Inherent noise:

30 dB SPL or less

### Wind noise (with wind screen, at 2 m/s):

40 dB SPL or less

### Induction noise from external magnetic field

(dB SPL/(1E-7) T):

5 dB SPL or less

### Max. input sound pressure level:

120 dB SPL

### Cable length:

3.0 m (9.8 feet)

### Normal operating voltage:

DC 3 V (supply range: 3 to 10 V)

### Current drain:

0.4 mA or less

### Dimensions:

Microphone head:

5.6 mm dia. x 12.5 mm

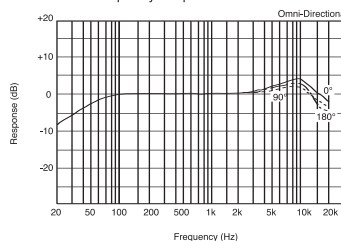
(1/4 inch dia. x 1/2 inch)

### Mass (microphone head):

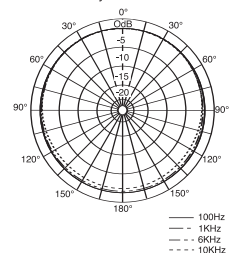
1.5 g (0.05 oz)

\*0 dB SPL = 2E-5 Pa.

Frequency Response Characteristics



Directivity Characteristics



# ECM-88B Lavalier Microphone

### Features

The ECM-88B is an extremely miniature, omni-directional electret condenser microphone ideal for quality-critical applications in broadcasting, theatre, and field productions.

- Dual-diaphragm mechanism contributes to its high sensitivity and low inherent noise characteristics
- Water-resistant architecture
- Flat-and-wide frequency response: 20 Hz to 20 kHz
- Ultra-compact microphone capsule: 3.5 x 3.5 x 16.8 mm (5/32 x 5/32 x 11/16 inches)
- Supplied DC-78 DC Power Supply Unit enables two-way powering - internal AA-size (LR6) alkaline-battery operation or DC (12 to 48 V) operation
- Mic cable length: 2.5 m (8.2 feet)

### Supplied Accessories

- Single/horizontal type tie clip (1)
- Single/vertical type tie clip (1)
- Double/horizontal type tie clip (1)
- Urethane windscreen (1)
- DC-78 (1)
- Microphone case (1)
- Ferrite clamp (1)
- Operating instructions (1)



## ECM-88BC Lavalier Microphone

### Features

- Ultra miniature, omni-directional electret condenser microphone
- Designed for use in broadcasting, theatre, and field production applications
- Dual-diaphragm mechanism contributes to its high sensitivity and low inherent noise characteristics
- Water-resistant architecture
- Flat-and-wide frequency response: 20 Hz to 20 kHz
- Microphone head: 3.5 mm x 3.5 mm x 16.8 mm (5/32 x 5/32 x 11-16 inch)
- 2.5 m (8.2 feet) cable with a Sony 4-pin connector (SMC9-4P) for connection to the optional DC-78 power supply unit or the WRT-8B/822A/822B bodypack transmitter



ECM-88 with supplied accessories

### Supplied Accessories

Carrying case (1)

Microphone holder (double-pin type) (1)

Microphone holder (tie-clip type) (1)

Urethane windscreen (1)

\*10 dB = 1V/Pa., at 1 kHz

\*\*0 dB SPL = 20 $\mu$  Pa.

### Optional Accessories

AD-KIT88 Lavalier-Microphone Accessory Kit

AD-C88 Colour Urethane Windscreen

AD-R88B Urethane Windscreen

SAD-88B Lavalier-Microphone Holder Clip

SAD-P88 Lavalier-Microphone Holders

SAD-W88B Lavalier-Microphone Holder Adaptor

DC-78 Power Supply Unit

### Specifications

Capsule type:

Electret condenser

Directivity:

Omn-directional

Frequency response:

20 Hz to 20 kHz

Sensitivity (at 1 kHz):

-52 dB\*  $\pm$ 2 dB (when used in combination with the DC-78)

-38 dB\* (12.6 mV)

Output impedance (at 1 kHz):

100  $\Omega$   $\pm$ 20% (when used in combination with the DC-78)

2.5 k $\Omega$   $\pm$ 30%

Dynamic range:

99 dB or more

Signal-to-noise ratio:

68 dB or more (A-weighted, 1 kHz, 1Pa.)

Inherent noise:

26 dB SPL\*\* or less (A-weighted, 1 kHz, 1Pa.)

Wind noise:

45 dB SPL\*\* or less (when using the supplied windscreen)

Induction noise from external magnetic field:

5 dB SPL\*\* or less (when used in combination with the DC-78)

Maximum input sound pressure level:

125 dB SPL\*\*

Cable length:

2.5 m (8.2 feet)

Output connector:

Sony SMC9-4P

Power requirements:

DC 1.1 to 10.0 V

Dimensions (microphone capsule):

3.5 x 3.5 x 16.8 (h) mm

(5/32 x 5/32 x 11/16 inch)

Mass:

32 g (including microphone cable)

## ECM-88BPT Lavalier Microphone

### Features

- Ultra miniature, omni-directional electret condenser microphone
- Designed for use in broadcasting, theatre, and field production applications
- Dual-diaphragm mechanism contributes to its high sensitivity and low inherent noise characteristics
- Water-resistant architecture
- Flat-and-wide frequency response: 20 Hz to 20 kHz
- Microphone head: 3.5 mm x 3.5 mm x 16.8 mm (5/32 x 5/32 x 11-16 inch)
- 2.5 m (8.2 feet) cable without a connector (pig tail)



### Supplied Accessories

Microphone holder (double-pin type) (1)  
 Microphone holder (tie-clip type) (1)  
 Urethane windscreen (1)  
 Operating instructions (1)

### Optional Accessories

AD-KIT88 Lavalier-Microphone Accessory Kit  
 SAD-88B Lavalier-Microphone Holder Clip  
 SAD-P88 Lavalier-Microphone Holders  
 SAD-W88B Lavalier-Microphone Holder  
 Adaptor  
 AD-C88 Colour Urethane Windscreen  
 AD-R88B Urethane Windscreen

### Specifications

Capsule type:  
 Electret condenser

Directivity:  
 Omni-directional

Frequency response:  
 20 Hz to 20 kHz

Sensitivity (at 1 kHz):  
 -38 dB\* (12.6 mV)

Output impedance (at 1 kHz):  
 2.5 k $\Omega$   $\pm$ 30%

Dynamic range:  
 99 dB or more

Signal-to-noise ratio:  
 68 dB or more (A-weighted, 1 kHz, 1Pa.)

Inherent noise:  
 26 dB SPL\*\* or less (A-weighted, 1 kHz, 1Pa.)

Wind noise:  
 45 dB SPL\*\* or less (when using the supplied windscreen)

Induction noise from external magnetic field:  
 5 dB SPL\*\* or less (when used in combination with the DC-78)

Maximum input sound pressure level:  
 125 dB SPL\*\*

Cable length:  
 2.5 m (8.2 feet)

Output connector:  
 No connector (pig tail)

Power requirements:  
 DC 1.1 to 10.0 V

Dimensions (microphone capsule):  
 3.5 x 3.5 x 16.8 (h) mm  
 (5/32 x 5/32 x 11/16 inch)

Mass:  
 20 g (including microphone cable)

\*10 dB = 1V/Pa., at 1 kHz \*\* 0 dB SPL = 20 $\mu$  Pa.

## ECM-88FPT Lavalier Microphone

### Features

- Ultra miniature, omni-directional electret condenser microphone
- Designed for use in broadcasting, theatre, and field production applications
- Dual-diaphragm mechanism contributes to its high sensitivity and low inherent noise characteristics
- Water-resistant architecture
- Flat-and-wide frequency response: 20 Hz to 20 kHz
- Beige colour
- Microphone head: 3.5 mm x 3.5 mm x 16.8 mm (5/32 x 5/32 x 11-16 inch)
- 2.5 m (8.2 feet) cable without a connector



### Specifications

Capsule type:  
 Electret condenser

Directivity:  
 Omni-directional

Frequency response:  
 20 Hz to 20 kHz

Sensitivity (at 1 kHz):  
 -38 dB\* (12.6 mV)

Output impedance (at 1 kHz):  
 2.5 k $\Omega$   $\pm$ 30%

Dynamic range:  
 99 dB or more

Signal-to-noise ratio:  
 68 dB or more (A-weighted, 1 kHz, 1Pa.)

Inherent noise:  
 26 dB SPL\*\* or less (A-weighted, 1 kHz, 1Pa.)

Wind noise:  
 45 dB SPL\*\* or less (when using the supplied windscreen)

Induction noise from external magnetic field:  
 5 dB SPL\*\* or less (when used in combination with the DC-78)

Maximum input sound pressure level:  
 125 dB SPL\*\*

Cable length:  
 2.5 m (8.2 feet)

Output connector:  
 No connector (pigtail)

Power requirements:  
 DC 1.1 to 10.0 V

Dimensions (microphone capsule):  
 3.5 x 3.5 x 16.8 (h) mm  
 (5/32 x 5/32 x 11/16 inch)

Mass:  
 32 g (including microphone cable)

\*10 dB = 1V/Pa., at 1 kHz \*\* 0 dB SPL = 20 $\mu$  Pa.

## F-112 Dynamic Microphone

### Features

- Superior sound quality
- Flat-and-wide frequency response
- Robust and sophisticated design

### Supplied Accessories

Operating instructions (1)

### Optional Accessories

UWP-C3 UHF Synthesised Wireless

Microphone Package (62CE7)

UWP-C3 UHF Synthesised Wireless

Microphone Package (67CE7)

### Specifications

Capsule type

Dynamic

Directivity

Omni-directional

Frequency response

60 Hz to 18 kHz

Sensitivity (at 1 kHz)

52 dB<sup>(\*)</sup> ±3 dB

Output impedance (at 1 kHz)

400 Ω ±20%

Dimensions

22/41.4 dia. x 190 mm (7/8 dia. (handle),

1 11/16 dia. (head) x 8 3/4 inches))

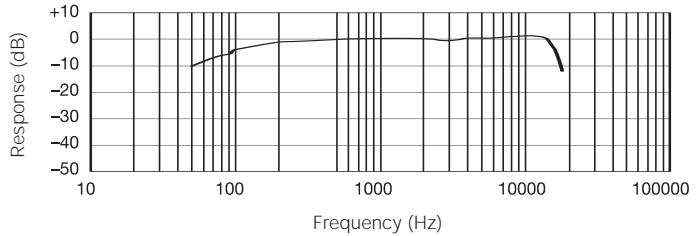
Mass

Approx. 215 g (7.6 oz)

(\*1) 0 dB=1 V/Pa., at 1 kHz



Frequency Response Characteristics





## F-710 Dynamic Microphone

### Features

- For multi-purpose applications
- Built-in TALK switch
- High sensitivity with the Neodymium magnet
- XLR-3-12C type connector
- Frequency response: 70 Hz to 15 kHz
- Dimensions (diameter x length): 54 x 177 mm (2 1/4 x 7 inches)
- Mass: approx. 250 g (8.8 oz)



### Supplied Accessories

- Microphone holder (1)
- Stand adaptor (NS/8) (1)
- Stand adaptor (W3/8) (1)

### Optional Accessories

- SAD-700 Microphone Holder
- A-12 Table Stand
- A-25 Table Stand
- A-25N Table Stand
- CRS-3P Cradle Suspension

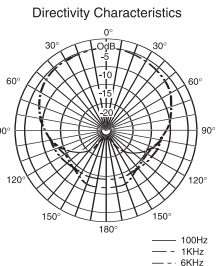
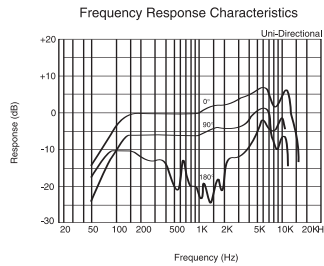
### Specifications

- Capsule type: Dynamic
- Frequency response: 70 Hz to 15 kHz
- Directivity: Uni-directional
- Effective output level at 1 kHz (0 dBm = 1 mW/1 Pa.): -56.0 dBm
- Sensitivity (0 dB = 1 V/1 Pa., at 1 kHz): -54.0 dB  $\pm$ 3.0 dB
- Output impedance at 1 kHz (balanced): 400 $\Omega$   $\pm$ 20%

- Induction noise from external magnetic field (dB SPL/(1E-7) T): 5 dB SPL or less
- Wind noise: 55 dB SPL or less
- Microphone connector: XLR-3-12C type
- Available receptacle: XLR-3-11C type
- Stand screw/mic holder screw: PF1/2-inch thread
- Dimensions (diameter x length): 54 x 177 mm (2 1/4 x 7 inches)

Mass: 250 g (8.8 oz)

\* 0 dB SPL = 2E-5 Pa.



## F-720 Dynamic Microphone

### Features

- For multi-purpose applications
- Convenient TALK switch for turning on and off the microphone
- Vibration proof capsule suspension
- XLR-3-12C type connector
- Frequency response: 50 Hz to 13 kHz
- Dimensions: 37.6 dia. x 160 mm (1 1/2 dia. x 6 3/8 inches)
- Mass: approx. 260 g (9.2 oz)



### Supplied Accessories

- Microphone holder (1)
- Stand adaptor (NS5/8) (1)
- Stand adaptor (W3/8) (1)

### Optional Accessories

- A-12 Table Stand
- A-25 Table Stand
- A-25N Table Stand
- CRS-3P Cradle Suspension

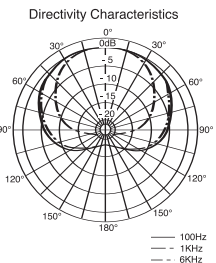
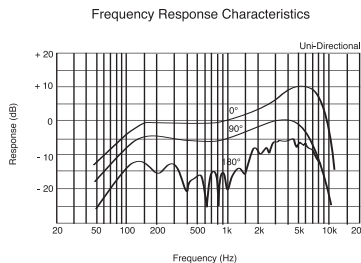
### Specifications

- Capsule type: Dynamic
- Frequency response: 50 Hz to 13 kHz
- Directivity: Uni-directional
- Effective output level at 1 kHz (0 dBm = 1 mW/1 Pa.): -60.0 dBm
- Sensitivity (0 dB = 1 V/1 Pa., at 1 kHz): -57.0 dB  $\pm$ 3.0 dB

- Output impedance at 1 kHz (balanced): 500 $\Omega$   $\pm$ 20%
- Induction noise from external magnetic field (dB SPL/(1E-7) T): 10 dB SPL or less
- Wind noise: 55 dB SPL or less
- Microphone connector: XLR-3-12C type
- Available receptacle: XLR-3-11C type

Stand screw/mic holder screw: PF1/2-inch thread  
 Dimensions (diameter x length): 37.6 x 160 mm (1 1/2 x 6 3/8 inches)  
 Mass: 260 g (9.2 oz)

\* 0 dB SPL = 2E-5 Pa.



# F-780 Dynamic Microphone

## Features

- Designed specifically for critical vocal reproduction in music recording and live performance
- Rugged capsules in a resilient body structure
- Special AlNiCo Magnet
- High quality edgewise winding CCAW (Copper Clad Aluminium Wire) voice coil
- XLR-3-12C type connector
- Frequency response: 50 Hz to 18 kHz
- Dimensions: 51 dia. x 165 mm (2 1/8 dia. x 6 1/2 inches)
- Mass: approx. 290 g (10.2 oz)



## Supplied Accessories

- Microphone holder (1)
- Stand adaptor (NS5/8) (1)
- Stand adaptor (W3/8) (1)

## Specifications

Capsule type:

Dynamic

Frequency response:

50 Hz to 18 kHz

Directivity:

Uni-directional

Effective output level at 1 kHz (0 dBm =

1 mW/1 Pa.):

-55.0 dBm

Sensitivity (0 dB = 1 V/1 Pa., at 1 kHz):

-53.0 dB ±2.0 dB

Output impedance at 1 kHz (balanced):

400Ω ±20%

Induction noise from external magnetic field

(dB SPL/(1E-7) T):

5 dB SPL or less

Wind noise:

50 dB SPL or less

Microphone connector:

XLR-3-12C type

Available receptacle:

XLR-3-11C type

Stand screw/mic holder screw:

PF1/2-inch thread

Dimensions (diameter x length):

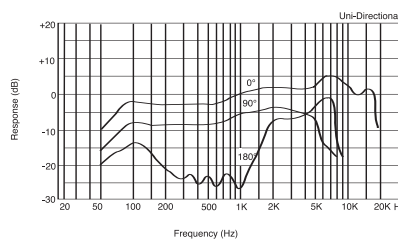
51 x 165 mm (1 1/8 x 6 1/2 inches)

Mass:

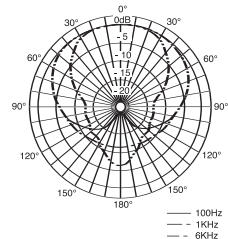
290 g (10.2 oz)

\*0 dB SPL = 2E-5 Pa.

Frequency Response Characteristics



Directivity Characteristics



### AD-KIT88B Microphone Accessory Kit

#### Features

The AD-KIT88B is a lavalier microphone accessory kit for the ECM-88 Series.

- Includes four types of microphone clips (single/horizontal, single/vertical, double/horizontal, and safety-pin type tie clip) and six urethane windscreens (red, yellow, green, blue, gray, and black)

#### Applicable Models

ECM-88B Lavalier Microphone  
ECM-88BC Lavalier Microphone  
ECM-88BPT Lavalier Microphone



### SAD-H88B Lavalier-Microphone Holder Clip

#### Features

The SAD-H88B is a horizontal type lavalier microphone holder clip for the ECM-88 Series.

- Single/horizontal holder clip for the ECM-88 Series lavalier microphones
- Black colour
- Six pieces are included

#### Applicable Models

ECM-88B Lavalier Microphone  
ECM-88BC Lavalier Microphone  
ECM-88BPT Lavalier Microphone



### SAD-V88B Lavalier-Microphone Holder Clip

#### Features

The SAD-V88B is a vertical type lavalier microphone holder clip for the ECM-88 Series.

- Single/vertical holder clip for the ECM-88 Series lavalier microphones
- Black colour
- Six pieces are included

#### Applicable Models

ECM-88B Lavalier Microphone  
ECM-88BC Lavalier Microphone  
ECM-88BPT Lavalier Microphone



### SAD-W88BL Lavalier-Microphone Holder Clip

#### Features

The SAD-W88BL is a double/horizontal type lavalier microphone holder clip for the ECM-88 Series.

- Double/horizontal holder clip for the ECM-88 Series lavalier microphones
- Black colour
- Six pieces are included

#### Applicable Models

ECM-88B Lavalier Microphone  
ECM-88BC Lavalier Microphone  
ECM-88BPT Lavalier Microphone



### SAD-S88B Lavalier-Microphone Holder Clip

#### Features

The SAD-S88B is a safety-pin type lavalier microphone holder clip for the ECM-88 Series.

- Safety-pin type holder clip for the ECM-88 Series lavalier microphones
- Black colour
- Six pieces are included

#### Applicable Models

ECM-88B Lavalier Microphone  
ECM-88BC Lavalier Microphone  
ECM-88BPT Lavalier Microphone



### AD-KIT88 Lavalier-Microphone Accessory Kit

#### Features

- Designed for ECM-88 Series Lavalier microphones
- Includes two types of microphone holders (double-pin and tie-clip), a holder adaptor for dual-microphone operation, and six urethane windscreens (red, yellow, green, blue, gray, and black)

#### Applicable Models

ECM-88 Lavalier Microphone  
ECM-88FPT Lavalier Microphone  
ECM-88PT Lavalier Microphone



### SAD-88B Lavalier-Microphone Holder Clip

#### Features

- Single, tie-clip type microphone holder for ECM-88 Series lavalier microphones
- Black colour
- Six pieces are included.

#### Applicable Models

ECM-88 Lavalier Microphone  
ECM-88FPT Lavalier Microphone  
ECM-88PT Lavalier Microphone



### SAD-P88 Lavalier-Microphone Holders

#### Features

- Double-pin type microphone holder for ECM-88 Series lavalier microphones
- Black colour
- Six pieces are included.

#### Applicable Models

ECM-88 Lavalier Microphone  
ECM-88FPT Lavalier Microphone  
ECM-88PT Lavalier Microphone



### SAD-W88B Lavalier-Microphone Holder Adaptor

#### Features

- Microphone holder adaptor for dual-microphone operation
- Used in combination with SAD-P88 or SAD-88B microphone holder
- Six pieces are included.

#### Applicable Models

ECM-88 Lavalier Microphone  
ECM-88FPT Lavalier Microphone  
ECM-88PT Lavalier Microphone



### AD-R88B Urethane Windscreen

#### Features

- Single/horizontal holder clip for the ECM-77 Series lavalier microphones
- Black colour
- 10 pieces are included.

#### Applicable Models

ECM-88 Lavalier Microphone  
ECM-88B Lavalier Microphone  
ECM-88BC Lavalier Microphone  
ECM-88BPT Lavalier Microphone  
ECM-88FPT Lavalier Microphone  
ECM-88PT Lavalier Microphone



### AD-C88 Colour Urethane Windscreen

#### Features

- Designed for ECM-88 Series Lavalier microphones
- Two sets of the six colours (red, yellow, green, blue, gray, and black) are included.

#### Applicable Models

ECM-88 Lavalier Microphone  
ECM-88FPT Lavalier Microphone  
ECM-88PT Lavalier Microphone



### AD-KIT77 Lavalier-Microphone Accessory Kit

#### Features

- Designed for ECM-77 Series Lavalier microphones
- Includes three types of microphone holders (horizontal/single type, vertical/single type, and horizontal/dual type) and six urethane windscreens (red, yellow, green, blue, gray, and black)

#### Applicable Models

ECM-77BC Lavalier Microphone  
ECM-77BPT Lavalier Microphone



### SAD-H77B Lavalier-Microphone Holder Clip

#### Features

•Single/horizontal holder clip for the ECM-77 Series lavalier microphones •Black colour •10 pieces are included.

#### Applicable Models

ECM-77B Lavalier Microphone  
ECM-77BC Lavalier Microphone  
ECM-77BMP Lavalier Microphone  
ECM-77BPT Lavalier Microphone  
ECM-88PT Lavalier Microphone



### SAD-V77B Lavalier-Microphone Holder Clip

#### Features

•Single/vertical holder clip for the ECM-77 Series lavalier microphones •Black colour •10 pieces are included.

#### Applicable Models

ECM-77B Lavalier Microphone  
ECM-77BC Lavalier Microphone  
ECM-77BMP Lavalier Microphone  
ECM-77BPT Lavalier Microphone



### SAD-W77B Lavalier-Microphone Holder Clip

#### Features

•Double/vertical holder clip for the ECM-77 Series lavalier microphones •Black colour •Six pieces are included.

#### Applicable Models

ECM-77B Lavalier Microphone  
ECM-77BC Lavalier Microphone  
ECM-77BMP Lavalier Microphone  
ECM-77BPT Lavalier Microphone



### SAD-S77 Lavalier-Microphone Holder Clip

#### Features

•Safety pin-type holder clip for the ECM-77 Series lavalier microphones •Silver type •Six pieces are included.



### AD-R77B Metal Windscreen

#### Features

- Designed for ECM-77 Series lavalier microphones
- Black colour •Six pieces are included.

#### Applicable Models

ECM-77B Lavalier Microphone  
ECM-77BC Lavalier Microphone  
ECM-77BMP Lavalier Microphone  
ECM-77BPT Lavalier Microphone



### AD-C77B Urethane Windscreen

#### Features

- Designed for ECM-77 Series lavalier microphones
- Black colour •12 pieces are included.

#### Applicable Models

ECM-77BC Lavalier Microphone  
ECM-77BPT Lavalier Microphone



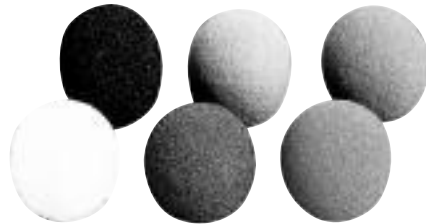
### AD-C77 Colour Urethane Windscreen

#### Features

- Designed for ECM-77 Series lavalier microphones
- Two sets of the six colours (red, yellow, green, blue, gray, and black) are included.

#### Applicable Models

ECM-77B Lavalier Microphone  
ECM-77BC Lavalier Microphone  
ECM-77BMP Lavalier Microphone  
ECM-77BPT Lavalier Microphone



### AD-R66B Urethane Windscreen

#### Features

- Designed for ECM-66 Series lavalier microphones
- Black colour •12 pieces are included

#### Applicable Models

ECM-66B Lavalier Microphone  
ECM-66BPT Lavalier Microphone

### SAD-H55B Lavalier-Microphone Holder Clip

#### Features

- Single/horizontal holder clip for the ECM-55 Series and ECM-66 Series lavalier microphones
- Black colour
- 10 pieces are included.

#### Applicable Models

Applicable model

- ECM-55B Lavalier Microphone
- ECM-55BPT Lavalier Microphone
- ECM-66B Lavalier Microphone
- ECM-66BPT Lavalier Microphone



### AD-R55B Metal Windscreen

#### Features

- Designed for ECM-55 Series lavalier microphones
- Black colour
- Six pieces are included.

#### Applicable Models

- ECM-55B Lavalier Microphone
- ECM-55BPT Lavalier Microphone



### SAD-H44B Lavalier-Microphone Holder Clip

#### Features

- Single/horizontal holder clip for the ECM-44 Series lavalier microphones
- Black colour
- 10 pieces are included.

#### Applicable Models

- ECM-44B Lavalier Microphone
- ECM-44BC Lavalier Microphone
- ECM-44BMP Lavalier Microphone
- ECM-44BPT Lavalier Microphone



### AD-R44B Urethane Windscreen

#### Features

- Designed for ECM-44 Series lavalier microphones
- Black colour
- 12 pieces are included.

#### Applicable Models

- ECM-44B Lavalier Microphone
- ECM-44BC Lavalier Microphone
- ECM-44BMP Lavalier Microphone
- ECM-44BPT Lavalier Microphone





# Digital PCM Recorder

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XLR-1 .....	349

# PCM-D1 Portable Linear PCM Recorder

## Features

- 96 kHz-24 bit, virtually noise-free, recording quality
- Built-in, X-Y configuration electret condenser microphones for superb stereo sound
- 4GB internal Flash Memory, free of drive mechanisms
- Slot for removable Memory Stick PRO (High Speed) storage
- Built-in USB 2.0 port, compatible with Macintosh® and Windows®/PC operating systems
- Four rechargeable nickel metal hydride AA batteries (battery charger included)
- Rugged titanium body with portable, lightweight design
- Built-in Electret Condenser Microphones
- Superb Audio Signal Path
- Outstanding Construction Quality
- Simple Uploading to Computer
- High Quality Signal Processing



## Specifications

- Power Consumption
  - 2.1W
- Power Requirements
  - DC IN 6V (AC 220-240V, 50Hz): Four AA size nickel metal hydride rechargeable batteries NH-AA (supplied); or Four AA size alkaline batteries (not supplied)
- Dimensions
  - 2 7/8" x 7 5/8" x 1 5/16" (w x h x d) not including projecting parts and controls
- Mass
  - 18.52 oz (including batteries)
- Approximate Battery Life
  - Battery Type 96kHz 24-bit 44.1kHz 16-bit Nickel Metal Hydride 4.0 hrs 5.0 hrs Alkaline 2.0 hrs 2.0 hrs
- Built in Microphones
  - Electret condenser microphones mounted in X-Y configuration.
  - High sensitivity (-32.0 dB /Pa 1 kHz); Maximum input level 130 dB SPL; Self noise level 20 dB SPL(A)
- Recording Media
  - Built-in flash memory 4 GB, Memory Stick PRO (High Speed) media (Not Supplied), Stereo Recording
- Sampling Rates
  - 22.05 kHz, 44.1 kHz, 48 kHz and 96 kHz
- Quantization
  - 16-bit linear, 24-bit linear
- Frequency Response (Line Input to Line Output)
  - For Fs = 22.05 kHz: Frequency Response = 20 Hz to 10 kHz;
  - For Fs = 44.1 kHz: Frequency Response = 20 Hz to 20 kHz;
  - For Fs = 48 kHz: Frequency Response = 20 Hz to 22 kHz;
  - For Fs = 96 kHz: Frequency Response = 20 to 44 kHz
- Signal-to-Noise Ratio (Line Input to Line Output)
  - 96 dB or greater (1 kHz IHF-A) when set to 24-bit

- Total Harmonic Distortion (Line Input to Line Output)
  - 0.008% or below (1 kHz, 22 kHz LPF)
- Wow and Flutter
  - Below measurable limit (less than +/-0.001% W.Peak)
- Mic Input (Stereo Mini Jack)
  - Input impedance: 22 k $\Omega$ , Rated input level: 2.5 mV; Minimum input level: 0.7 mV
- Headphone Output (Stereo Mini Jack)
  - Rated output level: 400 mV; Maximum output level: 30 mW + 30 mW or more; Load impedance: 16  $\Omega$
- Line Input (Stereo Mini Jack)
  - Input impedance: 47 K ohms; Rated input level: 2.0V; Minimum input level: 570 mV
- Line Out/Optical Digital Output
  - For Line Output Use = Output impedance: 220  $\Omega$ ;
  - (Combination Stereo Mini and Optical Output Jack)
    - Rated output level: 1.8V;
    - Load impedance: 22 k $\Omega$
    - For Optical Digital Output Use = Output level: -21dBm to -15 dBm; Emission wavelength: 630 nm to 690 nm
- DC Input Jack
  - 6V
- USB Connection
  - Hi-speed USB, Mass Storage Class; System requirements: Macintosh® OS Version 10.2.8 or later; Windows®/PC OS Windows XP Media Center Edition 2005 and 2004, Windows XP Professional, Windows XP Home Edition, Windows 2000 Professional (SP3 or later)
  - Memory Stick Slot
  - Memory Stick PRO (High Speed) media;

Note: Standard Memory Stick media not supported

## XLR-1 Microphone Adapter

### Features

Two balanced XLR inputs Switchable 48 V phantom power Can be mounted onto the bottom of the PCM-D1 or on the side (using supplied mounting hardware).



### Applicable Models

PCM-D1 Portable Linear PCM Recorder

### Specifications

#### Frequency range

20 to 50,000 Hz (+0, -2dB)

#### Input connectors

XLR-31-11C type connector (3-pin) x 2

#### Input impedance

600  $\Omega$

#### Rated input level

-50dBm

#### Maximum input level

+4dBm

#### Output connector

Stereo mini jack

#### Output load impedance

600  $\Omega$

#### Phantom power supply

DC 48V +/- 0.5V; 10 mA maximum

#### Battery requirements

Four AA alkaline batteries (supplied) or four AA nickel metal hydride rechargeable batteries (not supplied)

#### Battery life

Approximately 40 hours (when using 2 mA + 2mA microphones and alkaline AA batteries)

#### Dimensions

2.8" x 1.5" x 5.2" (w/h/d) not including projecting parts and controls

#### Weight

Approximately 18.5 oz (for XLR-1 main unit, including 4 AA batteries); approximately 6.5 oz (for base plate and spacer plate)



**SONY**

# Wireless Microphones

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## AN-820A UHF Antenna

### Features

- Built-in RF amplifier (10 dB gain)
- Easy installation on a wall or in a microphone stand with the supplied stand adaptor
- Used in pairs for diversity reception
- LED indication for installation check
- External power supply provided from the MB-806A, WRR-850A/840A/820A or the WD-820A/880A via coaxial cable

### Applicable Models

MB-806A UHF Tuner Base Unit (758 MHz to 862 MHz)

### Supplied Accessories

Wall Bracket (1)

Microphone Stand Bracket (1)



## CU-E672 Capsule Unit

### Features

- Hyper cardioid electret condenser microphone capsule
- A wide variety of applications in news-gathering, sports events and interviews
- The supplied windscreen reduces wind noise and popping

### Applicable Models

WRT-847B/62 UHF Synthesized Transmitter Unit

WRT-847B/67 UHF Synthesized Transmitter Unit

### Supplied Accessories

Urethane windscreen (1)

### Specifications

Directivity:

Uni-directional (hyper cardioid)

Frequency response:

50 Hz to 16 kHz

Max. sound pressure level:

120 dB

Dimensions:

37 x 172 mm

(ø1 1/2 x 6 7/8 inches)

Mass:

150 g (5.3 oz)



### CU-E700 Capsule Unit

#### Features

- Electret condenser microphone capsule with super cardioid polar pattern
- Smooth frequency response for natural sound re-production
- Suitable for critical vocal and speech applications

#### Applicable Models

WRT-847B/62 UHF Synthesized Transmitter Unit

WRT-847B/67 UHF Synthesized Transmitter Unit

#### Specifications

##### Directivity:

Uni-directional (super cardioid)

##### Frequency response:

50 Hz to 18 kHz

##### Max. sound pressure level:

150 dB

##### Dimensions:

ø51 x 98 mm (ø2 1/8 x 3 7/8 inches)

##### Mass:

170 g (6 oz)



### CU-F117 Capsule Unit

#### Features

- Dynamic microphone capsule with omni-directional polar pattern
- Superb rejection for wind noise and popping
- Designed for interview applications

#### Applicable Models

WRT-847B/62 UHF Synthesized Transmitter Unit

WRT-847B/67 UHF Synthesized Transmitter Unit

#### Supplied Accessories

Urethane windscreen (1)

#### Specifications

##### Directivity:

Omni-directional

##### Frequency response:

50 Hz to 15 kHz

##### Dimensions:

ø44 x 105 mm (ø1 3/4 x 4 1/4 inches)

##### Mass:

170 g (6 oz)



## CU-F780 Capsule Unit

### Features

- Dynamic microphone capsule with super cardioid polar pattern
- Uses the same high quality edgewise winding CCAW voice coil that is employed in the acclaimed Sony F-780 wired microphone
- Designed for vocal applications including live music performance

### Applicable Models

WRT-847B/62 UHF Synthesized Transmitter Unit

WRT-847B/67 UHF Synthesized Transmitter Unit

### Specifications

#### Directivity:

Uni-directional (super cardioid)

#### Frequency response:

50 Hz to 18 kHz

#### Dimensions:

ø51 x 90 mm (ø2 1/8 x 3 5/8 inches)

#### Mass:

180 g (6.3 oz)



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## CU-G780 Capsule Unit

### Features

- Dynamic microphone capsule with super cardioid polar pattern
- Special design, based on the capsule of F-780 microphone, to cope with high sound pressure level vocals and incorporating outstanding feedback rejection
- Designed for vocal use

### Applicable Models

WRT-847B/62 UHF Synthesized Transmitter Unit

WRT-847B/67 UHF Synthesized Transmitter Unit

### Specifications

#### Directivity:

Uni-directional (super cardioid)

#### Frequency response:

50 Hz to 20 kHz

#### Dimensions:

ø51 x 90 mm (ø2 1/8 x 3 5/8 inches)

#### Mass:

180 g (6.3 oz)





### EC-1.5CF Microphone Cable

#### Features

- Fitted with an XLR-3-11 connector and SMC9-4P connector
- Allows a microphone with a 3-pin male XLR output connector to be connected to the WRT-822A/822B/8B bodypack transmitter
- Cable length: 1.5 m (4.9 feet)



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### K-1334 BMP-XLR Conversion Cable (balanced)

#### Features

- 3.5 mm dia. (5/32 inch dia.), 3-pole mini phone jack with a lock mechanism to XLR-3-12C type connector
- Designed for use with WRR-805A wireless portable tuner
- Cable length: 460 mm (1.5 feet)



## MB-X6 UHF Tuner Base Unit (798 MHz to 822 MHz)

### Features

- Modular design, 1U height 19-inch rack
- Accommodates up to six tuner modules for up to six simultaneous channels of operation
- Use of WD-850A allows further multi-channel operation
- Balanced XLR output connectors for each tuner and mix output
- RF input attenuator switch (10 dB/0 dB)
- Selectable output level: -58 dBm (for MIC) or -20 dBm (for LINE) at  $\pm 5$  kHz deviation at 1kHz modulation
- Auto channel assignment of additional receiver modules for instant programming of interference-free multi-channel operation. Automatically skips unusable channels and assigns clear channels.
- Supplied passive antennas for rear mounting (with provision for front mounting)



(Tuner modules are not included)



### Supplied Accessories

Antenna (2)

AC power cord (1)

### Optional Instructions

WD-850A UHF Antenna Divider

### Specifications

Receiving frequency range:

798 MHz to 822 MHz

Audio output level:

-20 dBm/-58 dBm at reference deviation

Audio output connector:

XLR-3-32 (x 7, balanced)

Antenna attenuator level:

0 dB or 10 dB

Antenna connector:

BNC-R type (x 2), 50 $\Omega$

Power requirements:

AC 230, 50/60 Hz

Power consumption:

30 W when accommodating six tuner modules

Power supply for antenna boosters:

DC 9 V (max. 100 mA)

Dimensions:

482 (W) x 44 (H) x 285 (D) mm  
(19 x 1 3/4 x 11 1/4 inches)

Mass:

5.5 kg (12 lb 2 oz)

## MB-8N Tuner Base Unit (CED)

### Features

- Uses a modular design to accommodate up to four WRU-8N receiver modules. The built-in antenna divider allows up to four MB-8N tuner base units to be daisy-chained to form a 16-channel system.
- Wide system dynamic range: 116 dB (typical)
- PLL (Phase Locked Loop) frequency synthesized system
- Space diversity reception for dependable RF reception
- Advanced control settings from MB-8N front panel
- Headphone monitor jack on MB-8N front panel
- Selectable output level: Mic or Line level
- A D-sub 15-pin connector (unbalanced) for sub audio output
- Computer-based control over a simple Ethernet environment using supplied software
- Auto channel assignment of additional receiver modules for instant programming of interference-free multi-channel operation. Automatically skips unusable channels and assigns open channels.
- AC/DC (auto switch) operation
- Use of WD-880A antenna divider allows further multi-channel operation
- 1U high 19-inch rack mountable



(The WRU-8N tuner module is not included.)



### Supplied Accessories

- AC power code (1)
- CD-ROM (contains operation instructions and supplied software) (1)

### Optional Accessories

- WRU-8N UHF Synthesized Tuner Unit (6264U)
- WRU-8N UHF Synthesized Tuner Unit (6668U)

### Specifications

#### MB-8N Tuner Base Unit

##### System dynamic range:

116 dB (typical)

##### Frequency response:

40 Hz to 20 kHz

##### Distortion:

1.0 % or less

##### Audio output level:

-20 dBm (LINE)/-58 dBm (MIC) at reference deviation

##### Audio output connector:

XLR-3-32 type (x 4), balanced

##### Sub-audio output connector:

D-sub 15-pin female, unbalanced

##### Antenna attenuator level:

0 dB, 5 dB, 10 dB or 15 dB

##### Antenna connector:

Inputs: BNC-R type (x 2), 50  $\Omega$  (nominal)

Outputs (for cascade connection): BNC-R type (x 2), 50  $\Omega$  (nominal)

##### Monitor output connector:

6.3 mm dia. stereo mini jack (x 1)

##### Monitor output level:

12 mW

##### Network connector:

RJ-45 (x 1), 10BASE-T

##### Power requirements:

AC 120 V, 50/60 Hz

DC 10 to 24 V

##### Power available for connected AN-820A

##### antennas:

9 V, max. 100 mA

##### Power consumption:

50 W when accommodating four WRU-8N tuner units

### Dimensions (W x H x D):

482 x 44 x 300 mm  
(19 x 1 3/4 x 11 7/8 inches)

### Mass:

3.7 kg (8 lb 6 oz)

### Supplied software for computer-based control

#### System requirements:

##### PC:

IBM PC/AT compatible

##### OS:

Windows 98SE/Windows 2000/  
Windows Me/Windows NT 4.0 (ST6a)

##### Memory capacity:

128 MB RAM or more

##### CPU:

Intel Pentium 400 MHz or faster

##### Display:

1024 x 768 screen resolution or higher,  
256 color display or higher

##### Network interface:

10/100 BASE-T Network interface card

##### Hard disc drive:

200 MB or more remaining, after MB-8N  
supplied software and other  
applications are installed.

## UTX-P1/62 UHF Synthesized Transmitter (62CE7)

### Features

- Plug-on transmitter designed for use with the UWP Series tuners
- Operates over a wide 24 MHz frequency band within the range of 798 MHz to 822 MHz
- Converts a wired microphone to a wireless microphone via an XLR connector
- Compact and lightweight body provides balanced handling
- Attenuator function allows adjustment of the microphone-input level
- Durable connecting mechanism with a microphone for dependable operation
- 50 mW RF power output for stable and long-distance transmission
- MIC/LINE input level switchable
- A backlit LCD provides extensive information, including the operating channel number and frequency in MHz, attenuator level, audio-input status, RF-output status, transmitter battery status, and accumulated operating time
- An LED indicator for audio-input status
- Approximately six hours of continuous operation with two AA-size alkaline (LR6) batteries
- Supplied with a soft case



### Supplied Accessories

Softcase (1)

### Specifications

#### Oscillator

Crystal-controlled PLL synthesiser

#### Type of emission

F3E

#### Carrier frequencies

798 MHz to 822 MHz

(TV channels 62 to 64)

#### RF power output

50 mW

#### Antenna

Integral type

#### Pilot tone signal

32 kHz

#### Frequency response

50 Hz to 18 kHz (typical)

#### Reference deviation

±10 kHz (-60 dBV, 1kHz input)

#### Signal-to-noise ratio

60 dB or more (±10 kHz deviation at

1 kHz modulation, A-weighted)

#### Audio attenuator adjustment range

0 to 21 dB (in 3 dB steps)

#### Audio input level

MIC input position: -60 dBV

(at 0 dB attenuator level),

LINE input position: +4 dBu

#### Audio input connector

XLR-3-11C type

#### Indicators

##### LCD

Operating channel number/frequency, attenuator level, audio input status, RF-output status, transmitter battery status, and accumulated operating time

##### LED

Audio-input status

### Power requirements

DC 3.0 V (with two AA-size batteries)

### Battery life

Approx. 6 hours with Sony AA-size alkaline (LR6) batteries at 25 °C (77 °F) at 50 mW output

### Dimensions (W x H x D)

44 x 99 x 36 mm

(1 3/4 x 4 x 1 1/8 inches)

### Mass

Approx. 185 g (6.5 oz) including batteries

## UTX-P1/67 UHF Synthesized Transmitter (67CE7)

### Features

- Plug-on transmitter designed for use with the UWP Series tuners
- Operates over a wide 24 MHz frequency band within the range of 838 MHz to 864 MHz
- Converts a wired microphone to a wireless microphone via an XLR connector
- Compact and lightweight body provides balanced handling
- Attenuator function allows adjustment of the microphone-input level
- Durable connecting mechanism with a microphone for dependable operation
- 50 mW RF power output for stable and long-distance transmission
- MIC/LINE input level switchable
- A backlit LCD provides extensive information, including the operating channel number and frequency in MHz, attenuator level, audio-input status, RF-output status, transmitter battery status, and accumulated operating time
- An LED indicator for audio-input status
- Approximately six hours of continuous operation with two AA-size alkaline (LR6) batteries
- Supplied with a soft case



### Supplied Accessories

Softcase (1)

### Specifications

#### Oscillator

Crystal-controlled PLL synthesiser

#### Type of emission

F3E

#### Carrier frequencies

838 MHz to 864 MHz

(TV channels 67 to 69)

#### RF power output

50 mW

#### Antenna

Integral type

#### Pilot tone signal

32 kHz

#### Frequency response

50 Hz to 18 kHz (typical)

#### Reference deviation

±10 kHz (-60 dBV, 1kHz input)

#### Signal-to-noise ratio

60 dB or more (±10 kHz deviation at

1 kHz modulation, A-weighted)

#### Audio attenuator adjustment range

0 to 21 dB (in 3 dB steps)

#### Audio input level

MIC input position: -60 dBV

(at 0 dB attenuator level),

LINE input position: +4 dBu

#### Audio input connector

XLR-3-11C type

#### Indicators

##### LCD

Operating channel number/frequency, attenuator level, audio input status, RF-output status, transmitter battery status, and accumulated operating time

##### LED

Audio-input status

### Power requirements

DC 3.0 V (with two AA-size batteries)

### Battery life

Approx. 6 hours with Sony AA-size alkaline (LR6) batteries at 25 °C (77 °F) at 50 mW output

### Dimensions (W x H x D)

44 x 99 x 36 mm

(1 3/4 x 4 x 1 1/8 inches)

### Mass

Approx. 185 g (6.5 oz) including batteries

# UWP-C1/62 UHF Synthesized Wireless Microphone Package (62CE7)

### Features

- Consists of an omni-directional lavalier microphone, bodypack transmitter and portable tuner
- Suitable for a wide range of applications, from news gathering and interviews to talk shows and conferences
- The transmitter and tuner operate over a wide 24 MHz frequency band within the range of 798 MHz to 822 MHz
- The bodypack transmitter incorporates selectable RF-output level (5 mW or 30 mW), and adjustable audio-attenuator level
- The portable tuner employs a space diversity reception system, angle-adjustable antennas, an RF squelch function and headphone-monitoring facility
- Approx. six hours of continuous operation with two AA-size (LR6) alkaline batteries on both the transmitter and tuner
- An LCD screen on the transmitter provides extensive information: operating channel/frequency, attenuator level, RF-output level setting (Low/High), audio-input status, RF-output status, transmitter-battery status and accumulated operating time
- An LCD screen on the tuner provides extensive information: operating channel/frequency, audio-output status, RF-input level, tuner-battery status and accumulated operating time
- The bodypack transmitter is equipped with a 3.5 mm dia., 3-pole mini-jack input connector with lock mechanism, which accepts the output of any lavalier microphone equipped with a 3.5 mm dia. mini plug, as well as the output of the supplied lavalier microphone

### Applicable Models

DSR-PD170P DVCAM Camcorder

### Supplied Accessories

Windscreen (1)  
Microphone-holder clip (1)  
Belt clip (for the bodypack transmitter) (1)  
Belt clip (for the portable tuner) (1)  
Microphone stand adaptor (for the portable tuner) (1)  
Screw adaptor (for use in combination with the microphone stand adaptor) (1)  
Shoe-mount adaptor (1)  
Output cable (3-pole mini-plug/XLR-type) (1)



# Wireless Microphones

## Specifications

### - Lavalier Microphone

Microphone capsule:

Omn-directional, electret condenser type

### Bodypack Transmitter

Oscillator:

Crystal-controlled PLL synthesizer

Type of emission:

F3E

Carrier frequencies:

798 MHz to 822 MHz (TV channels 62 to 64)

RF power output:

30 mW or 5 mW (selectable)

Antenna:

1/4  $\lambda$  wave length wire

Pilot tone signal:

32 kHz

System frequency response:

50 Hz to 18 kHz (typical)

Reference deviation:

$\pm 5$  kHz (-60 dBV\*, 1kHz input)

System signal-to-noise ratio:

60 dB or more ( $\pm 5$  kHz deviation at 1 kHz modulation, A-weighted)

Audio attenuator adjustable range:

0 to 21 dB (in 3 dB steps)

Audio input level:

-60 dBV\* (at 0 dB attenuator level)

Audio input connector:

3.5 mm (5/32 inch) dia., 3-pole mini jack

Indicators

LCD: Operating channel number/frequency, attenuator level, RF-output level (High/Low), audio input status, RF-output status, transmitter battery status, and accumulated operating time  
LED: Power status

Power requirements:

DC 3.0 V

(with two AA-size alkaline (LR6) batteries)

Battery life:

Approx. 6 hours with Sony AA-size alkaline (LR6) batteries at 25 °C (77 °F) at 30 mW output

Dimensions:

63 (W) x 100 (H) x 27 (D) mm  
(2 1/2 x 4 x 1 1/8 inches)

Mass:

Approx. 140 g (4.9 oz) including batteries

### Portable Tuner

Oscillator:

Crystal-controlled PLL synthesizer

Type of reception:

Space diversity

Receiving frequencies:

798 MHz to 822 MHz (TV channels 62 to 64)

Antenna:

1/4  $\lambda$  wave length wire

Pilot-tone signal:

32 kHz

RF squelch level:

15 dB $\mu$

System frequency response:

50 Hz to 18 kHz (typical)

Reference deviation:

$\pm 5$  kHz (at 1kHz modulation)

System signal-to-noise ratio:

60 dB or more ( $\pm 5$  kHz deviation at 1 kHz modulation, A-weighted)

Audio output connector:

3.5 mm (5/32 inch) dia., 3-pole mini jack (x 1), unbalanced

Audio output level:

-58 dBm

Monitor output connector:

3.5 mm (5/32 inch) dia., stereo mini jack (x 1)

Monitor output level:

5 mW (at 16  $\Omega$ )

Indicators

LCD: Operating channel number/frequency, audio-output status, RF-input level, tuner battery status, and accumulated operating time  
LED: RF-input status

Power requirements:

DC 3.0 V

(Two AA-size alkaline (LR6) batteries)

Battery life:

Approx. 6 hours with Sony AA-size alkaline (LR6) batteries at 25 °C (77 °F)

Dimensions:

63.0 (W) x 100.0 (H) x 30.0 (D) mm  
(2 1/2 x 4 x 1 3/16 inches)

Mass:

Approx. 180 g (6 oz) including batteries

\*0 dBV = 1 Vrms

# UWP-C1/67 UHF Synthesized Wireless Microphone Package (67CE7)

### Features

- Consists of an omni-directional lavalier microphone, bodypack transmitter and portable tuner
- Suitable for a wide range of applications, from news gathering and interviews to talk shows and conferences
- The transmitter and tuner operate over a wide 24 MHz frequency band within the range of 838 MHz to 862 MHz
- The bodypack transmitter incorporates selectable RF-output level (5 mW or 30 mW), and adjustable audio-attenuator level
- The portable tuner employs a space diversity reception system, angle-adjustable antennas, an RF squelch function and headphone-monitoring facility
- Approx. six hours of continuous operation with two AA-size (LR6) alkaline batteries on both the transmitter and tuner
- An LCD screen on the transmitter provides extensive information: operating channel/frequency, attenuator level, RF-output level setting (Low/High), audio-input status, RF-output status, transmitter-battery status and accumulated operating time
- An LCD screen on the tuner provides extensive information: operating channel/frequency, audio-output status, RF-input level, tuner-battery status and accumulated operating time
- The bodypack transmitter is equipped with a 3.5 mm dia., 3-pole mini-jack input connector with lock mechanism, which accepts the output of any lavalier microphone equipped with a 3.5 mm dia. mini plug, as well as the output of the supplied lavalier microphone



### Applicable Models

DSR-PD170 DVCAM Camcorder

### Supplied Accessories

Windscreen (1)

Microphone-holder clip (1)

Belt clip (for the bodypack transmitter) (1)

Belt clip (for the portable tuner) (1)

Microphone stand adaptor (for the portable tuner) (1)

Screw adaptor (for use in combination with the microphone stand adaptor) (1)

Shoe-mount adaptor (1)

Output cable (3-pole mini-plug/XLR-type) (1)



# Wireless Microphones

## Specifications

### - Lavalier Microphone

Microphone capsule:

Omn-directional, electret condenser type

### Bodypack Transmitter

Oscillator:

Crystal-controlled PLL synthesizer

Type of emission:

F3E

Carrier frequencies:

838 MHz to 862 MHz (TV channels 67 to 69)

RF power output:

30 mW or 5 mW (selectable)

Antenna:

1/4  $\lambda$  wave length wire

Pilot tone signal:

32 kHz

System frequency response:

50 Hz to 18 kHz (typical)

Reference deviation:

$\pm 5$  kHz (-60 dBV\*, 1kHz input)

System signal-to-noise ratio:

60 dB or more ( $\pm 5$  kHz deviation at 1 kHz modulation, A-weighted)

Audio attenuator adjustable range:

0 to 21 dB (in 3 dB steps)

Audio input level:

-60 dBV\* (at 0 dB attenuator level)

Audio input connector:

3.5 mm (5/32 inch) dia., 3-pole mini jack

Indicators

LCD: Operating channel number/frequency, attenuator level, RF-output level (High/Low), audio input status, RF-output status, transmitter battery status, and accumulated operating time  
LED: Power status

Power requirements:

DC 3.0 V

(with two AA-size alkaline (LR6) batteries)

Battery life:

Approx. 6 hours with Sony AA-size alkaline (LR6) batteries at 25 °C (77 °F) at 30 mW output

Dimensions:

63 (W) x 100 (H) x 27 (D) mm  
(2 1/2 x 4 x 1 1/8 inches)

Mass:

Approx. 140 g (4.9 oz) including batteries

### Portable Tuner

Oscillator:

Crystal-controlled PLL synthesizer

Type of reception:

Space diversity

Receiving frequencies:

838 MHz to 862 MHz (TV channels 67 to 69)

Antenna:

1/4  $\lambda$  wave length wire

Pilot-tone signal:

32 kHz

RF squelch level:

15 dB $\mu$

System frequency response:

50 Hz to 18 kHz (typical)

Reference deviation:

$\pm 5$  kHz (at 1kHz modulation)

System signal-to-noise ratio:

60 dB or more ( $\pm 5$  kHz deviation at 1 kHz modulation, A-weighted)

Audio output connector:

3.5 mm (5/32 inch) dia., 3-pole mini jack (x 1), unbalanced

Audio output level:

-58 dBm

Monitor output connector:

3.5 mm (5/32 inch) dia., stereo mini jack (x 1)

Monitor output level:

5 mW (at 16  $\Omega$ )

Indicators

LCD: Operating channel number/frequency, audio-output status, RF-input level, tuner battery status, and accumulated operating time  
LED: RF-input status

Power requirements:

DC 3.0 V

(Two AA-size alkaline (LR6) batteries)

Battery life:

Approx. 6 hours with Sony AA-size alkaline (LR6) batteries at 25 °C (77 °F)

Dimensions:

63.0 (W) x 100.0 (H) x 30.0 (D) mm  
(2 1/2 x 4 x 1 3/16 inches)

Mass:

Approx. 180 g (6 oz) including batteries

\*0 dBV = 1 Vrms

# UWP-C2/62 UHF Synthesized Wireless Microphone Package (62CE7)

## Features

- Consists of a handheld microphone and portable tuner
- Suitable for news gathering and for use in PA systems
- The microphone and tuner operate over a wide 24 MHz frequency band within the range of 798 MHz to 822 MHz
- The uni-directional, dynamic microphone incorporates selectable RF-output level (5 mW or 30 mW), and adjustable audio-attenuator level
- The portable tuner employs a space diversity reception system and angle-adjustable antennas, an RF squelch function and headphone-monitoring facility
- Approx. six hours of continuous operation with two AA-size (LR6) alkaline batteries on both the microphone and tuner
- An internal LCD screen on the microphone provides extensive information: operating channel/frequency, attenuator level, RF-output level setting (Low/High), audio-input status, RF-output status, transmitter-battery status and accumulated operating time
- An LCD screen on the tuner provides extensive information: operating channel/frequency, audio-output status, RF-input level, tuner-battery status and accumulated operating time



## Supplied Accessories

Shoe-mount adaptor (1)  
 Microphone holder (1)  
 Screw adaptor (for use in combination with the microphone holder) (1)  
 Microphone stand adaptor (for the portable tuner) (1)  
 Screw adaptor (for use in combination with the microphone stand adaptor) (1)  
 Belt clip (1)  
 Output cable (3-pole mini plug/XLR-type) (1)

## Specifications

### Handheld microphone

Oscillator:  
 Crystal-controlled PLL synthesizer  
 Type of emission:  
 F3E  
 Carrier frequencies:  
 798 MHz to 822 MHz (TV channels 62 to 64)  
 RF power output:  
 30 mW or 5 mW (selectable)  
 Antenna:  
 1/4 λ wave length wire  
 Pilot tone signal:  
 32 kHz  
 System frequency response:  
 100 Hz to 18 kHz (typical)  
 Reference deviation:  
 ±5 kHz (94 dB SPL\*, 1kHz input)  
 System signal-to-noise ratio:  
 60 dB or more (±5 kHz deviation at 1 kHz modulation, A-weighted)  
 Microphone capsule:  
 Dynamic capsule (uni-directional)  
 Audio attenuator adjustable range:  
 0 to 21 dB (in 3 dB steps)  
 Max. input sound pressure level:  
 151 dB SPL\* (at 21 dB attenuator level)

### Indicators

LCD: Operating channel number/frequency, attenuator level, RF-output level (High/Low), audio input status, RF-output status, transmitter battery status, and accumulated operating time  
 LED: Power status

### Power requirements:

DC 3.0 V  
 (with two AA-size alkaline (LR6) batteries)

### Battery life:

Approx. 6 hours with Sony AA-size alkaline (LR6) batteries at 25 °C (77 °F) at 30 mW output

### Dimensions:

52 dia. x 240 mm  
 (2 1/8 dia. x 9 1/2 inches)

### Mass:

Approx. 300 g (10.6 oz) including batteries

### Portable Tuner

#### Oscillator:

Crystal-controlled PLL synthesizer

#### Type of reception:

Space diversity

#### Receiving frequencies:

798 MHz to 822 MHz (TV channels 62 to 64)

#### Antenna:

1/4 λ wave length wire

#### Pilot-tone signal:

32 kHz

#### RF squelch level:

15 dBμ

#### System frequency response:

100 Hz to 18 kHz (typical)

#### Reference deviation:

±5 kHz (at 1kHz modulation)

#### System signal-to-noise ratio:

60 dB or more (±5 kHz deviation at 1 kHz modulation, A-weighted)

#### Audio output connector:

3.5 mm (5/32 inch) dia., 3-pole mini jack (x 1), unbalanced

### Audio output level:

-58 dBm

### Monitor output connector:

3.5 mm (5/32 inch) dia., stereo mini jack (x 1)

### Monitor output level:

5 mW (at 16 Ω)

### Indicators

LCD: Operating channel number/frequency, audio-output status, RF-input level, tuner battery status, and accumulated operating time  
 LED: RF-input status

### Power requirements:

DC 3.0 V  
 (Two AA-size alkaline (LR6) batteries)

### Battery life:

Approx. 6 hours with Sony AA-size alkaline (LR6) batteries at 25 °C (77 °F)

### Dimensions:

63.0 (W) x 100.0 (H) x 30.0 (D) mm  
 (2 1/2 x 4 x 1 3/16 inches)

### Mass:

Approx. 180 g (6 oz) including batteries

\*0 dB SPL = 20μ Pa.

# UWP-C2/67 UHF Synthesized Wireless Microphone Package (67CE7)

## Features

- Consists of a handheld microphone and portable tuner
- Suitable for news gathering and for use in PA systems
- The microphone and tuner operate over a wide 24 MHz frequency band within the range of 838 MHz to 862 MHz
- The uni-directional, dynamic microphone incorporates selectable RF-output level (5 mW or 30 mW), and adjustable audio-attenuator level
- The portable tuner employs a space diversity reception system and angle-adjustable antennas, an RF squelch function and headphone-monitoring facility
- Approx. six hours of continuous operation with two AA-size (LR6) alkaline batteries on both the microphone and tuner
- An internal LCD screen on the microphone provides extensive information: operating channel/frequency, attenuator level, RF-output level setting (Low/High), audio-input status, RF-output status, transmitter-battery status and accumulated operating time
- An LCD screen on the tuner provides extensive information: operating channel/frequency, audio-output status, RF-input level, tuner-battery status and accumulated operating time



## Supplied Accessories

- Shoe-mount adaptor (1)
- Microphone holder (1)
- Screw adaptor (for use in combination with the microphone holder) (1)
- Microphone stand adaptor (for the portable tuner) (1)
- Screw adaptor (for use in combination with the microphone stand adaptor) (1)
- Belt clip (1)
- Output cable (3-pole mini plug/XLR-type) (1)

## Specifications

### Handheld microphone

- Oscillator: Crystal-controlled PLL synthesizer
- Type of emission: F3E
- Carrier frequencies: 838 MHz to 862 MHz (TV channels 67 to 69)
- RF power output: 30 mW or 5 mW (selectable)
- Antenna: 1/4  $\lambda$  wave length wire
- Pilot tone signal: 32 kHz
- System frequency response: 100 Hz to 18 kHz (typical)
- Reference deviation:  $\pm 5$  kHz (94 dB SPL\*, 1kHz input)
- System signal-to-noise ratio: 60 dB or more ( $\pm 5$  kHz deviation at 1 kHz modulation, A-weighted)
- Microphone capsule: Dynamic capsule (uni-directional)
- Audio attenuator adjustable range: 0 to 21 dB (in 3 dB steps)
- Max. input sound pressure level: 151 dB SPL\* (at 21 dB attenuator level)

### Indicators

- LCD: Operating channel number/frequency, attenuator level, RF-output level (High/Low), audio input status, RF-output status, transmitter battery status, and accumulated operating time
- LED: Power status
- Power requirements: DC 3.0 V (with two AA-size alkaline (LR6) batteries)
- Battery life: Approx. 6 hours with Sony AA-size alkaline (LR6) batteries at 25 °C (77 °F) at 30 mW output
- Dimensions: 52 dia. x 240 mm (2 1/8 dia. x 9 1/2 inches)
- Mass: Approx. 300 g (10.6 oz) including batteries

### Portable Tuner

- Oscillator: Crystal-controlled PLL synthesizer
- Type of reception: Space diversity
- Receiving frequencies: 838 MHz to 862 MHz (TV channels 67 to 69)
- Antenna: 1/4  $\lambda$  wave length wire
- Pilot-tone signal: 32 kHz
- RF squelch level: 15 dB $\mu$
- System frequency response: 100 Hz to 18 kHz (typical)
- Reference deviation:  $\pm 5$  kHz (at 1kHz modulation)
- System signal-to-noise ratio: 60 dB or more ( $\pm 5$  kHz deviation at 1 kHz modulation, A-weighted)
- Audio output connector: 3.5 mm (5/32 inch) dia., 3-pole mini jack (x 1), unbalanced

### Audio output level:

- 58 dBm
- Monitor output connector: 3.5 mm (5/32 inch) dia., stereo mini jack (x 1)
- Monitor output level: 5 mW (at 16  $\Omega$ )
- Indicators: LCD: Operating channel number/frequency, audio-output status, RF-input level, tuner battery status, and accumulated operating time
- LED: RF-input status
- Power requirements: DC 3.0 V (Two AA-size alkaline (LR6) batteries)
- Battery life: Approx. 6 hours with Sony AA-size alkaline (LR6) batteries at 25 °C (77 °F)
- Dimensions: 63.0 (W) x 100.0 (H) x 30.0 (D) mm (2 1/2 x 4 x 1 3/16 inches)
- Mass: Approx. 180 g (6 oz) including batteries

\*0 dB SPL = 20 $\mu$  Pa.

# UWP-C3/62 UHF Synthesized Wireless Microphone Package (62CE7)

## Features

- The transmitter and tuner operate over a wide 24 MHz frequency band within the range of 798 MHz to 822 MHz
- The plug-on transmitter converts a wired microphone to a wireless microphone via an XLR connection
- Attenuator function of the transmitter allows adjustment of the microphone-input level
- 50 mW RF power output for stable and long-distance transmission
- MIC/LINE input level switchable (Plug-on transmitter)
- The portable tuner employs a space diversity reception system and angle-adjustable antennas, an RF squelch function and headphone-monitoring facility
- The tuner is equipped with a stereo mini jack with monitor-volume control
- Approximately six hours of continuous operation with two AA-size batteries on both the transmitter and tuner
- A backlit LCD on the transmitter provides extensive information, including the operating channel number and frequency in MHz, attenuator level, audio-input status, RF-output status, transmitter-battery status, and accumulated operating time
- An LCD screen on the tuner provides extensive information, including the operating channel number and its frequency in MHz, audio-output status, RF-input level, tuner-battery status, and accumulated operating time



## Supplied Accessories

- Shoe-mount adaptor (1)
- Belt clip (1)
- Output cable (3-pole mini-plug/XLR-type) (1)
- Output cable (3-pole mini-plug/stereo mini-plug) (1)
- Softcase (1)
- Operating instructions (1)

## Applicable Models

F-112 Dynamic Microphone

## Specifications

### Plug-on Transmitter

- Oscillator
  - Crystal-controlled PLL synthesiser
- Type of emission
  - F3E
- Carrier frequencies
  - 798 MHz to 822 MHz (TV channels 62 to 64)
- RF power output
  - 50 mW
- Antenna
  - Integral type
- Pilot-tone signal
  - 32 kHz
- Frequency response
  - 50 Hz to 18 kHz (typical)
- Reference deviation
  - ±10 kHz (-60 dBV, 1kHz input)
- Signal-to-noise ratio
  - 60 dB or more (±10 kHz deviation at 1 kHz modulation, A-weighted)
- Audio attenuator adjustment range
  - 0 to 21 dB (in 3 dB steps)

- Audio input level
  - MIC input position: -60 dBV (at 0 dB attenuator level),
  - LINE input position: +4 dBu
- Audio input connector
  - XLR-3-11C type
- Indicators
  - LCD: operating channel number/frequency, attenuator level, audio-input status, RF-output status, transmitter battery status, and accumulated operating time
  - LED: audio-input status
- Power requirements
  - DC 3.0 V (two AA-size batteries)
- Battery life
  - Approx. 6 hours with Sony AA-size alkaline (LR6) batteries at 25 °C (77 °F) at 50 mW output
- Dimensions (W x H x D)
  - 44 x 99 x 35 mm (1 3/4 x 4 x 1 7/16 inches)
- Mass
  - Approx. 185 g (6.5 oz) including batteries
- Portable Tuner**
- Oscillator
  - Crystal-controlled PLL synthesiser
- Type of reception
  - Space diversity
- Receiving frequencies
  - 798 MHz to 822 MHz (TV channels 62 to 64)
- Antenna
  - 1/4 λ wave length wire
- Pilot-tone signal
  - 32 kHz
- RF squelch level
  - 15 dBµ
- Frequency response
  - 50 Hz to 18 kHz (typical)

- Reference deviation
  - ±5 kHz (at 1kHz modulation)
- Signal-to-noise ratio
  - 60 dB or more (±5 kHz deviation at 1 kHz modulation, A-weighted)
- Audio output connector
  - 3.5 mm (5/32 inch) dia., 3-pole mini jack, unbalanced
- Audio output level
  - 58 dBm
- Monitor output connector
  - 3.5 mm (5/32 inch) dia., stereo mini jack
- Monitor output level
  - 5 mW (at 16 Ω)
- Indicators
  - LCD: operating channel number/frequency, audio-output status, RF-input level, tuner-battery status, and accumulated operating time
  - LED: RF-input status
- Power requirements
  - DC 3.0 V (two AA-size batteries)
- Battery life
  - Approx. 6 hours with Sony AA-size batteries at 25 °C (77 °F)
- Dimensions (W x H x D)
  - 63 x 100 x 30 mm (2 1/2 x 4 x 1 3/16 inches)
- Mass
  - Approx. 180 g (6 oz) including batteries

# UWP-C3/67 UHF Synthesized Wireless Microphone Package (67CE7)

## Features

- The transmitter and tuner operate over a wide 24 MHz frequency band within the range of 838 MHz to 864 MHz
- The plug-on transmitter converts a wired microphone to a wireless microphone via an XLR connection
- Attenuator function of the transmitter allows adjustment of the microphone-input level
- 50 mW RF power output for stable and long-distance transmission
- MIC/LINE input level switchable (Plug-on transmitter)
- The portable tuner employs a space diversity reception system and angle-adjustable antennas, an RF squelch function and headphone-monitoring facility
- The tuner is equipped with a stereo mini jack with monitor-volume control
- Approximately six hours of continuous operation with two AA-size batteries on both the transmitter and tuner
- A backlit LCD on the transmitter provides extensive information, including the operating channel number and frequency in MHz, attenuator level, audio-input status, RF-output status, transmitter-battery status, and accumulated operating time
- An LCD screen on the tuner provides extensive information, including the operating channel number and its frequency in MHz, audio-output status, RF-input level, tuner-battery status, and accumulated operating time



## Supplied Accessories

- Shoe-mount adaptor (1)
- Belt clip (1)
- Output cable (3-pole mini-plug/XLR-type) (1)
- Output cable (3-pole mini-plug/stereo mini-plug) (1)
- Softcase (1)
- Operating instructions (1)

## Applicable Models

F-112 Dynamic Microphone

## Specifications

### Plug-on Transmitter

- Oscillator
  - Crystal-controlled PLL synthesiser
- Type of emission
  - F3E
- Carrier frequencies
  - 838 MHz to 864 MHz (TV channels 67 to 69)
- RF power output
  - 50 mW
- Antenna
  - Integral type
- Pilot-tone signal
  - 32 kHz
- Frequency response
  - 50 Hz to 18 kHz (typical)
- Reference deviation
  - ±10 kHz (-60 dBV, 1kHz input)
- Signal-to-noise ratio
  - 60 dB or more (±10 kHz deviation at 1 kHz modulation, A-weighted)
- Audio attenuator adjustment range
  - 0 to 21 dB (in 3 dB steps)

- Audio input level
  - MIC input position: -60 dBV (at 0 dB attenuator level),
  - LINE input position: +4 dBu
- Audio input connector
  - XLR-3-11C type
- Indicators
  - LCD: operating channel number/frequency, attenuator level, audio-input status, RF-output status, transmitter battery status, and accumulated operating time
  - LED: audio-input status
- Power requirements
  - DC 3.0 V (two AA-size batteries)
- Battery life
  - Approx. 6 hours with Sony AA-size alkaline (LR6) batteries at 25 °C (77 °F) at 50 mW output
- Dimensions (W x H x D)
  - 44 x 99 x 35 mm (1 3/4 x 4 x 1 7/16 inches)
- Mass
  - Approx. 185 g (6.5 oz) including batteries
- Portable Tuner**
- Oscillator
  - Crystal-controlled PLL synthesiser
- Type of reception
  - Space diversity
- Receiving frequencies
  - 838 MHz to 864 MHz (TV channels 67 to 69)
- Antenna
  - 1/4 λ wave length wire
- Pilot-tone signal
  - 32 kHz
- RF squelch level
  - 15 dBμ
- Frequency response
  - 50 Hz to 18 kHz (typical)

- Reference deviation
  - ±5 kHz (at 1kHz modulation)
- Signal-to-noise ratio
  - 60 dB or more (±5 kHz deviation at 1 kHz modulation, A-weighted)
- Audio output connector
  - 3.5 mm (5/32 inch) dia., 3-pole mini jack, unbalanced
- Audio output level
  - 58 dBm
- Monitor output connector
  - 3.5 mm (5/32 inch) dia., stereo mini jack
- Monitor output level
  - 5 mW (at 16 Ω)
- Indicators
  - LCD: operating channel number/frequency, audio-output status, RF-input level, tuner-battery status, and accumulated operating time
  - LED: RF-input status
- Power requirements
  - DC 3.0 V (two AA-size batteries)
- Battery life
  - Approx. 6 hours with Sony AA-size batteries at 25 °C (77 °F)
- Dimensions (W x H x D)
  - 63 x 100 x 30 mm (2 1/2 x 4 x 1 3/16 inches)
- Mass
  - Approx. 180 g (6 oz) including batteries

# UWP-S1/62 UHF Synthesized Wireless Microphone Package (62CE7)

## Features

- Consists of a uni-directional lavalier microphone, bodypack transmitter and half-rack-size tuner
- Suitable for use in PA systems
- The transmitter and half-rack-size tuner operate over a wide 24 MHz frequency band within the range of 798 MHz to 822 MHz
- The bodypack transmitter incorporates selectable RF-output level (5 mW or 30 mW), and adjustable audio-attenuator level
- The half-rack-size tuner employs a space diversity reception system, angle-adjustable antennas, an RF squelch function and headphone-monitoring facility
- Approx. six hours of continuous operation with two AA-size (LR6) alkaline batteries on the transmitter
- An LCD screen on the transmitter provides extensive information: operating channel/frequency, attenuator level, RF-output level setting (Low/High), audio-input status, RF-output status, transmitter-battery status and accumulated operating time
- An LCD screen on the tuner provides extensive information: operating channel/frequency, audio-output status and RF-input level
- The bodypack transmitter is equipped with a 3.5 mm dia, 3-pole mini-jack input connector with a lock mechanism, which accepts the output of any lavalier microphone equipped with a 3.5 mm dia. mini plug, as well as the output of the supplied lavalier microphone
- The half-rack-size tuner is equipped with both XLR (balanced) and 1/4-inch phone (unbalanced) type output connectors. The output level on the XLR-type connector can be switched between MIC and LINE level.



## Supplied Accessories

- Windscreen (1)
- Microphone-holder clip (1)
- Belt clip (1)
- AC/DC adaptor (1)

## Specifications

### Lavalier Microphone

- Microphone capsule: Uni-directional, electret condenser type

### Bodypack Transmitter

- Oscillator: Crystal-controlled PLL synthesizer
- Type of emission: F3E
- Carrier frequencies: 798 MHz to 822 MHz (TV channels 62 to 64)
- RF power output: 30 mW or 5 mW (selectable)
- Antenna: 1/4 λ wave length wire
- Pilot tone signal: 32 kHz
- Frequency response: 50 Hz to 18 kHz (typical)
- Reference deviation: ±5 kHz (-60 dBV\*, 1kHz input)
- Signal-to-noise ratio: 60 dB or more (±5 kHz deviation at 1 kHz modulation, A-weighted)
- Audio attenuator adjustable range: 0 to 21 dB (in 3 dB steps)
- Audio input level: -60 dBV\* (at 0 dB attenuator level)

- Audio input connector: 3.5 mm (5/32 inch) dia., 3-pole mini jack
- Indicators  
LCD: Operating channel number/frequency, attenuator level, RF-output level (High/Low), audio input status, RF-output status, transmitter battery status, and accumulated operating time  
LED: Power status
- Power requirements: DC 3.0 V (with two AA-size alkaline (LR6) batteries)
- Battery life: Approx. 6 hours with Sony AA-size alkaline (LR6) batteries at 25 °C (77 °F) at 30 mW output
- Dimensions: 63 (W) x 100 (H) x 27 (D) mm (2 1/2 x 4 x 1 1/8 inches)
- Mass: Approx. 140 g (4.9 oz) including batteries
- Half 19-inch Rack-Size Tuner**
- Oscillator: Crystal-controlled PLL synthesizer
- Type of reception: Space diversity
- Receiving frequencies: 798 MHz to 822 MHz (TV channels 62 to 64)
- Antenna: 1/4 λ wave length wire
- Pilot tone signal: 32 kHz
- RF squelch level: 25 dBμ

- Frequency response: 50 Hz to 18 kHz (typical)
- Reference deviation: ±5 kHz (at 1kHz modulation)
- Signal-to-noise ratio: 60 dB or more (±5 kHz deviation at 1 kHz modulation, A-weighted)
- Audio output connector: XLR-3-32 type (balanced) or 1/4-inch phone jack (unbalanced)
- Audio output level: XLR-3-32: -28 dBm (LINE level) or -58 dBm (MIC level)  
1/4-inch phone jack: -30 dBm
- Monitor output connector: 1/4-inch stereo mini jack (1)
- Monitor output level: 5 mW (at 16 Ω)
- Indicators  
LCD: Operating channel number/frequency, audio-output status, RF-input level  
LED: RF-input status
- Power requirements: DC 9.0 V
- Dimensions: 212.0 (W) x 44.0 (H) x 209.0 (D) mm (8 3/8 x 1 3/4 x 8 1/4 inches)
- Mass: Approx. 1.3 kg (2 lb 14 oz)

\*0 dBV = 1 Vrms

# UWP-S1/67 UHF Synthesized Wireless Microphone Package (67CE7)

## Features

- Consists of a uni-directional lavalier microphone, bodypack transmitter and half-rack-size tuner
- Suitable for use in PA systems
- The transmitter and half-rack-size tuner operate over a wide 24 MHz frequency band within the range of 838 MHz to 862 MHz
- The bodypack transmitter incorporates selectable RF-output level (5 mW or 30 mW), and adjustable audio-attenuator level
- The half-rack-size tuner employs a space diversity reception system, angle-adjustable antennas, an RF squelch function and headphone-monitoring facility
- Approx. six hours of continuous operation with two AA-size (LR6) alkaline batteries on the transmitter
- An LCD screen on the transmitter provides extensive information: operating channel/frequency, attenuator level, RF-output level setting (Low/High), audio-input status, RF-output status, transmitter-battery status and accumulated operating time
- An LCD screen on the tuner provides extensive information: operating channel/frequency, audio-output status and RF-input level
- The bodypack transmitter is equipped with a 3.5 mm dia., 3-pole mini-jack input connector with a lock mechanism, which accepts the output of any lavalier microphone equipped with a 3.5 mm dia. mini plug, as well as the output of the supplied lavalier microphone
- The half-rack-size tuner is equipped with both XLR (balanced) and 1/4-inch phone (unbalanced) type output connectors. The output level on the XLR-type connector can be switched between MIC and LINE level.



## Supplied Accessories

- Windscreen (1)
- Microphone-holder clip (1)
- Belt clip (1)
- AC/DC adaptor (1)

## Specifications

### Lavalier Microphone

- Microphone capsule: Uni-directional, electret condenser type

### Bodypack Transmitter

- Oscillator: Crystal-controlled PLL synthesizer
- Type of emission: F3E
- Carrier frequencies: 838 MHz to 862 MHz (TV channels 67 to 69)
- RF power output: 30 mW or 5 mW (selectable)
- Antenna: 1/4 λ wave length wire
- Pilot tone signal: 32 kHz
- Frequency response: 50 Hz to 18 kHz (typical)
- Reference deviation: ±5 kHz (-60 dBV\*, 1kHz input)
- Signal-to-noise ratio: 60 dB or more (±5 kHz deviation at 1 kHz modulation, A-weighted)
- Audio attenuator adjustable range: 0 to 21 dB (in 3 dB steps)
- Audio input level: -60 dBV\* (at 0 dB attenuator level)

- Audio input connector: 3.5 mm (5/32 inch) dia., 3-pole mini jack
  - Indicators: LCD: Operating channel number/frequency, attenuator level, RF-output level (High/Low), audio input status, RF-output status, transmitter battery status, and accumulated operating time  
LED: Power status
  - Power requirements: DC 3.0 V (with two AA-size alkaline (LR6) batteries)
  - Battery life: Approx. 6 hours with Sony AA-size alkaline (LR6) batteries at 25 °C (77 °F) at 30 mW output
  - Dimensions: 63 (W) x 100 (H) x 27 (D) mm (2 1/2 x 4 x 1 1/8 inches)
  - Mass: Approx. 140 g (4.9 oz) including batteries
- ### Half 19-inch Rack-Size Tuner
- Oscillator: Crystal-controlled PLL synthesizer
  - Type of reception: Space diversity
  - Receiving frequencies: 838 MHz to 862 MHz (TV channels 67 to 69)
  - Antenna: 1/4 λ wave length wire
  - Pilot tone signal: 32 kHz
  - RF squelch level: 25 dBμ

- Frequency response: 50 Hz to 18 kHz (typical)
  - Reference deviation: ±5 kHz (at 1kHz modulation)
  - Signal-to-noise ratio: 60 dB or more (±5 kHz deviation at 1 kHz modulation, A-weighted)
  - Audio output connector: XLR-3-32 type (balanced) or 1/4-inch phone jack (unbalanced)
  - Audio output level: XLR-3-32: -28 dBm (LINE level) or -58 dBm (MIC level)  
1/4-inch phone jack: -30 dBm
  - Monitor output connector: 1/4-inch stereo mini jack (1)
  - Monitor output level: 5 mW (at 16 Ω)
  - Indicators: LCD: Operating channel number/frequency, audio-output status, RF-input level  
LED: RF-input status
  - Power requirements: DC 9.0 V
  - Dimensions: 212.0 (W) x 44.0 (H) x 209.0 (D) mm (8 3/8 x 1 3/4 x 8 1/4 inches)
  - Mass: Approx. 1.3 kg (2 lb 14 oz)
- \*0 dBV = 1 Vrms

# UWP-S2/62 UHF Synthesized Wireless Microphone Package (62CE7)

## Features

- Consists of a handheld microphone and half-rack-size tuner
- Suitable for use in PA systems
- The microphone and half-rack-size tuner operate over a wide 24 MHz frequency band within the range of 798 MHz to 822 MHz
- The uni-directional, dynamic microphone incorporates selectable RF-output level (5 mW or 30 mW), and adjustable audio-attenuator level
- The half-rack-size tuner employs a space diversity reception system, angle-adjustable antennas, an RF squelch function and headphone-monitoring facility
- Approx. six hours of continuous operation with two AA-size (LR6) alkaline batteries on the microphone
- An internal LCD screen on the microphone provides extensive information: operating channel/frequency, attenuator level, RF-output level setting (Low/High), audio-input status, RF-output status, transmitter-battery status and accumulated operating time
- An LCD screen on the tuner provides extensive information: operating channel/frequency, audio-output status and RF-input level
- The half-rack-size tuner is equipped with both XLR (balanced) and 1/4-inch phone (unbalanced) type output connectors. The output level on the XLR-type connector can be switched between MIC and LINE level.



## Supplied Accessories

- Microphone holder (1)
- Screw adaptor (for use in combination with the microphone holder) (1)
- AC/DC adaptor (1)

## Specifications

### Handheld Microphone

- Oscillator: Crystal-controlled PLL synthesizer
- Type of emission: F3E
- Carrier frequencies: 798 MHz to 822 MHz (TV channels 62 to 64)
- RF power output: 30 mW or 5 mW (selectable)
- Antenna: 1/4 λ wave length wire
- Pilot tone signal: 32 kHz
- System frequency response: 100 Hz to 18 kHz (typical)
- Reference deviation: ±5 kHz (94 dB SPL\*, 1kHz input)
- System signal-to-noise ratio: 60 dB or more (±5 kHz deviation at 1 kHz modulation, A-weighted)
- Microphone capsule: Dynamic capsule (uni-directional)
- Audio attenuator adjustable range: 0 to 21 dB (in 3 dB steps)
- Max. input sound pressure level: 151 dB SPL\* (at 21 dB attenuator level)

### Indicators

- LCD: Operating channel number/frequency, attenuator level, RF-output level (High/Low), audio input status, RF-output status, transmitter battery status, and accumulated operating time
- LED: Power status
- Power requirements: DC 3.0 V (with two AA-size alkaline (LR6) batteries)
- Battery life: Approx. 6 hours with Sony AA-size alkaline (LR6) batteries at 25 °C (77 °F) at 30 mW output
- Dimensions: 52 dia. x 240 mm (2 1/8 dia. x 9 1/2 inches)
- Mass: Approx. 300 g (10.6 oz) including batteries

### Half 19-inch Rack-Size Tuner

- Oscillator: Crystal-controlled PLL synthesizer
- Type of reception: Space diversity
- Receiving frequencies: 798 MHz to 822 MHz (TV channels 62 to 64)
- Antenna: 1/4 λ wave length wire
- Pilot tone signal: 32 kHz
- RF squelch level: 25 dBμ
- System frequency response: 100 Hz to 18 kHz (typical)
- Reference deviation: ±5 kHz (at 1kHz modulation)
- System signal-to-noise ratio: 60 dB or more (±5 kHz deviation at 1 kHz modulation, A-weighted)

### Audio output connector:

- XLR-3-32 type (balanced) or 1/4-inch phone jack (unbalanced)
- Audio output level: XLR-3-32: -28 dBm (LINE level) or -58 dBm (MIC level)  
1/4-inch phone jack: -30 dBm
- Monitor output connector: 1/4-inch stereo mini jack (1)
- Monitor output level: 5 mW (at 16 Ω)
- Indicators: LCD: Operating channel number/frequency, audio-output status, RF-input level  
LED: RF-input status
- Power requirements: DC 9.0 V
- Dimensions: 212.0 (W) x 44.0 (H) x 209.0 (D) mm (8 3/8 x 1 3/4 x 8 1/4 inches)
- Mass: Approx. 1.3 kg (2 lb 14 oz)

\*0 dB SPL = 20μ Pa.



# UWP-S2/67 UHF Synthesized Wireless Microphone Package (67CE7)

## Features

- Consists of a handheld microphone and half-rack-size tuner
- Suitable for use in PA systems
- The microphone and half-rack-size tuner operate over a wide 24 MHz frequency band within the range of 838 MHz to 862 MHz
- The uni-directional, dynamic microphone incorporates selectable RF-output level (5 mW or 30 mW), and adjustable audio-attenuator level
- The half-rack-size tuner employs a space diversity reception system, angle-adjustable antennas, an RF squelch function and headphone-monitoring facility
- Approx. six hours of continuous operation with two AA-size (LR6) alkaline batteries on the microphone
- An internal LCD screen on the microphone provides extensive information: operating channel/frequency, attenuator level, RF-output level setting (Low/High), audio-input status, RF-output status, transmitter-battery status and accumulated operating time
- An LCD screen on the tuner provides extensive information: operating channel/frequency, audio-output status and RF-input level
- The half-rack-size tuner is equipped with both XLR (balanced) and 1/4-inch phone (unbalanced) type output connectors. The output level on the XLR-type connector can be switched between MIC and LINE level.



## Supplied Accessories

- Microphone holder (1)
- Screw adaptor (for use in combination with the microphone holder) (1)
- AC/DC adaptor (1)

## Specifications

### Handheld Microphone

- Oscillator: Crystal-controlled PLL synthesizer
- Type of emission: F3E
- Carrier frequencies: 838 MHz to 862 MHz (TV channels 67 to 69)
- RF power output: 30 mW or 5 mW (selectable)
- Antenna: 1/4 λ wave length wire
- Pilot tone signal: 32 kHz
- System frequency response: 100 Hz to 18 kHz (typical)
- Reference deviation: ±5 kHz (94 dB SPL\*, 1kHz input)
- System signal-to-noise ratio: 60 dB or more (±5 kHz deviation at 1 kHz modulation, A-weighted)
- Microphone capsule: Dynamic capsule (uni-directional)
- Audio attenuator adjustable range: 0 to 21 dB (in 3 dB steps)
- Max. input sound pressure level: 151 dB SPL\* (at 21 dB attenuator level)

### Indicators

- LCD: Operating channel number/frequency, attenuator level, RF-output level (High/Low), audio input status, RF-output status, transmitter battery status, and accumulated operating time
- LED: Power status

### Power requirements:

- DC 3.0 V (with two AA-size alkaline (LR6) batteries)

### Battery life:

- Approx. 6 hours with Sony AA-size alkaline (LR6) batteries at 25 °C (77 °F) at 30 mW output

### Dimensions:

- 52 dia. x 240 mm (2 1/8 dia. x 9 1/2 inches)

### Mass:

- Approx. 300 g (10.6 oz) including batteries

### Half 19-inch Rack-Size Tuner

- Oscillator: Crystal-controlled PLL synthesizer
- Type of reception: Space diversity
- Receiving frequencies: 838 MHz to 862 MHz (TV channels 67 to 69)
- Antenna: 1/4 λ wave length wire
- Pilot tone signal: 32 kHz
- RF squelch level: 25 dBμ
- System frequency response: 100 Hz to 18 kHz (typical)
- Reference deviation: ±5 kHz (at 1kHz modulation)
- System signal-to-noise ratio: 60 dB or more (±5 kHz deviation at 1 kHz modulation, A-weighted)

### Audio output connector:

- XLR-3-32 type (balanced) or 1/4-inch phone jack (unbalanced)

### Audio output level:

- XLR-3-32: -28 dBm (LINE level) or -58 dBm (MIC level)
- 1/4-inch phone jack: -30 dBm

### Monitor output connector:

- 1/4-inch stereo mini jack (1)

### Monitor output level:

- 5 mW (at 16 Ω)

### Indicators

- LCD: Operating channel number/frequency, audio-output status, RF-input level
- LED: RF-input status

### Power requirements:

- DC 9.0 V

### Dimensions:

- 212.0 (W) x 44.0 (H) x 209.0 (D) mm (8 3/8 x 1 3/4 x 8 1/4 inches)

### Mass:

- Approx. 1.3 kg (2 lb 14 oz)

\*0 dB SPL = 20μ Pa.

# UWP-X1/62 UHF Synthesized Wireless Microphone Package (62CE7)

## Features

- Consists of a uni-directional lavalier microphone, bodypack transmitter and tuner module
- Suitable for use in PA systems
- Tuner modules can be installed into the SRP-X700P/X351P presentation mixer (max. two units), and a maximum of six modules can be installed in the MB-806A tuner base unit
- The transmitter and tuner module operate over a wide 24 MHz frequency band within the range of 798 MHz to 822 MHz
- The bodypack transmitter incorporates selectable RF-output level (5 mW or 30 mW), and adjustable audio-attenuator level
- The tuner module incorporates a space diversity reception system and an RF squelch function
- Approx. six hours of continuous operation with two AA-size (LR6) alkaline batteries on the transmitter
- An LCD screen on the transmitter provides extensive information: operating channel/frequency, attenuator level, RF-output level setting (Low/High), audio-input status, RF-output status, transmitter-battery status and accumulated operating time
- An LCD screen on the tuner provides extensive information: operating channel/frequency, audio-output status and RF-input level
- The bodypack transmitter is equipped with a 3.5 mm dia., 3-pole mini-jack input connector with a lock mechanism, which accepts the output of any lavalier microphone equipped with a 3.5 mm dia. mini plug, as well as the output of the supplied lavalier microphone



## Supplied Accessories

- Windscreen (1)
- Microphone-holder clip (1)
- Belt clip (1)

## Specifications

### Lavalier Microphone

- Microphone capsule: Uni-directional, electret condenser type

### Bodypack Transmitter

- Oscillator: Crystal-controlled PLL synthesizer
- Type of emission: F3E
- Carrier frequencies: 798 MHz to 822 MHz (TV channels 62 to 64)
- RF power output: 30 mW or 5 mW (selectable)
- Antenna: 1/4 λ wave length wire
- Pilot tone signal: 32 kHz
- System frequency response: 50 Hz to 18 kHz (typical)
- Reference deviation: ±5 kHz (-60 dBV\*, 1kHz input)
- System signal-to-noise ratio: 60 dB or more (±5 kHz deviation at 1 kHz modulation, A-weighted)
- Audio attenuator adjustable range: 0 to 21 dB (in 3 dB steps)
- Audio input level: -60 dBV\* (at 0 dB attenuator level)
- Audio input connector: 3.5 mm (5/32 inch) dia., 3-pole mini jack

## Indicators

- LCD: Operating channel number/frequency, attenuator level, RF-output level (High/Low), audio input status, RF-output status, transmitter battery status, and accumulated operating time
- LED: Power status
- Power requirements: DC 3.0 V (with two AA-size alkaline (LR6) batteries)
- Battery life: Approx. 6 hours with Sony AA-size alkaline (LR6) batteries at 25 °C (77 °F) at 30 mW output
- Dimensions: 63 (W) x 100 (H) x 27 (D) mm (2 1/2 x 4 x 1 1/8 inches)
- Mass: Approx. 140 g (4.9 oz) including batteries

### Tuner Module

- Oscillator: Crystal-controlled PLL synthesizer
- Type of reception: Space diversity
- Receiving frequencies: 798 MHz to 822 MHz (TV channels 62 to 64)
- Antenna: 1/4 λ wave length wire
- Pilot-tone signal: 32 kHz
- RF squelch level: 25 dBμ
- System frequency response: 50 Hz to 18 kHz (typical)

## Reference deviation:

- ±5 kHz (at 1kHz modulation)
- System signal-to-noise ratio: 60 dB or more (±5 kHz deviation at 1 kHz modulation, A-weighted)
- Indicators: LCD: Operating channel number/frequency, audio-output status, RF-input level; LED: RF-input status
- Power requirements: DC 9.0 V
- Dimensions: 56.6 (W) x 25.5 (H) x 121.0 (D) mm (2 1/2 x 1 1/16 x 4 7/8 inches)
- Mass: Approx. 150 g (5.3 oz)

\*0 dBV = 1 Vrms

# UWP-X1/67 UHF Synthesized Wireless Microphone Package (67CE7)

## Features

- Consists of a uni-directional lavalier microphone, bodypack transmitter and tuner module
- Suitable for use in PA systems
- Tuner modules can be installed into the SRP-X700P/X351P presentation mixer (max. two units), and a maximum of six modules can be installed in the MB-806A tuner base unit
- The transmitter and tuner module operate over a wide 24 MHz frequency band within the range of 838 MHz to 862 MHz
- The bodypack transmitter incorporates selectable RF-output level (5 mW or 30 mW), and adjustable audio-attenuator level
- The tuner module incorporates a space diversity reception system and an RF squelch function
- Approx. six hours of continuous operation with two AA-size (LR6) alkaline batteries on the transmitter
- An LCD screen on the transmitter provides extensive information: operating channel/frequency, attenuator level, RF-output level setting (Low/High), audio-input status, RF-output status, transmitter-battery status and accumulated operating time
- An LCD screen on the tuner provides extensive information: operating channel/frequency, audio-output status and RF-input level
- The bodypack transmitter is equipped with a 3.5 mm dia., 3-pole mini-jack input connector with a lock mechanism, which accepts the output of any lavalier microphone equipped with a 3.5 mm dia. mini plug, as well as the output of the supplied lavalier microphone



## Supplied Accessories

- Windscreen (1)
- Microphone-holder clip (1)
- Belt clip (1)

## Specifications

### Lavalier Microphone

- Microphone capsule: Uni-directional, electret condenser type

### Bodypack Transmitter

- Oscillator: Crystal-controlled PLL synthesizer
- Type of emission: F3E
- Carrier frequencies: 838 MHz to 862 MHz (TV channels 67 to 69)
- RF power output: 30 mW or 5 mW (selectable)
- Antenna: 1/4 λ wave length wire
- Pilot tone signal: 32 kHz
- System frequency response: 50 Hz to 18 kHz (typical)
- Reference deviation: ±5 kHz (-60 dBV\*, 1kHz input)
- System signal-to-noise ratio: 60 dB or more (±5 kHz deviation at 1 kHz modulation, A-weighted)
- Audio attenuator adjustable range: 0 to 21 dB (in 3 dB steps)
- Audio input level: -60 dBV\* (at 0 dB attenuator level)
- Audio input connector: 3.5 mm (5/32 inch) dia., 3-pole mini jack

## Indicators

- LCD: Operating channel number/frequency, attenuator level, RF-output level (High/Low), audio input status, RF-output status, transmitter battery status, and accumulated operating time
- LED: Power status
- Power requirements: DC 3.0 V (with two AA-size alkaline (LR6) batteries)
- Battery life: Approx. 6 hours with Sony AA-size alkaline (LR6) batteries at 25 °C (77 °F) at 30 mW output
- Dimensions: 63 (W) x 100 (H) x 27 (D) mm (2 1/2 x 4 x 1 1/8 inches)
- Mass: Approx. 140 g (4.9 oz) including batteries

### Tuner Module

- Oscillator: Crystal-controlled PLL synthesizer
- Type of reception: Space diversity
- Receiving frequencies: 838 MHz to 862 MHz (TV channels 67 to 69)
- Antenna: 1/4 λ wave length wire
- Pilot-tone signal: 32 kHz
- RF squelch level: 25 dBμ
- System frequency response: 50 Hz to 18 kHz (typical)

## Reference deviation:

- ±5 kHz (at 1kHz modulation)
- System signal-to-noise ratio: 60 dB or more (±5 kHz deviation at 1 kHz modulation, A-weighted)
- Indicators: LCD: Operating channel number/frequency, audio-output status, RF-input level; LED: RF-input status
- Power requirements: DC 9.0 V
- Dimensions: 56.6 (W) x 25.5 (H) x 121.0 (D) mm (2 1/2 x 1 1/16 x 4 7/8 inches)
- Mass: Approx. 150 g (5.3 oz)

\*0 dBV = 1 Vrms

# UWP-X2/62 UHF Synthesized Wireless Microphone Package (62CE7)

## Features

- Consists of a handheld microphone and tuner module
- Suitable for use in PA systems
- Tuner modules can be installed into the SRP-X700P/X351P presentation mixer (max. two units), and a maximum of six modules can be installed in the MB-806A tuner base unit
- The microphone and tuner module operate over a wide 24 MHz frequency band within the range of 798 MHz to 822 MHz
- The uni-directional, dynamic microphone incorporates selectable RF-output level (5 mW or 30 mW), and adjustable audio-attenuator level
- The tuner module incorporates a space diversity reception system and an RF squelch function
- Approx. six hours of continuous operation with two AA-size (LR6) alkaline batteries on the microphone
- An internal LCD screen on the microphone provides extensive information: operating channel/frequency, attenuator level, RF-output level setting (Low/High), audio-input status, RF-output status, transmitter-battery status and accumulated operating time
- An LCD screen on the tuner provides extensive information: operating channel/frequency, audio-output status and RF-input level



## Supplied Accessories

- Microphone holder (1)
- Screw adaptor (for use in combination with the microphone holder) (1)

## Specifications

### Handheld Microphone

- Oscillator: Crystal-controlled PLL synthesizer
- Type of emission: F3E
- Carrier frequencies: 798 MHz to 822 MHz (TV channels 62 to 64)
- RF power output: 30 mW or 5 mW (selectable)
- Antenna: 1/4 λ wave length wire
- Pilot tone signal: 32 kHz
- System frequency response: 100 Hz to 18 kHz (typical)
- Reference deviation: ±5 kHz (94 dB SPL\*, 1kHz input)
- System signal-to-noise ratio: 60 dB or more (±5 kHz deviation at 1 kHz modulation, A-weighted)
- Microphone capsule: Dynamic capsule (uni-directional)
- Audio attenuator adjustable range: 0 to 21 dB (in 3 dB steps)
- Max. input sound pressure level: 151 dB SPL\* (at 21 dB attenuator level)
- Indicators: LCD: Operating channel number/frequency, attenuator level, RF-output level (High/Low), audio input status, RF-output status, transmitter battery status, and accumulated operating time  
LED: Power status
- Power requirements: DC 3.0 V (with two AA-size alkaline (LR6) batteries)

- Battery life: Approx. 6 hours with Sony AA-size alkaline (LR6) batteries at 25 °C (77 °F) at 30 mW output

- Dimensions: 52 dia. x 240 mm (2 1/8 dia. x 9 1/2 inches)

- Mass: Approx. 300 g (10.6 oz) including batteries

### Tuner Module

- Oscillator: Crystal-controlled PLL synthesizer
- Type of reception: Space diversity
- Receiving frequencies: 798 MHz to 822 MHz (TV channels 62 to 64)
- Antenna: 1/4 λ wave length wire
- Pilot-tone signal: 32 kHz
- RF squelch level: 25 dBμ
- System frequency response: 100 Hz to 18 kHz (typical)
- Reference deviation: ±5 kHz (at 1kHz modulation)
- System signal-to-noise ratio: 60 dB or more (±5 kHz deviation at 1 kHz modulation, A-weighted)
- Indicators: LCD: Operating channel number/frequency, audio-output status, RF-input level  
LED: RF-input status
- Power requirements: DC 9.0 V
- Dimensions: 56.6 (W) x 25.5 (H) x 121.0 (D) mm (2 1/2 x 1 1/16 x 4 7/8 inches)
- Mass: Approx. 150 g (5.3 oz)

\*0 dBV = 1 Vrms

# UWP-X2/67 UHF Synthesized Wireless Microphone Package (67CE7)

## Features

- Consists of a handheld microphone and tuner module
- Suitable for use in PA systems
- Tuner modules can be installed into the SRP-X700P/X351P presentation mixer (max. two units), and a maximum of six modules can be installed in the MB-806A tuner base unit
- The microphone and tuner module operate over a wide 24 MHz frequency band within the range of 838 MHz to 862 MHz
- The uni-directional, dynamic microphone incorporates selectable RF-output level (5 mW or 30 mW), and adjustable audio-attenuator level
- The tuner module incorporates a space diversity reception system and an RF squelch function
- Approx. six hours of continuous operation with two AA-size (LR6) alkaline batteries on the microphone
- An internal LCD screen on the microphone provides extensive information: operating channel/frequency, attenuator level, RF-output level setting (Low/High), audio-input status, RF-output status, transmitter-battery status and accumulated operating time
- An LCD screen on the tuner provides extensive information: operating channel/frequency, audio-output status and RF-input level



## Supplied Accessories

- Microphone holder (1)
- Screw adaptor (for use in combination with the microphone holder) (1)

## Specifications

### Handheld Microphone

- Oscillator: Crystal-controlled PLL synthesizer
- Type of emission: F3E
- Carrier frequencies: 838 MHz to 862 MHz (TV channels 67 to 69)
- RF power output: 30 mW or 5 mW (selectable)
- Antenna: 1/4 λ wave length wire
- Pilot tone signal: 32 kHz
- System frequency response: 100 Hz to 18 kHz (typical)
- Reference deviation: ±5 kHz (94 dB SPL\*, 1kHz input)
- System signal-to-noise ratio: 60 dB or more (±5 kHz deviation at 1 kHz modulation, A-weighted)
- Microphone capsule: Dynamic capsule (uni-directional)
- Audio attenuator adjustable range: 0 to 21 dB (in 3 dB steps)
- Max. input sound pressure level: 151 dB SPL\* (at 21 dB attenuator level)
- Indicators: LCD: Operating channel number/frequency, attenuator level, RF-output level (High/Low), audio input status, RF-output status, transmitter battery status, and accumulated operating time  
LED: Power status
- Power requirements: DC 3.0 V (with two AA-size alkaline (LR6) batteries)

- Battery life: Approx. 6 hours with Sony AA-size alkaline (LR6) batteries at 25 °C (77 °F) at 30 mW output
- Dimensions: 52 dia. x 240 mm (2 1/8 dia. x 9 1/2 inches)
- Mass: Approx. 300 g (10.6 oz) including batteries
- Tuner Module**
- Oscillator: Crystal-controlled PLL synthesizer
- Type of reception: Space diversity
- Receiving frequencies: 838 MHz to 862 MHz (TV channels 67 to 69)
- Antenna: 1/4 λ wave length wire
- Pilot-tone signal: 32 kHz
- RF squelch level: 25 dBμ
- System frequency response: 100 Hz to 18 kHz (typical)
- Reference deviation: ±5 kHz (at 1kHz modulation)
- System signal-to-noise ratio: 60 dB or more (±5 kHz deviation at 1 kHz modulation, A-weighted)
- Indicators: LCD: Operating channel number/frequency, audio-output status, RF-input level  
LED: RF-input status
- Power requirements: DC 9.0 V
- Dimensions: 56.6 (W) x 25.5 (H) x 121.0 (D) mm (2 1/2 x 1 1/16 x 4 7/8 inches)
- Mass: Approx. 150 g (5.3 oz)
- \*0 dBV = 1 Vrms

## WD-850A UHF Antenna Divider (758 MHz to 862 MHz)

### Features

- Provides diversity output for up to four receivers
- Multi-channel operation by combination with tuners such as the MB-8N and WRU-8N, or MB-806A and WRU-806/806B
- Cascade output can be used for an additional antenna divider or receiver
- Two pairs of antenna input connectors for up to four AN-820A antennas to expand the operating area of a wireless microphone system
- DC 9V power supply for the AN-820A UHF antennas via coaxial cable



Supplied Accessories  
50 ohms BNC terminators (6)

Dimensions (W x H x D):  
482 x 44 x 300 mm  
(19 x 1 3/4 x 11 7/8 inches)

### Specifications

Frequency range:  
758 MHz to 862 MHz

Mass:  
4.2 kg (9 lb 4 oz)

Channel distribution:

Inputs: 2 pairs  
Outputs: 4 pairs

Input/output Impedance:

50  $\Omega$

Cascade output:

1 pair

Power supply for antenna booster (supplied from antenna input connectors):

DC 9 V

Power consumption:

6 W +outlet 300 W max.

# WRR-855B/62 UHF Synthesized Diversity Tuner (62CE7)

## Features

- Slot-in type space diversity tuner designed for use with Sony Betacam SX camcorders and HDCAM camcorder (HDW-750 only)
- Weatherproof structure
- Compact design and lightweight design; 280 g (9.9 oz)
- A D-sub 15-pin connector for audio output to a Sony professional camcorder and for receiving its power supply from the HDCAM camcorder (HDW-750 only) or Betacam SX camcorder
- Operates in the 798 MHz to 822 MHz (TV channels 62 to 64) UHF frequency band
- LED indicators for AF/RF conditions
- LCD indicator for operating channel
- Switchable RF muting; ON (10 dB $\mu$ ) or OFF
- Use of the CA-WR855 (optional camera adaptor) allows the WRR-855B to be mounted on Sony DSR-300/500WS DVCAM camcorders and powered from the camcorder.



## Supplied Accessories

Antenna (2)

## Specifications

Receiving channel:

1 channel

Receiving frequency:

798 MHz to 822 MHz

Oscillator:

1st: PLL synthesizer, 2nd: Crystal oscillator

De-emphasis:

50  $\mu$ s

Reference deviation:

$\pm$ 5 kHz deviation at 1 kHz modulation  
(Max. deviation:  $\pm$ 40 kHz modulation)

Selectivity:

60 dB or more at  $\pm$ 250 kHz

Spurious rejection:

80 dB or more

Frequency range:

40 to 18 kHz (typical)

Signal-to-noise ratio:

60 dB or more at 60 dB $\mu$  RF input at reference deviation, A-weighted

RF muting level:

10 dB $\mu$  or OFF selectable

Audio output level:

-40 dBm at reference deviation

Audio output connector:

D-sub 15-pin (1), balanced

Antenna connector:

BNC-R type (2), 50  $\Omega$  (nominal) impedance

Operating voltage:

DC 7 V

Current consumption:

200 mA or less at external DC 7 V

Dimensions (W x H x D):

88.0 x 119.0 x 31.3 mm  
(3 1/2 x 4 3/4 x 1 1/4 inches)

Mass:

280 g (9.9 oz)



### BTA-801: Camera mount adaptor

Use of the BTA-801 (optional portable tuner mount adaptor) allows the WRR-855B to be mounted on Sony professional camcorders and powered from the camcorder via a DC cable supplied with BTA-801

## WRR-855B/67 UHF Synthesized Diversity Tuner (67CE7)

### Features

- Slot-in type space diversity tuner designed for use with Sony Betacam SX camcorders and HDCAM camcorder (HDW-750 only)
- Weatherproof structure
- Compact design and lightweight design; 280 g (9.9 oz)
- A D-sub 15-pin connector for audio output to a Sony professional camcorder and for receiving its power supply from the HDCAM camcorder (HDW-750 only) or Betacam SX camcorder
- Operates in the 838 MHz to 862 MHz UHF frequency band (TV channels 67 and 69)
- LED indicators for AF/RF conditions
- LCD indicator for operating channel
- Switchable RF muting; ON (10 dB $\mu$ ) or OFF
- Use of the CA-WR855 (optional camera adaptor) allows the WRR-855B to be mounted on Sony DSR-300/500WS DVCAM camcorders and powered from the camcorder.

### Supplied Accessories

Antenna (2)

### Optional Accessories

CA-WR855 Camera Adaptor

BTA-801 Portable Tuner Mount Adaptor

### Specifications

Receiving channel number:

1 channel

Receiving frequency:

838 MHz to 862 MHz

Oscillator:

1st: PLL synthesizer, 2nd: Crystal oscillator

De-emphasis:

50  $\mu$ s

Reference deviation:

$\pm 5$  kHz deviation at 1 kHz modulation  
(Max. deviation:  $\pm 40$  kHz modulation)

Selectivity:

60 dB or more at  $\pm 250$  kHz

Spurious rejection:

80 dB or more

Frequency range:

40 to 18 kHz (typical)

Signal-to-noise ratio:

60 dB or more at 60 dB $\mu$  RF input at reference deviation, A-weighted

RF muting level:

10 dB $\mu$  or OFF selectable

Audio output level:

-40 dBm at reference deviation

Audio output connector:

D-sub 15-pin (1), balanced

Antenna connector:

BNC-R type (2), 50  $\Omega$  (nominal) impedance

Operating voltage:

DC 7 V

Current consumption:

200 mA or less at external DC 7 V

Dimensions (W x H x D):

88.0 x 119.0 x 31.3 mm  
(3 1/2 x 4 3/4 x 1 1/4 inches)

Mass:

280 g (9.9 oz)



### BTA-801: Camera mount adaptor

Use of the BTA-801 (optional portable tuner mount adaptor) allows the WRR-855B to be mounted on Sony professional camcorders and powered from the camcorder via a DC cable supplied with BTA-801



# WRR-862B/62 UHF Synthesized Dual Diversity Tuner (62CE7)

## Features

- Receives two independent RF signals on two separate channels
- Operates over a 24 MHz frequency band within the range of 798 MHz to 822 MHz (TV channels 62 to 64)
- A space diversity system is employed on both channels to eliminate signal dropout and provide stable reception
- Compact and lightweight body; 400 g (14.1 oz ) including batteries
- Easily mounts on Sony professional camcorders with the supplied attachment kit and case (\*)
- Two SMC9-4S (Sony 4-pin) audio output connectors on the top panel
- Rugged, diecast magnesium frame
- LED indicators for each channel to indicate RF input level (green/red indication), diversity reception status and transmitter battery alarm
- LCD screen for each channel to indicate operating channel/frequency, AF output level, RF input level, receiver battery status and accumulated battery operating time
- Five hours of continuous operation with four AA-size (LR6) alkaline batteries
- Capable of operating on external power from Sony camcorders via the supplied DC cable
- Selectable RF squelch threshold: 5 dB $\mu$ , 10 dB $\mu$ , 15 dB $\mu$  and OFF
- A stereo mini jack for monitoring the output sound (switchable: Tuner 1/2/mixed) with headphones (A monitor volume control is also included.)

(\*) A-8278-057-A mounting bracket (service part) may also be required.



## Applicable Models

- DVW-790P Digital Betacam Camcorder
- MSW-970P MPEG IMX Camcorder
- PDW-510 XDCAM Camcorder (DVCAM Recording)
- PDW-530 XDCAM Camcorder (MPEG IMX/DVCAM Recording)

## Supplied Accessories

- Attachment case (1)
- Mounting plate (1)
- DC cable (1)
- Output cable (2)
- Antenna (2)

## Specifications

- Receiving channel number: 2 channels
- Receiving frequencies: 2 frequencies within 798 MHz to 822 MHz
- Local oscillators: 1st: PLL synthesizer, 2nd: Crystal oscillator
- De-emphasis: 50  $\mu$ s
- System dynamic range: 96 dB or more (101 dB typical)
- Reference deviation:  $\pm$ 5 kHz deviation at 1 kHz modulation (Max. deviation:  $\pm$ 40 kHz deviation at 1 kHz modulation)
- Selectivity: 60 dB or more at  $\pm$ 250 kHz
- Spurious rejection: 70 dB or more
- Frequency response: 40 Hz to 18 kHz (typical)

- Signal-to-noise ratio: 60 dB or more (65 dB typical) at 60 dB $\mu$  RF input at reference deviation, A-weighted
- RF squelch level: 5 dB $\mu$ , 10 dB $\mu$ , 15 dB $\mu$  or OFF
- Audio output level: -58 dBm at reference deviation
- Audio output connector: SMC9-4S (Sony 4-pin, x 2), balanced
- Antenna connector: BNC-R (x 2), 50  $\Omega$  (nominal) impedance
- Monitor output: 3.5 mm dia. mini jack (x 1, 5 mW), Tuner 1/2/mixed selectable
- Operating voltage: Batteries: DC 6 V (four AA-size (LR6) alkaline batteries) External: DC 12 V
- Battery life: Approx. 5 hours with Sony AA-size (LR6) alkaline batteries at 25 °C (77 °F)
- Power consumption: Batteries: approx. 230 mA at DC 6 V External: approx. 135 mA at DC 12 V
- Dimensions (W x H x D): 89.0 x 120.0 x 29.5 mm (3 5 / 8 x 4 3 / 4 x 1 3 / 16 inches)
- Mass: Approx. 400 g (14.1 oz) including batteries

# WRR-862B/67 UHF Synthesized Dual Diversity Tuner (67CE7)

## Features

- Receives two independent RF signals on two separate channels
- Operates over a 24 MHz frequency band within the range of 838 MHz to 862 MHz (TV channels 67 to 69)
- A space diversity system is employed on both channels to eliminate signal dropout and provide stable reception
- Compact and lightweight body; 400 g (14.1 oz ) including batteries
- Easily mounts on Sony professional camcorders with the supplied attachment kit and case (\*)
- Two SMC9-4S (Sony 4-pin) audio output connectors on the top panel
- Rugged, diecast magnesium frame
- LED indicators for each channel to indicate RF input level (green/red indication), diversity reception status and transmitter battery alarm
- LCD screen for each channel to indicate operating channel/frequency, AF output level, RF input level, receiver battery status and accumulated battery operating time
- Five hours of continuous operation with four AA-size (LR6) alkaline batteries
- Capable of operating on external power from Sony camcorders via the supplied DC cable
- Selectable RF squelch threshold: 5 dB $\mu$ , 10 dB $\mu$ , 15 dB $\mu$  and OFF
- A stereo mini jack for monitoring the output sound (switchable: Tuner 1/2/mixed) with headphones (A monitor volume control is also included.)



(\*) A-8278-057-A mounting bracket (service part) may also be required.

## Supplied Accessories

- Attachment case (1)
- Mounting plate (1)
- DC cable (1)
- Output cable (2)
- Antenna (2)

## Specifications

- Receiving channel number:
  - 2 channels
- Receiving frequencies:
  - 2 frequencies within 838 MHz to 862 MHz
- Local oscillators:
  - 1st: PLL synthesizer, 2nd: Crystal oscillator
- De-emphasis:
  - 50  $\mu$ s
- System dynamic range:
  - 96 dB or more (101 dB typical)
- Reference deviation:
  - $\pm$ 5 kHz deviation at 1 kHz modulation
  - (Max. deviation:  $\pm$ 40 kHz deviation at 1 kHz modulation)
- Selectivity:
  - 60 dB or more at  $\pm$ 250 kHz
- Spurious rejection:
  - 70 dB or more
- Frequency response:
  - 40 Hz to 18 kHz (typical)
- Signal-to-noise ratio:
  - 60 dB or more (65 dB typical) at 60 dB $\mu$
  - RF input at reference deviation, A-weighted
- RF squelch level:
  - 5 dB $\mu$ , 10 dB $\mu$ , 15 dB $\mu$  or OFF
- Audio output level:
  - 58 dBm at reference deviation

- Audio output connector:
  - SMC9-4S (Sony 4-pin, x 2), balanced
- Antenna connector:
  - BNC-R (x 2), 50  $\Omega$  (nominal) impedance
- Monitor output:
  - 3.5 mm dia. mini jack (x 1, 5 mW), Tuner 1/2/mixed selectable
- Operating voltage:
  - Batteries: DC 6 V (four AA-size (LR6) alkaline batteries)
  - External: DC 12 V
- Battery life:
  - Approx. 5 hours with Sony AA-size (LR6) alkaline batteries at 25 °C (77 °F)
- Power consumption:
  - Batteries: approx. 230 mA at DC 6 V
  - External: approx. 135 mA at DC 12 V
- Dimensions (W x H x D):
  - 89.0 x 120.0 x 29.5 mm
  - (3 5/8 x 4 3/4 x 1 3/16 inches)
- Mass:
  - Approx. 400 g (14.1 oz) including batteries

## WRT-807B/62 UHF Synthesized Wireless Microphone (62CE7)

### Features

- Dynamic microphone capsule that is employed in the Sony F-780 professional vocal microphone
- High sound quality for vocals — powerful, crisp and clean sound
- Operates over a 24 MHz frequency band within the range of 798 to 822 MHz (TV channels 62 to 64)
- LCD for display of operating channel, AF/RF conditions, attenuator, battery status and accumulated operating hours
- Up to 5 hours of continuous operation with one AA-size (LR6) battery
- 10 mW RF power output
- Lockable external power switch
- Transmits a low battery alarm to most Sony receivers



### Supplied Accessories

- Microphone holder (PF1/2 thread) (1)
- Metal screw adaptor (PF1/2 to W3/8) (1)

### Specifications

#### Oscillator:

Crystal controlled PLL synthesizer

#### Type of emission:

110KF3E

#### Carrier frequencies:

798 to 822 MHz

#### Microphone capsule:

Dynamic

#### Directivity:

Uni-directional

#### RF power output:

10 mW (50  $\Omega$  load)

#### Antenna:

1/4 wave length wire antenna

#### Reference deviation:

$\pm 5$  kHz (94 dB SPL\*, at 1 kHz)

#### Frequency response:

50 Hz to 15 kHz (typical)

#### Signal-to-noise ratio (A-weighted):

60 dB or more (A-weighted, at reference deviation)

#### Attenuator adjustment range (PAD):

0 dB to 21 dB, variable in 3 dB steps

#### Max. input sound pressure level:

151 dB SPL\* (with 21 dB attenuator)

#### Operating voltage:

DC 1.5 V (one AA-size (LR6) alkaline battery)

#### Battery life:

Approx. 5 hours with Sony AA-size (LR6) alkaline battery at 25 °C (77 °F)

#### Dimensions (diameter x length):

51 x 238 mm (2 1/8 x 9 3/8 inches)

#### Mass:

440 g (15.5 oz) including battery

\*0 dB SPL = 2E-5 Pa.

## WRT-807B/67 UHF Synthesized Wireless Microphone (67CE7)

### Features

- Dynamic microphone capsule that is employed in the Sony F-780 professional vocal microphone
- High sound quality for vocals — powerful, crisp and clean sound
- Operates over a 24 MHz frequency band within the range of 838 MHz to 862 MHz (TV channels 66 to 67)
- LCD for display of operating channel, AF/RF conditions, attenuator, battery status and accumulated operating hours
- Up to 5 hours of continuous operation with one AA-size (LR6) battery
- 10 mW RF power output
- Lockable external power switch
- Transmits a low battery alarm to most Sony receivers



### Supplied Accessories

- Microphone holder (PF1/2 thread) (1)
- Metal screw adaptor (PF1/2 to W3/8) (1)

### Specifications

#### Oscillator:

Crystal controlled PLL synthesizer

#### Type of emission:

110KF3E

#### Carrier frequencies:

838 MHz to 862 MHz

#### Microphone capsule:

Dynamic

#### Directivity:

Uni-directional

#### RF power output:

10 mW (50  $\Omega$  load)

#### Antenna:

1/4 wave length wire antenna

#### Reference deviation:

$\pm 5$  kHz (94 dB SPL\*, at 1 kHz)

#### Frequency response:

50 Hz to 15 kHz (typical)

#### Signal-to-noise ratio (A-weighted):

60 dB or more (A-weighted, at reference deviation)

#### Attenuator adjustment range (PAD):

0 dB to 21 dB, variable in 3 dB steps

#### Max. input sound pressure level:

151 dB SPL\* (with 21 dB attenuator)

#### Operating voltage:

DC 1.5 V (one AA-size (LR6) alkaline battery)

#### Battery life:

Approx. 5 hours with Sony AA-size (LR6) alkaline battery at 25 °C (77 °F)

#### Dimensions (diameter x length):

51 x 238 mm (2 1/8 x 9 3/8 inches)

#### Mass:

440 g (15.5 oz) including battery

\*0 dB SPL = 2E-5 Pa.

## WRT-822B/62 UHF Synthesized Wireless Transmitter (62CE7)

### Features

- Approx. six hours of continuous operation with two AA-size (LR6) alkaline batteries
- Compact and lightweight body; 63 (W) x 103 (H) x 17 (D) mm (2 1/2 x 4 1/8 x 11/18 inches)
- Operates over a 24 MHz frequency band within the range of 798 MHz to 822 MHz (TV channels 62 to 64)
- Easy-to-read LCD for comprehensive system information such as channel number, channel frequency in MHz, AF, RF, attenuator, battery status, accumulated working time
- 20 mW RF power output
- Accepts professional lavalier microphones fitted with SMC9-4P type connector

### Supplied Accessories

Soft case (1)

### Optional Accessories

ECM-350BC Headset Microphone  
ECM-310BC Headset Microphone  
ECM-77BC Lavalier Microphone  
ECM-77SC Lavalier Microphone  
ECM-77FC Lavalier Microphone  
ECM-66BC Lavalier Microphone  
ECM-55BC Lavalier Microphone  
ECM-44BC Lavalier Microphone

### Specifications

#### Oscillator:

Crystal controlled PLL synthesizer

#### Type of emission:

110KF3E

#### Carrier frequency:

798 MHz to 822 MHz

#### RF power output:

20 mW (50  $\Omega$  load)

#### Antenna:

1/4 wave length whip antenna

#### Reference deviation:

$\pm 5$  kHz (-60 dBV, 1 kHz)

#### Frequency response:

70 Hz to 15 kHz (typical)

#### Signal-to-noise ratio:

60 dB (A-weighted, at reference deviation)

#### Attenuator adjustment range (pad):

0 to 21 dB, variable in 3 dB steps

#### Max. input level:

-3 dBV (with 21 dB attenuator)

#### Operating voltage:

DC 3 V (two AA-size (LR6) alkaline batteries)

#### Battery life:

Approx. 6 hours with Sony AA-size (LR6) alkaline batteries at 25 °C (77 °F)

#### Dimensions:

63 (W) x 103 (H) x 17 (D) mm  
(2 1/2 x 4 1/8 x 11/16 inches)

#### Mass:

145 g (5.1 oz) including batteries



\* 0 dBV = 1 V<sub>r.m.s.</sub>

## WRT-822B/67 UHF Synthesized Wireless Transmitter (67CE7)

### Features

- Approx. six hours of continuous operation with two AA-size (LR6) alkaline batteries
- Compact and lightweight body; 63 (W) x 103 (H) x 17 (D) mm (2 1/2 x 4 1/8 x 11/18 inches)
- Operates over a 24 MHz frequency band within the range of 838 MHz to 862 MHz (TV channels 67 to 69)
- Easy-to-read LCD for comprehensive system information such as channel number, channel frequency in MHz, AF, RF, attenuator, battery status, accumulated working time
- 20 mW RF power output
- Accepts professional lavalier microphones fitted with SMC9-4P type connector

### Supplied Accessories

Soft case (1)

### Optional Accessories

ECM-350BC Headset Microphone

ECM-310BC Headset Microphone

ECM-77BC Lavalier Microphone

ECM-77SC Lavalier Microphone

ECM-77FC Lavalier Microphone

ECM-66BC Lavalier Microphone

ECM-55BC Lavalier Microphone

ECM-44BC Lavalier Microphone

### Specifications

#### Oscillator:

Crystal controlled PLL synthesizer

#### Type of emission:

110KF3E

#### Carrier frequency:

838 MHz to 862 MHz

#### RF power output:

20 mW (50  $\Omega$  load)

#### Antenna:

1/4 wave length whip antenna

#### Reference deviation:

$\pm 5$  kHz (-60 dBV, 1 kHz)

#### Frequency response:

70 Hz to 15 kHz (typical)

#### Signal-to-noise ratio:

60 dB (A-weighted, at reference deviation)

#### Attenuator adjustment range (pad):

0 to 21 dB, variable in 3 dB steps

#### Max. input level:

-3 dBV (with 21 dB attenuator)

#### Operating voltage:

DC 3 V (two AA-size (LR6) alkaline batteries)

#### Battery life:

Approx. 6 hours with Sony AA-size (LR6) alkaline batteries at 25 °C (77 °F)

#### Dimensions:

63 (W) x 103 (H) x 17 (D) mm  
(2 1/2 x 4 1/8 x 11/16 inches)

#### Mass:

145 g (5.1 oz) including batteries

\* 0 dBV = 1 V<sub>r.m.s.</sub>



# WRT-847B/62 UHF Synthesized Transmitter Unit (62CE7)

## Features

- A choice of five optional microphone capsules, each with specific characteristics to suit a range of different applications (one capsule is required for the WRT-847B for function.)
- Switchable audio compander time constant to suit different capsules
- Selectable RF output level: 10 mW or 50 mW
- Audio gain and attenuation settings within the range of +9 dB to -12 dB in 3 dB steps
- Operates over a 24 MHz frequency band within the range of 798 MHz to 822 MHz (TV channels 62 and 64)
- Lockable external power switch (ON/OFF)
- Easy-to-read LCD with back light indicates operating conditions such as channel number/frequency, audio input level, compander time constant, battery status and accumulated battery operating time
- Eight hours of continuous operation with two AA-size (LR6) alkaline batteries
- Transmits a low battery warning to most Sony receivers



## Supplied Accessories

- Microphone holder (1)
- Stand adaptor (PF1/2 to NS5/8 type) (1)
- Soft case (1)
- Channel color seal (1)

## Optional Accessories

- CU-F780 Capsule Unit
- CU-G780 Capsule Unit
- CU-E700 Capsule Unit
- CU-E672 Capsule Unit
- CU-F117 Capsule Unit

## Specifications

- Oscillator: Crystal controlled PLL synthesizer
- Type of emission: 110KF3E
- Carrier frequencies: 798 MHz to 822 MHz
- RF power output: 10 mW/50 mW selectable (50 Ω load)
- Type of antenna: 1/4 wave length whip antenna
- Pre-emphasis: 50 μs
- Reference deviation: ±5 kHz (94 dB SPL\*, 1kHz)
- Frequency response: 50 Hz to 18 kHz (typical)
- Signal to noise ratio: 60 dB or more (A-weighted, at reference deviation)

- Audio gain control: -12 dB to 9 dB (in 3 dB steps)
- Max. input sound pressure level: 142 dB SPL\* (with CU-F780/G780/E700/F117 at audio gain -12 dB) 120 dB SPL\* (with CU-E672)
- Power requirements: DC 3.0 V (two LR6 AA-size alkaline batteries)
- Battery life: Approx. 8 hours at 25°C (77°F) with Sony AA-size (LR6) alkaline batteries, at 10 mW RF output
- Dimensions (diameter x length): 37 x 150 mm (1 1/2 x 6 inches)
- Mass: Approx. 190 g (6.7 oz) including batteries

\* 0 dB SPL = 2E-5 Pa.

# WRT-847B/67 UHF Synthesized Transmitter Unit

## Features

- A choice of five optional microphone capsules, each with specific characteristics to suit a range of different applications (one capsule is required for the WRT-847B for function.)
- Switchable audio compander time constant to suit different capsules
- Selectable RF output level: 10 mW or 50 mW
- Audio gain and attenuation settings within the range of +9 dB to -12 dB in 3 dB steps
- Operates over a 24 MHz frequency band within the range of 838 MHz to 862 MHz (TV channels 67 and 69)
- Lockable external power switch (ON/OFF)
- Easy-to-read LCD with back light indicates operating conditions such as channel number/frequency, audio input level, compander time constant, battery status and accumulated battery operating time
- Eight hours of continuous operation with two AA-size (LR6) alkaline batteries
- Transmits a low battery warning to most Sony receivers



## Supplied Accessories

- Microphone holder (1)
- Stand adaptor (PF1/2 to NS5/8 type) (1)
- Soft case (1)
- Channel color seal (1)

## Optional Accessories

- CU-F780 Capsule Unit
- CU-G780 Capsule Unit
- CU-E700 Capsule Unit
- CU-E672 Capsule Unit
- CU-F117 Capsule Unit

## Specifications

- Oscillator:
  - Crystal controlled PLL synthesizer
- Type of emission:
  - 110KF3E
- Carrier frequencies:
  - 838 MHz to 862 MHz
- RF power output:
  - 10 mW/50 mW selectable (50  $\Omega$  load)
- Type of antenna:
  - 1/4 wave length whip antenna
- Pre-emphasis:
  - 50  $\mu$ s
- Reference deviation:
  - $\pm$ 5 kHz (94 dB SPL\*, 1kHz)
- Frequency response:
  - 50 Hz to 18 kHz (typical)
- Signal to noise ratio:
  - 60 dB or more (A-weighted, at reference deviation)

- Audio gain control:
  - 12 dB to 9 dB (in 3 dB steps)
- Max. input sound pressure level:
  - 142 dB SPL\* (with CU-F780/G780/E700/F117 at audio gain -12 dB)
  - 120 dB SPL\* (with CU-E672)
- Power requirements:
  - DC 3.0 V (two LR6 AA-size alkaline batteries)
- Battery life:
  - Approx. 8 hours at 25°C (77°F) with Sony AA-size (LR6) alkaline batteries, at 10 mW RF output
- Dimensions (diameter x length):
  - 37 x 150 mm (1 1/2 x 6 inches)
- Mass:
  - Approx. 190 g (6.7 oz) including batteries

\* 0 dB SPL = 2E-5 Pa.

## WRT-8B/62 UHF Synthesized Transmitter (62CE7)

### Features

- Extremely compact and lightweight: 140 g including batteries, 63 (W) x 83 (H) x 17 (D) mm
- Operates over a 24 MHz frequency band within the range of 798 MHz to 822 MHz (TV channels 62 to 64)
- Selectable RF output powers: 10 mW or 50 mW
- Switchable input level: LINE level or MIC level
- Variable audio attenuator
- Approx. 13 hours of continuous operation with two AA-size (LR6) alkaline batteries at 10 mW output (Approx. six hours of operation at 50 mW output)
- Removable antenna with SMA connector
- LCD screen indicates extensive information such as operating channel/frequency, audio input level, RF output level, transmitter battery status and accumulated operating time
- A red LED indicator flashes when the AF level exceeds a designated level
- Transmits a low battery warning to Sony receivers
- Rugged, die-cast magnesium frame
- Accepts the output of lavalier microphones fitted with a Sony SMC9-4P connector

### Supplied Accessories

Soft case (1)  
Spare battery case (1)  
Microphone cable (1)

### Optional Accessories

ECM-77BC Lavalier Microphone  
ECM-77FC Lavalier Microphone  
ECM-66BC Lavalier Microphone  
ECM-55BC Lavalier Microphone  
ECM-44BC Lavalier Microphone  
ECM-310BC Headset Microphone  
ECM-350BC Headset Microphone

### Specifications

#### Oscillator:

Crystal-controlled PLL synthesizer

#### Carrier frequencies:

798 MHz to 822 MHz

#### Oscillator:

Crystal controlled PLL synthesizer

#### RF power output:

50 mW/10 mW (e.r.p.) selectable

#### Antenna:

1/4 wavelength wire (SMA-J type connector)

#### Frequency response:

40 Hz to 20 kHz (typical)

#### Reference deviation:

±5 kHz (-60 dBV, 1 kHz input, MIC position)

±5 kHz (-20 dBu, 1 kHz input, LINE position)

#### Signal-to-noise ratio:

60 dB or more (A-weighted)

#### Attenuator adjustment range:

0 to 40 dB, continuous

#### Max. input level:

-2 dBV (1 kHz input, MIC position)

+38 dBu (1 kHz input, LINE position)

#### Audio input level:

MIC level/LINE level switchable

#### Audio input connector:

Sony SMC9-4S type

#### Power requirements:

DC 3.0 V (with two LR6 alkaline batteries)

#### Battery life:

Approx. 6 hours with Sony LR6 alkaline

batteries at 25 °C (77 °F) at 50 mW output

Approx. 13 hours with Sony LR6 alkaline

batteries at 25 °C (77 °F) at 10 mW output

#### Dimensions:

63 (W) x 83 (H) x 17 (D) mm

(2 1/2 x 3 3/8 x 11/16 inches)

#### Mass:

Approx. 140 g (4.9 oz) including batteries





## WRT-8B/67 UHF Synthesized Transmitter (67CE7)

### Features

- Extremely compact and lightweight: 140 g including batteries, 63 (W) x 83 (H) x 17 (D) mm
- Operates over a 24 MHz frequency band within the range of 838 MHz to 862 MHz (TV channels 67 to 69)
- Selectable RF output powers: 10 mW or 50 mW
- Switchable input level: LINE level or MIC level
- Variable audio attenuator
- Approx. 13 hours of continuous operation with two AA-size (LR6) alkaline batteries at 10 mW output (Approx. six hours of operation at 50 mW output)
- Removable antenna with SMA connector
- LCD screen indicates extensive information such as operating channel/frequency, audio input level, RF output level, transmitter battery status and accumulated operating time
- A red LED indicator flashes when the AF level exceeds a designated level
- Transmits a low battery warning to Sony receivers
- Rugged, die-cast magnesium frame
- Accepts the output of lavalier microphones fitted with a Sony SMC9-4P connector

### Supplied Accessories

Soft case (1)  
Spare battery case (1)  
Microphone cable (1)

### Optional Accessories

ECM-77BC Lavalier Microphone  
ECM-77FC Lavalier Microphone  
ECM-66BC Lavalier Microphone  
ECM-55BC Lavalier Microphone  
ECM-44BC Lavalier Microphone  
ECM-310BC Headset Microphone  
ECM-350BC Headset Microphone

### Specifications

#### Oscillator:

Crystal-controlled PLL synthesizer

#### Carrier frequencies:

838 MHz to 862 MHz

#### Oscillator:

Crystal controlled PLL synthesizer

#### RF power output:

50 mW/10 mW (e.r.p.) selectable

#### Antenna:

1/4 wavelength wire (SMA-J type connector)

#### Frequency response:

40 Hz to 20 kHz (typical)

#### Reference deviation:

±5 kHz (-60 dBV, 1 kHz input, MIC position)

±5 kHz (-20 dBu, 1 kHz input, LINE position)

#### Signal-to-noise ratio:

60 dB or more (A-weighted)

#### Attenuator adjustment range:

0 to 40 dB, continuous

#### Max. input level:

-2 dBV (1 kHz input, MIC position)

+38 dBu (1 kHz input, LINE position)

#### Audio input level:

MIC level/LINE level switchable

#### Audio input connector:

Sony SMC9-4S type

#### Power requirements:

DC 3.0 V (with two LR6 alkaline batteries)

#### Battery life:

Approx. 6 hours with Sony LR6 alkaline batteries at 25 °C (77 °F) at 50 mW output

Approx. 13 hours with Sony LR6 alkaline batteries at 25 °C (77 °F) at 10 mW output

#### Dimensions:

63 (W) x 83 (H) x 17 (D) mm  
(2 1/2 x 3 3/8 x 11/16 inches)

#### Mass:

Approx. 140 g (4.9 oz) including batteries



## WRU-806B/62 UHF Synthesized Tuner Unit (62CE7)

### Features

- Dedicated plug-in diversity receiver for MB-806A tuner base unit
- Operates within the range of 798 MHz to 822 MHz (TV channels 62 and 64)
- Auto channel assignment for extra receiver modules with self-detection and skipping of unusable channels
- Pre-programmed groups for inter-modulation free operation of multi-channel system
- AF, RF and transmitter's low-battery alarm indication by both LED and LCD to double check operating condition
- Use of SAW filters for exceptional rejection of unwanted signals while maintaining the best signal integrity of the desired signals
- Space diversity reception for dependable RF reception



### Applicable Models

MB-806A UHF Tuner Base Unit

### Specifications

Receiving channel:

1 channel

Receiving frequency:

798 MHz to 822 MHz

Oscillator:

1st: PLL synthesizer, 2nd: Crystal oscillator

De-emphasis:

50  $\mu$ s

Reference Deviation:

$\pm$ 5 kHz deviation at 1 kHz modulation  
(Max. deviation:  $\pm$ 40 kHz deviation at 1 kHz modulation)

Selectivity:

60 dB or more at  $\pm$ 250 kHz

Spurious rejection ratio:

70 dB or more

Frequency range:

70 Hz to 18 kHz (typical)

Signal-to-noise ratio:

60 dB or more at 60 dB $\mu$  RF input at reference deviation, A-weighted

RF muting level:

30 dB $\mu$

Operating voltage:

DC 9 V

Current consumption:

225 mA or less

Dimensions (W x H x D):

57 x 26 x 122 mm  
(2 1/4 x 1 1/16 x 4 7/8 inches)

Mass:

160.0 g (5.7 oz)

## WRU-806B/67 UHF Synthesized Tuner Unit (67CE7)

### Features

- Dedicated plug-in diversity receiver for MB-806A tuner base unit
- Operates within the range of 822 MHz to 862 MHz (TV channels 67 and 69)
- Auto channel assignment for extra receiver modules with self-detection and skipping of unusable channels
- Pre-programmed groups for inter-modulation free operation of multi-channel system
- AF, RF and transmitter's low-battery alarm indication by both LED and LCD to double check operating condition
- Use of SAW filters for exceptional rejection of unwanted signals while maintaining the best signal integrity of the desired signals
- Space diversity reception for dependable RF reception



### Applicable Models

MB-806A UHF Tuner Base Unit

### Specifications

Receiving channel:

1 channel

Receiving frequency:

838 MHz to 862 MHz

Oscillator:

1st: PLL synthesizer, 2nd: Crystal oscillator

De-emphasis:

50  $\mu$ s

Reference Deviation:

$\pm$ 5 kHz deviation at 1 kHz modulation  
(Max. deviation:  $\pm$ 40 kHz deviation at 1 kHz modulation)

Selectivity:

60 dB or more at  $\pm$ 250 kHz

Spurious rejection ratio:

70 dB or more

Frequency range:

70 Hz to 18 kHz (typical)

Signal-to-noise ratio:

60 dB or more at 60 dB $\mu$  RF input at reference deviation, A-weighted

RF muting level:

30 dB $\mu$

Operating voltage:

DC 9 V

Current consumption:

225 mA or less

Dimensions (W x H x D):

57 x 26 x 122 mm  
(2 1/4 x 1 1/16 x 4 7/8 inches)

Mass:

160.0 g (5.7 oz)

## WRU-8N/62 UHF Synthesized Tuner Unit (62CE7)

### Features

- Plug-in diversity receiver for MB-8N Tuner Base Unit
- Jog dial control for channel number/group selection
- Operates over a 24 MHz frequency band within the range of 798 MHz to 822 MHz (TV channels 62 to 64)
- LCD screen displays operating channel/frequency and RF level
- LED indicators display space diversity reception status, AF input status and a low battery warning of Sony transmitters
- Auto channel assignment of additional receiver modules for instant programming of interference-free multi-channel operation
- Automatically skips unusable channels and assigns open channels
- Space diversity reception for stable RF reception



### Applicable Models

MB-8N Tuner Base Unit (U2)

### Specifications

Receiving channel:

1 channel

Receiving frequencies:

798 MHz to 822 MHz

Local oscillators:

PLL synthesizer

Reference deviation:

±5 kHz deviation at 1 kHz modulation

(Maximum deviation: ±40 kHz at 1 kHz

modulation)

Signal-to-noise ratio:

60 dB or more (65 dB typical) at 60 dBμ RF input at reference deviation, A-weighted

Selectivity:

60 dB or more at ±250

kHz detuned

RF squelch level:

10 dBμ, 20 dBμ, 30 dBμ or off

De-emphasis:

50 μs

Power consumption:

DC 5 V (supplied from MB-8N)

Dimensions (W x H x D):

56.0 x 30.7 x 149.0 mm

(2 1/4 x 1 1/4 x 5 7/8 inches)

Mass:

165 g (5.8 oz)

## WRU-8N/67 UHF Synthesized Tuner Unit (67CE7)

### Features

- Plug-in diversity receiver for MB-8N Tuner Base Unit
- Jog dial control for channel number/group selection
- Operates over a 24 MHz frequency band within the range of 838 MHz to 862 MHz (TV channels 67 to 69)
- LCD screen displays operating channel/frequency and RF level
- LED indicators display space diversity reception status, AF input status and a low battery warning of Sony transmitters
- Auto channel assignment of additional receiver modules for instant programming of interference-free multi-channel operation
- Automatically skips unusable channels and assigns open channels.
- Space diversity reception for stable RF reception



### Applicable Models

MB-8N Tuner Base Unit (U2)

### Specifications

Receiving channel:

1 channel

Receiving frequencies:

838 MHz to 862 MHz

Local oscillators:

PLL synthesizer

Reference deviation:

±5 kHz deviation at 1 kHz modulation

(Maximum deviation: ±40 kHz at 1 kHz

modulation)

Signal-to-noise ratio:

60 dB or more (65 dB typical) at 60 dBμ RF input at reference deviation, A-weighted

Selectivity:

60 dB or more at ±250 kHz detuned

RF squelch level:

10 dBμ, 20 dBμ, 30 dBμ or off

De-emphasis:

50 μs

Power consumption:

DC 5 V (supplied from MB-8N)

Dimensions (W x H x D):

56.0 x 30.7 x 149.0 mm

(2 1/4 x 1 1/4 x 5 7/8 inches)

Mass:

165 g (5.8 oz)

**SONY**

# Monitor Equipment

MDR-7502 ..... 392  
MDR-7505 ..... 393  
MDR-7506 ..... 394  
MDR-7509HD ..... 395

## MDR-7502 Stereo Headphones

### Features

- Designed to fit securely over the ear, these headphones ensure a high-degree of air-tightness and soundproofing
- The diaphragm, which is made of a high-molecule film, and the copper-clad aluminum voice coil reproduce high quality extended frequency sound
- Neodymium magnet is used to deliver deep bass and clear treble sound
- These headphones are equipped with a stereo unimatch plug which can be connected to a jack of either the mini or the phone type
- The headphone cord is a litz wire which reduces conductive loss at high frequencies

### Supplied Accessories

- Soft case (1)
- Gold-plated unimatch plug adaptor (1)

### Specifications

#### Type:

Supra-aural, closed

#### Driver units:

30 mm dia., dynamic type

#### Diaphragm:

PET

#### Magnet:

Neodymium

#### Impedance:

24  $\Omega$  at 1 kHz

#### Sensitivity:

100 dB/mW

#### Power handling capacity:

500 mW

#### Frequency response:

60 Hz to 18 kHz

#### Cord:

2 m cord with a gold-plated stereo mini plug cord

#### Mass (without cord):

150 g (5.2 oz)



## MDR-7505 Stereo Headphones

### Features

- Professional monitoring headphones for DJ, remix, and studio
- Swivel mechanism allows easy single sided monitoring in various wearing positions
- Round design of ear pads allows the DJs to listen in various positions, with consistent audio quality
- Acoustical characteristics is designed to position sound image very close to the ears, thus, enabling easy sound monitoring in noisy environment
- 40 mm driver unit for high quality sound
- Neodymium magnet for powerful bass and clear treble sound
- Reversible earcup design for easy single sided monitoring
- Coiled, LC-OFC cord for high quality transmission
- Screw type gold plated stereo unimatch plug for secure connection
- Convenient folding design

### Supplied Accessories

Soft case (1)

Gold-plated unimatch plug adaptor (1)

### Specifications

#### Type:

Supra-aural, closed

#### Driver units:

40 mm dia., dynamic type

#### Diaphragm:

PET

#### Magnet:

Neodymium

#### Impedance:

40  $\Omega$

#### Sensitivity:

106 dB/mW

#### Power handling capacity:

1,000 mW

#### Frequency response:

10 Hz to 25 kHz

#### Cord:

Coiled, single sided, 1 to 3 m LC-OFC litz cord with a gold plated stereo mini plug

#### Headband:

Wide single headband (folding mechanism)

#### Mass (without cord):

220 g (7.7 oz)



# MDR-7506 Stereo Headphones

### Features

- Professional monitoring headphones
- Comfortable, anatomic design (circum aural headphones, earcup covering the entire ear)
- 40 mm driver unit for high quality sound
- Neodymium magnet is used to deliver deep bass and clear treble sound
- Utilising diaphragms constructed of 16  $\mu\text{m}$  high-molecule film and copper-clad aluminum voice coil, these headphones deliver high quality sound along a wide frequency range
- The headphone cord is an oxygen-free copper litz wire which provides maximum conductivity
- The coiled headphone cord extends user's action radius to 3 metres
- Useful clicking scales on the slide bar
- Convenient folding design
- Self-closing mechanism prevents sound leakage when headphones are taken off

### Supplied Accessories

Soft case (1)

Gold-plated unimatch plug adaptor (1)

### Specifications

Type:

Circum-aural, closed

Driver units:

40 mm dia., dynamic type

Impedance:

63  $\Omega$  at 1 kHz

Sensitivity:

106 dB/mW

Power handling capacity:

1000 mW

Frequency response:

10 Hz to 20 kHz

Cord:

Coiled, single sided, 1 to 3 m OFC litz cord with a gold-plated stereo mini plug

Mass (without cord):

230 g (8.1 oz)





## MDR-7509HD Stereo Headphones

### Features

- Professional monitoring headphones
- Resists high power input up to 3000 mW
- Comfortable, auranomic design (circum aural headphones, earcup covering the entire ear)
- 50 mm driver unit for high quality sound
- Neodymium magnet for powerful bass and clear treble sound
- Amorphous diamond evaporated diaphragm for natural sound reproduction
- Reversible earcup design for easy single sided monitoring
- Coiled, LC-OFC class 1 litz cord for minimum signal transmission loss
- Screw-type gold plated stereo unimatch plug for secure connection
- Convenient folding design
- Self-closing mechanism prevents sound leakage when headphones are taken off

### Supplied Accessories

Soft case (1)

Gold-plated unimatch plug adaptor (1)

### Specifications

#### Type:

Circum-aural, closed

#### Driver units:

50 mm dia., dynamic type

#### Diaphragm:

Amorphous diamond evaporated

#### Magnet:

Neodymium

#### Impedance:

24  $\Omega$

#### Sensitivity:

107 dB/mW

#### Power handling capacity:

3,000 mW

#### Frequency response:

5 Hz to 80 kHz

#### Cord:

Coiled, single sided, 1 to 3 m LC-OFC class1 litz cord with a gold-plated stereo mini plug

#### Headband:

Wide single headband (folding mechanism)

#### Mass (without cord):

300 g (10.5 oz)



**SONY**

# Digital Signage Solutions

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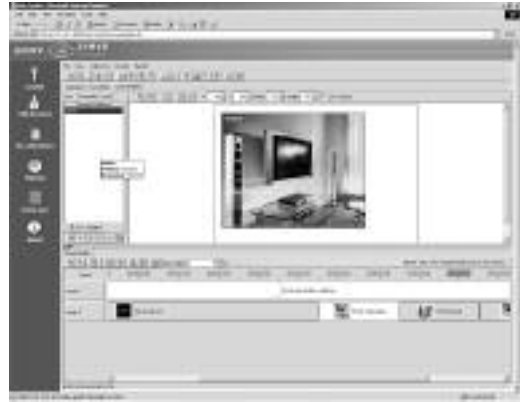
# Ziris Create BZSQ-C001

Ziris Create Lite Single Software License

## BZSQ-C101

Ziris Create Single Software License

(Version 4.00 and later)



Ziris Create provides a web based system capable of importing media from multiple sources (video, audio, picture and text files), to create and edit playlists, schedule and deliver content to playout devices such as Ziris View, View SD, View HD and the BKM-FW50 Digital Signage Board to show tailored content on individual screens.

### Ziris-Create Lite

Entry-level Digital Signage playlist authoring software, for the BKM-FW50 and BZSQ-V001 Ziris View Lite networked playout devices only.

The BKM-FW50 is an IP addressable Streaming Receiver Adaptor for the Sony Public Display FWD series.

Ziris View Lite is application software, operating on either Windows XP or MAC platform, allowing the timely playout of single layer content, when authored within Ziris Create Lite.

### BZSQ-C001 Ziris Create Lite

#### Description

Ziris Create Lite, Entry Level content authoring software.

#### Software Platform

Windows 2003 server

#### Web Browser Based

Multiple user and remote log in. Password protection for security.

#### User Friendly Interface

Ziris Create Lite is simple to operate, the GUI is informative, unclustered and navigation to create and control is easily performed.

#### Easy play-list creation with Slide Show function

The use of drag and drop of media to create a playlist supports the entire concept of fast, efficient and effective workflow processes.

A Slide Show dialogue allows users to select content from the collections and add them to the Slide Show. The order of the images and video can be changed using the "Move Up" and "Move down" buttons. A preview of the Show is shown along the bottom of the dialogue. The content currently selected in the collection may be previewed.

#### Week schedule

Slide Show play-lists can be created for every day of the week.

#### One Platform

Ziris Create Lite offers one platform for handling different types of content such as multiple format support, video, graphics and audio. With no secondary systems required, this makes it's so much simpler to use. What's more, unlike other systems Ziris Create makes a copy of the content to ensure it's always available to the operator.

#### Simple Media Storage

Media is stored locally and managed on a PC. Files are stored by file type and are user configured – so you know exactly where to find them. It's totally intuitive and simple to use.

#### Thumbnail File Identification

The use of thumbnails to identify content allows 'at a glance' recognition of the media within the collections and ready for use.

#### Simple Transfer

Content is transferred and stored locally. No pre-rendering is required, thus changes are simple and fast.

### BZSQ-C101 Ziris Create

As above but advanced software for large-scale scaleable systems utilising various media formats, on a number of layers and positions, and flexible scheduling tools.

## Features

Ziris Create takes a simple concept of an Administrator and an Author, and brings them to an IP content authoring, publishing & distribution environment. Both Administrator and Author function work together to develop collections of content and deliver them to a distributed network of devices for play out.

The Administrator function allows the user to allocate access privileges and define further User/Author roles. The Administrator function also allows the user to create groups of terminals to which similar content can be developed and delivered. In this way a Group could be all terminals within a retail complex, or all terminals within specific retail areas. Groups are defined on a user basis and in line with the users needs.

The Author function allows users to pull together content from different sources into a single collection. The media within a collection can then be customised with text and graphics. Text can be formatted in terms of font, position, colour size etc and graphics added and positioned for maximum effect within the media.

The whole process is simple to understand and complete. Users simply drag and drop content to a timeline and much like basic editing software, define the times at which graphics and text should appear. Sophisticated media content can be created easily by combining graphics, media and text.

Once created the item is validated i.e. checked for continuity, and consistency and a play out timeline is created for the group of devices. The Author collates media content to the timeline to create a play out schedule. The play out schedule is then uploaded to the remote play out devices manually, automatically, or at a predefined time. The system provides an effective colour-coding scheme to show the stage of the upload process, and whether ultimately, it has been successful.

## Core Application Features

- Web based service
- Secure Account Login and User Account Management
- Software Licensing by number of devices

## Content Ingest

- Importing of content into flexible directory structure
- Manual or automatic 'hot folder' imports

## Scheduling

- Drag-and-drop on to channel timeline for scheduling single playlists
- Campaign scheduling wizard for scheduling daily playout between a start and end date, across multiple channels. Can also select days of the week.

## Content Management

- Management of video, images, text and playlists in folders
- Export of content and playlists
- Export of Ziris-View playlist into MOV video file

## Playlist Authoring

- Playlist authoring for a large variety of screen formats, sizes and orientations (including portrait and widescreen)
- BKM-FW50 Digital Signage Board  
BZSQ-V001 Ziris View Lite  
BZSQ-V101 Ziris View SD  
BZSQ-V501 Ziris View HD
- Automatic playlist creation for simple presentations
- Ability to combine playlists
- Portrait mode playlist creation

## Channel Management

- Grouping of devices into channels to facilitate scheduling and upload to multiple devices
- Single click upgrade to Ziris Transfer

## Content Upload

- Simple upload option for transferring content and schedules to devices (either directly or through Ziris-Transfer)
- Colour-coding scheme on timeline for displaying upload status
- Batch upload using scheduling wizard, with detailed status reporting

## Dynamic Content Management

- Dynamic Pull – HTML support for Ziris-View
- Dynamic Push – Local 'Hot-Folder' dynamic text support for Ziris View
- Push based MPEG-4 Video Streaming

## System Requirements

2.8 GHz (or faster) Intel Celeron, Intel Pentium 4 or equivalent, 1GB, 40GB, Windows Server 2003.

Monitor 1024 x 768 resolution, true colour

## Ziris Transfer BZSQ-T050

(Version 4.00 and later)

### Features

Ziris Transfer allows the distribution of the content created using Ziris Create to a variety of playout devices including Ziris View Lite, View SD, View HD and BKM-FW50.

Delivery of Ziris digital content to each playout device can be performed over local area networks (LANs), wide area networks (WANs) or the internet. Using Ziris Transfer you can view the status of transfer jobs, each coloured according to their transfer status.



### Core Application Features

- Web based service
- Secure Account Login and User Account Management
- Software Licensing by number of devices

### Transfer Status Monitoring

- Dynamically updates transfer status

### Configuration

- Zero Device Configuration (handled in Ziris-Create)

### FTP Transfer

- FTP Transfer to channels defined in Ziris Create
- No additional channel configuration required in Ziris Transfer
- Automatic retry of failed transmissions
- Transfer immediately or during time window

### Transfer Status Monitoring

- Dynamic status updates on all transfers
- Search transfers according to status, job name, destination, device name and date
- Fine tune settings: record archive period and content deletion

### Status in Ziris Manage

- Updates Ziris Manage with status from Ziris Transfer
- Number of failed transfers

### System Requirements

2.8 GHz (or faster) Intel Celeron, Intel Pentium 4 or equivalent,  
1GB, 40GB, Windows Server 2003

Monitor 1024 x 768 resolution, true colour

## Ziris Manage

### BZSQ-M001

Ziris Manage Lite Single  
Software License

### BZSQ-M101

Ziris Manage Single  
Software License

(Version 4.00 and later)



Invest in a digital signage solution and you'll want to know everything is running smoothly. Ziris Manage can offer you such reassurance. That's because as device management and monitoring software, it consistently keeps a close eye on the whole process. And should a problem arise, you can act quickly to put it right. Ziris Manage monitors play out devices such as the BKM-FW Series and Ziris View series to report and provide a live status of their condition. This includes 'as-run' logs from each unit, allowing you to review and confirm the device operation. Ziris Manage provides device reporting on:

- Unit Configuration
- Unit Status
- Content 'as-run' Logging (Ziris Manage Only, Not Ziris Manage Lite)

Ziris Manage also monitors devices such as Sony plasma screens, LCD monitors and projectors. Information such as whether the unit is switched on, which video input is chosen and projector lamp hours is invaluable if you're concerned about your mission critical information communication devices and giving them the preventative maintenance they deserve.

BZSQ-M001 Ziris-Manage Lite

Entry level application for simple status monitoring and control of BKM-FW50, BZSQ-V001 player devices, LCD and Plasma Devices via the BKM-FW31/2 and IP enabled projectors.

BZSQ-M101 Ziris-Manage

Advanced software for large-scale scaleable systems utilising various Networked Players, Displays, Projectors.

#### System Requirements

2.8 GHz (or faster) Intel Celeron, Intel Pentium 4 or equivalent, 1GB, 40GB, Windows Server 2003.

Monitor 1024 x 768 resolution, true colour

#### Features

##### Core Application

- Web based service
- Secure Account Login and User Account Management
- Software Licensing by number of devices

##### Configuration

- Registration and management of devices for monitoring
- Screens and network players can be monitored in groups or individually.

##### Status

- Real-time status reporting for digital signage devices, Ziris-View, Sony Network Projector
- Indicates whether network players, plasmas, monitors and projectors are switched on
- Displays current media playout information, download status and remaining disc space for network players
- Alerts of any errors

##### Logging

- Maintains details of registered playout devices and their associated displays

##### Remote Device Control

- Can switch input channels, switch on/off through RS232 of playout device
- Schedule reboot and sleep times for Ziris View

##### Ziris Transfer Integration

- Ziris Transfer status indication within device tree
- Viewing Content Store on Devices
- View of Media/content on play out device (no modification of data will be possible)
- Error Notification
- SMS or E-mail notification of error status

# Ziris View

## BZSQ-V001

Ziris View Lite, Single layer player when content playlist authored by BZSQ-C001, or up to 4 layers when playlist authored by BZSQ-C101, Standard Definition Play-out Application Software.

## BZSQ-V101

Ziris View SD, 10 layer, for use with BZSQ-C101 only. Standard Definition Payout Application Software.

## BZSQ-V501

Ziris View HD, 10 layer, for use with BZSQ-C101 only. Standard and High Definition Payout Application Software.

(Version 4.00 and later)

### Features

With Ziris View software, any standard PC becomes a networked digital signage player, capable of replaying complex on-screen images containing multiple layers of video, animation and text. Ziris View will manage the payout of a playlist authored with Ziris Create. The Ziris View player software supports the same basic functions and features when compared to dedicated players however it can provide a number of operational features that will give users business advantages. These include high quality graphical output display, providing in addition to video, real time information, it is particularly versatile of formats and remains very flexible dependant on customer requirements.

Ziris now offers users Digital Signage messaging with real High Definition pictures, using a wide range of HD play out solutions and displays.

Unlike that of many competitors, High Definition is nothing new to Sony - we have been working in this field for over 20 years. It is only recently that High Definition has become a worldwide phenomenon, where the technology has changed and evolved in production, distribution and for the consumer. High Definition will revitalise the entire television industry with innovation, new revenues and excitement, and that includes Digital Signage solutions for Point of Sale, Information and Entertainment.

Keen to add value in a fast-moving, fragmented marketplace, many advertisers around the world have put High Definition at the top of their agendas, HD pictures provide an exceptional viewing experience on the new generation of HD-compatible Sony displays that are universally available.

Multi layer PC based payout device

- Three versions

#### **BZSQ-V001**

Standard Definition Play-out application software

Single layer player when playlist authored by BZSQ-C001

4 layer player when playlist authored by BZSQ-C101

#### **BZSQ-V101**

10 layer, Standard Definition Play-out application software

#### **BZSQ-V501**

Ziris View HD, 10 layer, Payout Application Software

- Scheduled or default content

- Flexible format support

- Including: mov, mpg, avi, flash, bmp, jpg, gif, html, SDP live streaming

- Support of Landscape and Portrait mode

Dynamic Content Pull (HTML) - BZSQ-V101 and BZSQ-V501 only

- Ziris View pulls HTML content from remote URL
- Configurable refresh rate

Integration with Ziris Manage

- Current status

- As run logs collection

- Display Control

- Controls plasma via RS232: power, volume & input

- Supports various Sony displays and projectors

Remote reboot

- View PC can be rebooted remotely via Ziris Manage



## System Requirements

### Operating System

Microsoft® Windows® XP SP2 or MAC OS 10.4.3 G4

BZSQ-V001 Ziris View Lite /

BZSQ-V101 Ziris View SD

### Specification 1

#### Operating system:

Windows XP SP2

#### HDD:

80GB minimum 7200 RPM

#### Processor:

2.8 GHz (or faster) Intel Celeron, Intel Pentium 4 or equivalent

#### RAM:

512MB minimum

#### Graphics card:

Minimum XGA (1024 x 768), WXGA if 16:9 Displays are used

Capable of true colour (32 bit), 64 MB Minimum Graphics

Memory

### Specification 2

#### Operating system:

MAC OS X 10.4.3 G4

#### HDD:

80 GB

#### Processor:

1.42GHz Power PC min

#### RAM:

512MB

BZSQ-V501 Ziris View HD

### Specification 1

#### Operating system:

Windows XP SP2

#### HDD:

80GB minimum 7200 RPM

#### Processor:

2.8 GHz (or faster) Intel Celeron, Intel Pentium

4 or equivalent

#### RAM:

1GB minimum

#### Graphics card:

Resolution 1280x720 or 1920x1080, DVI / HDMI video out

### Specification 2

#### Operating system:

MAC OS X 10.4

#### HDD:

80 GB

#### Processor:

1,83-GHz Intel Core Duo

#### RAM:

1GB

## NSP-1 Network Player

### Features

The NSP-1 provides local storage and playout within Digital Signage applications and manages the presentation of up to five simultaneous image layers, including graphics, video, text and Flash content. For added flexibility, video can be played out from the hard drive of the NSP-1 or merged with other content layers from an external video feed. An audio channel can be used for background music or narration in addition to the video soundtrack. Its flexibility, video output quality, compact size and reliability ensures peace of mind when deployed in mission critical environments.

### High Quality Graphics and Text

The NSP-1 supports a variety of graphics formats including full colour bitmaps (.bmp) as well as JPEG, Macromedia Flash™ and HTML. Small bitmap images such as logos can be positioned anywhere within the display area. Text can be specified in any colour and position on screen, with optional scrolling or flashing effects added as required.

### Excellent Video Quality

High bit rate MPEG-2 compression ensures clear, true-to-life DVD quality video images.

### Portrait Mode

Content can be presented in a choice of portrait or landscape modes to suit display orientation.

### Selectable Output Resolution and Aspect Ratio

### Supplied Accessories

AC adapter and AC cable

Stand for desktop mounting in vertical position

Operation manual (downloadable from the NSP-1 HDD)

### Specifications

#### General

Dimensions (W x H x D):

210 x 44 x 167 mm (8 3/8 x 1 3/4 x 6 5/8 inches)

Mass:

Approx. 1.5 kg (3 lb 1 oz)

Power:

Power consumption: Approx. 45 W

Power supply: DC 13.5 V provided from an AC adapter

Operating temperature +5 to +40°C (+42 to +104°F)

Storage temperature -20 to +55°C (-4 to +131°F)

Hard Disc Drive:

40 GB

#### Output (Media Formats)

MPEG-2 Video:

MPEG-2 MP@ML, 4.0 Mb/s - 9.0 Mb/s

Audio:

MPEG-1 Audio Layer II 2 channels (fixed), 256 kb/s, 48 kHz

Graphics:

Bitmap (.bmp), JPEG (.jpg), FLASH (.swf), HTML (.htm or .html)

Text:

Bitmap (.bmp), Text (.txt)

Audio:

Linear Audio (.wav), MP3 (.mp3)

A/V In NTSC, PAL, Stereo Audio



Output image resolution and aspect ratios can be specified as:

- 4:3 RGB: VGA, SVGA, XGA
- 16:9 RGB: WVGA
- Composite Video: NTSC, PAL

### Dedicated Audio Track

The dedicated audio track is ideal for adding background music or narration to accompany video and other graphic presentation elements.

Browser-Based Remote Setting & Scheduling  
NSP-1 functions can be controlled via a connected PC and web browser.

### Output (Screen Image)

Analogue:

RGB VGA (640 x 480 pixels), WVGA (848 x 480 pixels),

SVGA (800 x 600 pixels), XGA (1024 x 768 pixels)

Composite Video\*:

NTSC (720 x 480 pixels), PAL (720 x 576 pixels)

Screen:

Rotation Landscape, Portrait (+90°, -90°)

### Interface

Video OUT:

Analogue RGB, HD D-sub 15-pin (female) x1, Composite (RCA phono type x1)

Audio OUT:

Stereo RCA phono type x2, analogue unbalanced

Video IN:

Composite (RCA phono type x1)

Audio IN:

Stereo RCA phono type x2, analogue unbalanced

Network:

10/100Base-T Ethernet, RJ-45 modular jack x1

PCMCIA Type II x1

USB USB 1.1 x2

Serial RS-232C, D-sub 9-pin (male) x1,

GPI D-Sub 25-pin (female) x1

Operating System and Network:

Operating system Linux

Supporting protocols:

TCP/IP, HTTP

## Public Displays & Accessories

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# FWD-32LX2F S/B 32" LCD Public Display

## Features

- High resolution widescreen displays (1366x768) with 16.77 million displayable colours
- Durable and elegant acrylic bezel design (available for the Silver model)
- HD-Ready
- Great picture quality – very high brightness (500 cd/m<sup>2</sup>) combines with 1300:1 contrast ratio to deliver incredibly bright, clear images
- Integrated high performance scan converter – for extra smooth playback of video or PC signals
- Dual option slots for installation of add-on boards (first slot is pre-installed with BKM-FW10, second slot is pre-installed with BKM-FW20<sup>(\*)</sup>)
- Dual HDMI inputs
- Includes built-in audio amplifier to drive optional loudspeakers
- Special menu for hotel installation with advanced settings<sup>(\*\*)</sup>
- True Colour Control enables very precise colour adjustments; ideal for displaying company logo or trademarks just as they should be. Using the colour palette on the screen, the saturation and the hue of either red, yellow, green, blue can be adjusted individually without affecting other colours



\*1 Monitor Control Adaptor (RS232C/Control-S)  
 \*\*2 Please contact your local Sony dealer for details

## Supplied Accessories

- Power cable
- Instruction manual
- Component video HD15/RCA cable
- BNC/RCA conversion adaptor
- Cable holder
- Remote controller (RM-FW001)
- Batteries
- Warranty card

## Optional accessories

- Speakers
- Table Top Stand
- Video/S Video I/O adaptor
- 5BNC (Component/RGB) Input Adaptor
- RGB/Component Active Through Adaptor
- Network Management Adaptor
- Contents Player/Streaming Receiver Adaptor

## Specifications

### Panel

- LCD/PDP
- LCD
- Size
- 32V
- Active Area (w x h)
- 698 x 392 mm
- Resolution
- WXGA 1366 x 768
- Colours
- 16.7million
- Viewing Angle (h/v)
- 176° / 176°
- Response Time
- 8 msec (G to G)
- Brightness
- 500 cd/m<sup>2</sup>
- Contrast
- 1300 : 1

### Input connectors

- PC
- Analogue (HD15)
- Digital (HDMI x2)
- Video
- Video (Composite) (BNC)
- S Video (Mini DIN4)
- Component (HD15)
- DigitalVideo (HDMI x2)

### Audio

- RCA (L/R)
- Stereo mini
- Control
- RS232C / Control S

### Output connectors

- PC
- n/a
- Video
- Video(Composite) (BNC)
- S Video (Mini DIN4)
- Audio
- n/a
- Speaker OUT
- L/R
- Control
- Control S
- Maximum Resolution
- WXGA 1360 x 768
- General
- Video Signal
- NTSC / PAL / SECAM /
- NTSC4.43 / PAL-M / PAL60 / PAL-N,
- Video (Composite) / S Video / Component
- Speaker output
- 7W + 7W

### Power

- Requirements
- AC100-240V, 50/60Hz
- Consumption
- 120 W (typical)
- Dimension (w x h x d)
- F model
- 796 x 486 x 107 mm
- X model
- 802 x 492 x 107 mm
- Mass
- F model
- approx. 16.0 kg
- X model
- approx. 17.0 kg
- Function Slot
- 2
- PinP/P&P
- No / Yes
- Multi Zooming (Multi Display)
- 2x2, 3x3, 4x4 with the selection of tiled image or Window image

# FWD-40LX2F S/B 40" LCD Public Display

## Features

- High resolution widescreen displays (1366x768) with 16.77 million displayable colours
- Durable and elegant acrylic bezel design (available for the Silver model)
- HD-Ready
- Great picture quality – very high brightness (500 cd/m<sup>2</sup>) combines with 1300:1 contrast ratio to deliver incredibly bright, clear images
- Integrated high performance scan converter – for extra smooth playback of video or PC signals
- Dual option slots for installation of add-on boards (first slot is pre-installed with BKM-FW10, second slot is pre-installed with BKM-FW20<sup>(\*)</sup>)
- Dual HDMI inputs
- Includes built-in audio amplifier to drive optional loudspeakers
- Special menu for hotel installation with advanced settings<sup>(\*)</sup>
- True Colour Control enables very precise colour adjustments; ideal for displaying company logo or trademarks just as they should be. Using the colour palette on the screen, the saturation and the hue of either red, yellow, green, blue can be adjusted individually without affecting other colours



\*1 Monitor Control Adaptor (RS232C/Control-S)

\*2 Please contact your local Sony dealer for details

## Supplied Accessories

- Power cable
- Instruction manual
- Component video HD15/RCA cable
- BNC/RCA conversion adaptor
- Cable holder
- Remote controller (RM-FW001)
- Batteries
- Warranty card

## Optional accessories

- Speakers
- Table Top Stand
- Video/S Video I/O adaptor
- 5BNC (Component/RGB) Input Adaptor
- RGB/Component Active Through Adaptor
- Network Management Adaptor
- Contents Player/Streaming Receiver Adaptor

## Specifications

- Panel
  - LCD/PDP
  - LCD
- Size
  - 40V
- Active Area (w x h)
  - 885 x 498 mm
- Resolution
  - WXGA 1366 x 768
- Colours
  - 16.7million
- Viewing Angle (h/v)
  - 178° / 178°
- Response Time
  - 8 msec (G to G)
- Brightness
  - 500 cd/m<sup>2</sup>
- Contrast
  - 1300 : 1

## Input connectors

- PC
  - Analogue (HD15)
  - Digital (HDMI x2)
- Video
  - Video (Composite) (BNC)
  - S Video (Mini DIN4)
  - Component (HD15)
  - Digital Video (HDMI x2)
- Audio
  - RCA (L/R)
  - Stereo mini
- Control
  - RS232C / Control S
- Output connectors
  - PC
    - n/a
  - Video
    - Video(Composite) (BNC)
    - S Video (Mini DIN4)
  - Audio
    - n/a
  - Speaker
    - L/R
  - Control
    - Control S
  - Maximum Resolution
    - WXGA 1360 x 768
- General
  - Video Signal
    - NTSC / PAL / SECAM /
    - NTSC4.43 / PAL-M / PAL60 / PAL-N,
    - Video (Composite) / S Video / Component
  - Speaker output
    - 7W + 7W

## Power

- Requirements
  - AC100-240V, 50/60Hz
- Consumption
  - 200 W (typical)
- Dimension (w x h x d)
  - F model
    - 988 x 591 x 125 mm
  - X model
    - 994 x 597 x 125 mm
- Mass
  - F model
    - approx. 25.0 kg
  - X model
    - approx. 26.0 kg
- Function Slot
  - 2
- PinP/P&P
  - No / Yes
- Multi Zooming (Multi Display)
  - 2x2, 3x3, 4x4 with the selection of tiled image or Window image

# FWD-42PV1 S/B 42" WVGA Plasma Public Display

42 inch WVGA Plasma Public Display. The best partner to get your message across to your target audience.

## Features

- High picture quality – very high brightness (1500 cd/m<sup>2</sup>) combines with 10000:1 contrast ratio to deliver incredibly bright, clear images
- Integrated high performance scan converter – for smooth playback of video signals (up to HD format) and PC (up to UXGA resolution)
- Includes built-in audio amplifier to drive optional loudspeakers
- Remote management – via RS232C and Control-S control ports
- Long life – durable design for extended product lifetime
- Screen burn protection – screen saver, picture orbiting, auto-dimmer and picture inversion help prevent burn-in



## Specifications

### Panel

- Resolution  
852 x 480 pixels
- Panel Brightness  
1500cd/m<sup>2</sup>
- FOS Brightness  
500cd/m<sup>2</sup>
- Contrast  
10.000:1 (dark room)
- Pixel Pitch  
1.08 x 1.08 mm
- Visual Area (W/H)  
920 x 518 mm
- Colours  
1.07 billion (simultaneously)
- Colour System  
NTSC / PAL / SECAM / PAL-M / PAL-N / NTSC4.43 / PAL60

### Sampling Rate

- 13.5 to 140 MHz

### Inputs and Outputs

#### Input 1

- Digital Video  
DVI-HDCP
- Audio  
Stereo mini jack, 500 mV RMS, high impedance

#### Input 2

- RGB  
D-sub  
15-pin, 0.714 V p-p non-composite, 1.0 Vp-p composite
- Component Y  
1.0 V p-p composite
- U/V  
0.7 V p-p non-composite

### Audio

- Stereo mini jack, 500 mV RMS, high impedance
- Option 1 (BKM-FW10)  
Video IN/OUT  
BNC  
1.0V p-p +/-2 dB sync negative  
75 Ω automatic termination, loop-through out
- S Video IN/OUT  
Mini DIN 4-pin
- Y  
1.0 V p-p +/-2 dB sync negative
- C  
0.286 V p-p +/-2 dB sync negative (NTSC)  
0.3 V p-p +/-2 dB sync negative (PAL)
- Audio L/R  
Pin jack x2
- Speaker OUT  
6 Ω, 7W+7W
- Audio OUT  
Pin Jack x2
- Remote (RS-232C)  
D-sub 9-pin
- Control S (I/O)  
Mini jack
- AC OUT  
up to 0.25 A or up to 30 W
- General  
Power requirements  
AC 100 to 240 V, 50 / 60 Hz, 3.5 A (max.)
- Power consumption  
260W (typ.)
- Operating temperature  
0 to 35°C (32 to 95°F)
- Storage temperature  
-10 to 40°C (14 to 104°F)
- Atmospheric pressure (operating)  
800-1100 hPa

### Humidity

- 20 to 90 %, no condensation
- Dimensions  
1033 x 631 x 121 mm
- Mass  
approx. 29 kg

# FWD-42PX2 S/B 42" WXGA Plasma Public Display

42" WXGA Plasma Public Display (HD Ready).  
The ideal partner for all types of professional applications.

## Features

- Ideal for digital signage, the FWD-42PX2 is an eye catching 42" plasma display that uses new PDP panel technology for top level brightness and contrast. Pre-fitted BKM-FW10 video input card and DVI
- Great picture quality - low-reflection screen coating combines with high brightness (1200cd/m<sup>2</sup>) and high contrast (10000:1) to deliver bright, clear images
- Integrated High-Performance scan converter - for smooth playback of video signals (up to HD format) and PC (up to UXGA resolution)
- Screen burn protection - screen saver, picture orbiting, selectable dimmer and picture inversion help prevent burn-in
- Remote management - via RS232C and Control-S control ports
- Flexible installation options - bottom connector panel, optional table stand and wall mount brackets.



## Specifications

### Panel

- Resolution  
1024 x 768 pixels
- Panel Brightness  
1200cd/m<sup>2</sup>
- FOS Brightness  
450cd/m<sup>2</sup>
- Contrast  
10,000:1
- Pixel Pitch  
0.90 x 0.676 mm (non-square pixels)
- Active Area (W/H)  
920 x 518 mm
- Visual Area (W/H)  
42-inch / 1056 mm measured diagonally
- Colours  
1.07 billion (simultaneously)

### Colour System

- NTSC/PAL/SECAM/ PAL60/PAL-M/  
PAL-N/NTSC4.43

### Sampling Rate

- 13.5 to 140 MHz

### Inputs and Outputs

#### Input 1

- Digital Video  
DVI-HDCP
- Audio  
Stereo mini jack, 500 mV RMS,  
high impedance

#### Input 2

- RGB  
0.7 V p-p non composite,  
1.0 V p-p composite, 75 Ω
- UV  
0.7 V p-p non composite (UV),  
1.0 V p-p composite (Y), 75 Ω

### Audio

- Stereo mini jack, 500 mV rms.,  
high impedance
- Option 1 (BKM-FW10)  
Composite In  
BNC, 1.0 V p-p +/-2 dB, sync negative,  
75 Ω automatic termination
- Y/C In  
Mini DIN, 4-pin,  
Y: 1.0 V p-p +/-2 dB, sync negative,  
75 Ω automatic termination  
C: 0.3 V p-p (PAL), 0.286 V p-p (NTSC),  
+/-2 dB, sync negative, 75 Ω
- Audio In  
-5 dBu, 500 mV rms., high impedance
- Composite Out  
BNC, loop-through
- Option 2 (free)  
Available for BKM-FW10/11/12
- Audio OUT  
Stereo mini jack, 500 mV rms., high impedance
- Speaker OUT  
6Ω, 7W+7W (L/R)
- Control S  
In/Out  
Remote (RS-232C)  
D-sub 9-pin
- General  
Power requirements  
AC 100 to 240 V, 50/60 Hz 1.5A to 3.7A (Max.)  
Power consumption  
330 W (Max.)  
Operating temperature  
0 to 35 °C (32 to 95 °F)  
Storage temperature  
-10 to 40 °C (14 to 104 °F)  
Atmospheric pressure (operating)  
800-1100 hPa

### Humidity

- 20 to 90 %, no condensation
- Dimensions  
1033 x 631 x 121 mm
- Mass  
approx. 30 kg

# FWD-50PX3 S/B 50" WXGA Plasma Public Display

50" WXGA Plasma Public Display (HD Ready).  
The ideal partner for all types of professional applications.

## Features

- High resolution widescreen display (1365x768) with 1.07 billion displayable colours
- 60,000 hour panel life – same as previous FWD-50PX2
- Great picture quality – Eliminated False Contour from previous FWD-50PX2, resulting in natural gradation reproduction
- Very high front of screen (FOS) brightness (500 cd/m<sup>2</sup>) combines with superb 15000:1 contrast ratio to deliver incredibly bright, clear images
- HD resolution capable – feed the FWD-50PX3 with HD video for extra clarity and bigger impact
- Integrated high performance scan converter – for smooth playback of video signals (up to HD format) and PC (up to UXGA resolution)
- Can be used in both landscape and portrait orientation
- Built-in LAN Remote Control & Monitoring function - BKM-FW32 function now built in
- More flexible Video Wall applications - supports 2x2, 3x3, 4x4 formats and newly added 1x2, 1x3, 1x4, 2x1, 3x1, 4x1 formats. Tile and Window signal split supported.
- P and P, P in P supports DVI + HD15 RGB combination
- Dual option slots – for installation of add-on boards.
- First slot is pre-installed with BKM-FW21 card (RS232C/Control-S)
- Simple Hotel Mode capability
- Auto detection of RGB/Component input signal



## Specifications

**Panel**  
Resolution  
1365 x 768 pixels  
Panel Brightness  
1000cd/m<sup>2</sup>  
FOS Brightness  
500cd/m<sup>2</sup>  
Contrast  
15000:1  
Pixel Pitch  
0.81 x 0.81 mm  
Active Area (W/H)  
1106 x 622 mm  
Visual Area (W/H)  
50-inch / 1270 mm measured diagonally  
Colours  
1.07 billion (simultaneously)  
Colour System  
NTSC/PAL/SECAM/ PAL60/PAL-M/  
PAL-N/NTSC4.43  
Sampling Rate  
13.5 to 140 MHz  
Inputs and Outputs  
Remote  
Network port (10BASE-T/100BASE-TX)  
HD15 RGB/Component IN  
D-sub 15-pin (female) (x 1)  
Audio IN  
Stereo mini jack (x 1)  
500 mVrms, high impedance

DVI  
DVI IN  
(DVI Specification Rev. 1.0 compliant)  
Audio IN  
Stereo minijack (x 1)  
500 mVrms, high impedance  
Audio OUT  
L/R RCA pin jack (x 2)  
500 mVrms, high impedance  
Option Slot 1 - Video/Communication  
(BKM-FW21 pre-installed)  
Remote (RS-232C)  
D-sub 9-pin (x 1)  
Control S IN/OUT  
Mini jack (x 2)  
Option Slot 2 - Video  
(BKM-FW10 pre-installed)  
Video IN BNC (x 1)  
Composite video, 1 Vp-p ± 2 dB sync  
negative, 75 Ω (automatic termination)  
Video OUT  
BNC (x 1) Loop-through  
S Video IN  
Mini DIN 4-pin (x 1)  
Y (luminance): 1 Vp-p ± 2 dB sync negative,  
75 Ω terminated  
C (chrominance): Burst 0.286 Vp-p ± 2 dB  
(NTSC), 75 Ω terminated  
Burst 0.3 Vp-p ± 2 dB (PAL), 75 Ω terminated  
S Video OUT  
Mini DIN 4-pin (x 1) Loop-through  
Audio IN  
Pin jack (x 2)  
500 mVrms, high impedance

General  
Power requirements  
AC 100 to 240 V, 50/60 Hz 4.6A (max)  
Power consumption  
440 W  
Operating temperature  
0 to 35 °C (32 to 95 °F)  
Storage temperature  
-10 to 40 °C (14 to 104 °F)  
Atmospheric pressure (operating)  
800–1100 hPa  
Humidity  
20 to 90 %, no condensation  
Dimensions  
1256 x 753 x 112 mm  
Mass  
approx. 44 kg



## BKM-FW50 Digital Signage Board

Streaming Receiver Adaptor - Discover the World of Digital Signage.

### Features

If you want to get your message across, this powerful digital signage board is perfect for showing impactful still images or video clips. Not only is it easy to install and use, it's cost effective - saving you money and time. Bring your own message to the public!

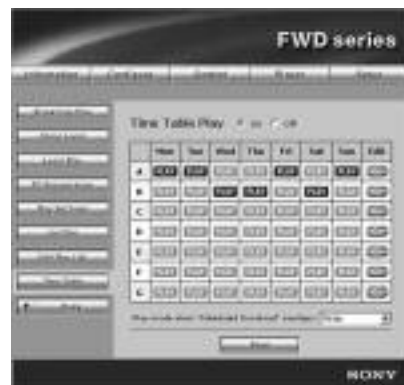
This innovative technology is remarkably flexible. You can edit and save your content on an optional CompactFlash card and it will play on your digital signage instantly. In addition, you can stream still images and video clips from a web server or download them onto your storage media for play, without worrying about network traffic. Only a web browser is needed to operate this system, thanks to its HTML embedded design, helping you even further to communicate your messages at low cost. Extremely reliable compared to HDD and/or PC based solutions.



- 1- List Play
- 2- Time Table
- 3- No black screen insertion when JPEG image changing on Slide Show
- 4- Support LX2 series
- 5- Others
  - Support MPEG 480i + Auto detection of video MPEG video format Auto/480i/480p/576p
  - Check CF Remaining Amount
  - Play Contents under Sub-folders on Compact Flash Memory
  - Rename files on Compact Flash Memory
  - Background Music: Can be set as Folder basis
  - Display Message at booting-up and player idle, On/Off
  - Slide Show > Interval time setting : add 20/30/40sec
  - Background Colour

### Applicable Models

- FWD-32LX2 LCD Display
- FWD-40LX2 LCD Display
- FWD-42PV1 Plasma Display
- FWD-42PX2 Plasma Display
- FWD-50PX2 Plasma Display



## BKM-FW10 Video Input/Output Adaptor

### Features

- Composite Video In/Out (BNC x2)
- S Video In/Out (Mini DIN 4-pin x2)
- Audio In L/R (Pin jack x2)

### Pre-installed in

- FWD-32LX2 LCD Display
- FWD-40LX2 LCD Display
- FWD-42PV1 Plasma Display
- FWD-42PX2 Plasma Display
- FWD-50PX2 Plasma Display



## BKM-FW11 Component/RGB Input Adaptor

### Features

- Component/RGB In (BNC x5)
- Audio In (Stereo mini jack x1)

### Applicable Models

- FWD-32LX2 LCD Display
- FWD-40LX2 LCD Display
- FWD-42PV1 Plasma Display
- FWD-42PX2 Plasma Display
- FWD-50PX2 Plasma Display



## BKM-FW12 RGB/Component Active Through Adaptor

### Features

- RGB/Component In (D-sub15pin x1)
- RGB/Component Out (D-sub 15pin x1)
- Audio In (Stereo mini jack x1)

### Applicable Models

- FWD-32LX2 LCD Display
- FWD-40LX2 LCD Display
- FWD-42PV1 Plasma Display
- FWD-42PX2 Plasma Display
- FWD-50PX2 Plasma Display



## BKM-FW32 Network Management Adaptor

### Features

- Enables remote control of the FWD-series Displays via IP.
- On/Off, Input Selection, Status monitoring, Diagnostics, error report over E-mail, On/Off timer settings and other functions are available.

### Applicable Models

- FWD-32LX2 LCD Display
- FWD-40LX2 LCD Display
- FWD-42PV1 Plasma Display
- FWD-42PX2 Plasma Display
- FWD-50PX2 Plasma Display



## SU-32/42FW Tabletop Stand (Silver)

**Applicable Models**

- FWD-32LX2 LCD Display (SU-32FW only)
- FWD-40LX2 LCD Display (SU-42FW only)
- FWD-42PV1 Plasma Display (SU-42FW only)
- FWD-42PX2 Plasma Display (SU-42FW only)



## SU-50FW Tabletop Stand

**Applicable Models**

- FWD-50PX2 Plasma Display



## SS-SP32FW/40FW/42FW Speaker System (Silver or Black)

**Applicable Models**

- FWD-32LX2 LCD Display (SS-SP32FW only)
- FWD-40LX2 LCD Display (SS-SP40FW only)
- FWD-42PV1 Plasma Display (SS-SP42FW only)
- FWD-42PX2 Plasma Display (SS-SP42FW only)

**Specifications**

- 2 way passive radiator type
- Woofer x1
- Tweeter x1
- Passive radiator x1

Magnetically shielded

Rated impedance

6 Ω

Capacity

7W max.

Dimensions (WxDxH)

203 x 608 x 94 mm

(SS-SP42FW)

158 x 480 x 78 mm

(SS-SP32FW) (W/H/D)

Mass

Approx. 1.4 kg (per speaker)

(SS-SP42FW)

Approx. 1.0 kg (per speaker)

(SS-SP32FW)



## SS-SP50FW Speaker System (Silver or Black)

**Applicable Models**

- FWD-50PX2 Plasma Display

**Specifications**

- Left/Right channel speakers
- Dimensions (WxDxH)
  - 12.5 cm x 8 cm x 74.1 cm
- Weight
  - 1.5 kg
- Media Type
  - 2 speakers
- Speaker Type
  - Passive

Nominal (RMS) Output Power

7 Watt

Input Impedance

6 Ω

Connectivity Technology

Wired

Speaker System Details

2 x right/left

Channel Speaker

7 Watt

6 Ω

Colour

Silver



### FS-LP1NL Floor Stand

#### Features

This elegant floor stand gives you great flexibility in your office environment. This moveable stand is the ideal companion for your board room. It can be moved around easily as it is equipped with wheels. Additionally, this floor stand has a plate for the installation of a video-conferencing system.



#### Applicable Models

FWD-32LX2 LCD Display  
FWD-40LX2 LCD Display  
FWD-42PV1 Plasma Display  
FWD-42PX2 Plasma Display  
FWD-50PX2 Plasma Display

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### WB-LP1NL Wall Bracket system

#### Features

Attach your public display onto a wall. With this wall mounting system you can do a wall installation. Once installed, you can lock a mounting hole as anti-theft protection.



#### Applicable Models

FWD-32LX2 LCD Display  
FWD-40LX2 LCD Display  
FWD-42PV1 Plasma Display  
FWD-42PX2 Plasma Display  
FWD-50PX2 Plasma Display

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### CB-LP1NL Ceiling Bracket system

#### Features

Mount your public display easily onto the ceiling with this accessory. With this ceiling mounting system you can easily do an overhead installation of a public display. Once installed the display can be protected via an anti-theft mechanism. (The display is tiltable)



#### Applicable Models

FWD-32LX2 LCD Display  
FWD-40LX2 LCD Display  
FWD-42PV1 Plasma Display  
FWD-42PX2 Plasma Display  
FWD-50PX2 Plasma Display

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LMD-9030 .....	426
LMD-9020 .....	428
LMD-7220W .....	430
LMD-5320 .....	431
LMD-4420 .....	432

# BVM-A20F1M Colour Video Monitor

## Features

- 20-inch\* Broadcast colour video monitor
- Flat surface HR Trinitron CRT provides high resolution of 900 TV lines
- EBU standard phosphors
- Beam current feedback circuit for stable colour reproduction
- Separate monitor control unit
- Multi-format signal support
- Dual link HD-SDI
- Modular slot design for optional input board (BKM-61D/62HS/68X)
- Auto white balance
- Auto matrix selection
- Auto Chroma phase
- Digital Uniformity
- Aspect ratio 4:3 and 16:9 switchable
- Memory stick for storage and recall of monitor set-up data
- Built-in test signal generator
- H/V delay function
- External sync
- Auto and manual degaussing
- Various area markers
- Parallel and Ethernet based remote control
- SNMP remote maintenance
- 19-inch EIA optional rack mount

\* 19 inches viewable area, measured diagonally.



## Supplied Accessories

- 4:3 Mask
- AC cable
- AC plug holder
- Tally label
- Operation manual

## Optional Accessories

- BKM-15R Central control unit
- Memory stick
- BKM-14L Auto Set-up Probe
- BKM-35H Control unit attachment kit for BKM-15R with 20-inch monitor
- BKM-61D SD-SDI, Multi analogue board
- BKM-62HS HD/SD-SDI board
- BKM-68X RGB/component board
- SMF-700 Monitor interface cable

## Specifications

### General

- Signal format
  - 15.625 kHz to 45 kHz
- Type
  - Display unit
- Power requirements
  - 100 V to 240 V AC  $\pm$  10%, 50/60Hz
- Power consumption
  - 200 W (with Option board; Max.)
- Dimensions (W x H x D)
  - 444 X 414 X 570 (mm)
  - 17 3/8 x 16 3/8 x 22 1/2 (inch)

### Mass approx.

- 40 kg / (88 lb 3 oz)

### CRT

- CRT type
  - 20-inch HR Trinitron
- AG pitch
  - 0.30 mm, 90 ° deflection,
  - Ø30.6 mm in-line gun
- Visual screen (Viewable area, measured diagonally) W x H (Diagonal)
  - 4:3 386 x 291 mm, (482 mm)
  - 4:3 15 1/4 x 11 1/2 inch , (19 inch)
  - 16:9 386 x 218 mm, (443 mm)
  - 16:9 15 1/4 x 8 5/8 inch , (17 1/2 inch)

### Phosphor

- SMPT-E/EBU

## Inputs/outputs

### Control

- LAN
  - Ethernet (10 BASE-T/100 BASE-TX), RJ-45 x1
- Parallel remote
  - D-sub 9-pin x 1 (Short to ground)
- Option
  - RS-232C serial interface,
  - Mini DIN 8-pin x 1

### Video Signal Performance

- Differential gain (DG)
  - Within 5% for luminance from 0 to 100 cd/m<sup>2</sup>
- Differential phase (DP)
  - Within 5° for luminance from 0 to 100 cd/m<sup>2</sup>
- Frequency response
  - 48 Hz to 30 MHz +1dB/-3 dB
- DC restoration
  - Back porch type, back porch level: within 1% of peak luminance, 10 to 90% APL

### Synchronisation

- Retrace time
  - Horizontal under 3.77  $\mu$  sec
  - Vertical under 650  $\mu$  sec

### Raster and Picture Performance

- Normal scan
  - 5% over scan of the effective picture area
- Under scan
  - 3% under scan of the effective picture area
- Linearity
  - Less than 0.5% within circle centered on the screen with a diameter equal to the vertical height, 1% at any other point\*
- Colour temperature
  - D65 / D93 / D56 / USER1-5 (User adjustable)
- Convergence
  - Less than 0.4mm within circle centered on the screen with a diameter equal to the vertical height, 0.7 mm at any other point

## Preset brightness

- 100 cd/m<sup>2</sup> (when a 1.0 Vp-p 100% white signal is input)

## Stability of raster size

- 1% of picture height (at 100 cd/áu peak luminescence, 10 to 90 % APL)

## Scan delay

- Horizontal
  - Approx. 2/9 line
- Vertical
  - Approx. 1/2 field

## Resolution (Centre)

- 16:9: 700 TV lines, 4:3 900 TV lines

## Operating Conditions

- Operating temperature
  - 0 to 35 °C,
  - Optimum operating range 20 to 30 °CC
- Storage temperature
  - 10 to 40 °C
- Humidity
  - 30 to 90 % (no condensation)

# BVM-A14F5M Colour Video Monitor

## Features

- 14-inch\* Broadcast colour video monitor
- Flat surface HR Trinitron CRT provides high resolution of 800 TV lines
- EBU standard phosphors
- Beam current feedback circuit for stable colour reproduction
- Multi-format signal support
- Dual link HD-SDI
- Modular slot design for optional input board (BKM-61D/62HS/68X)
- Auto white balance
- Auto matrix selection
- Auto Chroma phase
- Digital Uniformity
- Aspect ratio 4:3 and 16:9 switchable
- Memory stick for storage and recall of monitor set-up data
- Built-in test signal generator
- H/V delay function
- External sync
- Auto and manual degaussing
- Various area markers
- Parallel and Ethernet based remote control
- SNMP remote maintenance
- 19-inch EIA optional rack mount

\* 13 1/8 inches viewable area, measured diagonally.



## Supplied Accessories

- 4:3 Mask
- AC cable
- AC plug holder
- Tally label
- Operation manual

## Optional Accessories

- Memory stick
- BKM-14L Auto Set-up Probe
- BKM-30E14 19-inch EIA standard rack mounting kit
- BKM-61D SD-SDI, Multi analogue board
- BKM-62HS HD/SD-SDI board
- BKM-68X RGB/component board
- SMF-700 Monitor interface cable

## Specifications

### General

- Signal format
  - 15.625 kHz to 45 kHz
- Type
  - Stand-alone monitor
- Power requirements
  - 100 V to 240 V AC  $\pm$  10%, 50/60Hz
- Power consumption
  - 170 W (Max.) (with Option board; Max.)
- Dimensions (W x H x D)
  - 482 X 280 X 571 (mm)
  - 19 x 11 1/8 x 22 1/2 (inch)
- Mass
  - approx. 26 kg / (57 lb 5 oz)
- CRT
  - CRT type
    - 14-inch HR Trinitron
  - AG pitch
    - 0.25 mm, 90 ° deflection,
    - Ø29.4 mm in-line gun
  - Visual screen (Viewable area, measured diagonally) W x H (Diagonally)
    - 4:3 267.5 x 200.6 mm, (331.6 mm)
    - 4:3 10 5/8 x 8 inch , (13 1/8 inch)
    - 16:9 267.5 x 150.5 mm, (306.9 mm)
    - 16:9 10 5/8 x 6 inch , (12 1/8 inch)
- Phosphor
  - SMPTC-C/EBU

## Inputs/outputs

### Control

- LAN
  - Ethernet (10 BASE-T/100 BASE-TX), RJ-45 x1
- Parallel remote
  - D-sub 9-pin x 1 (Short to ground)
- Option
  - RS-232C serial interface,
  - Mini DIN 8-pin x 1

### Video Signal Performance

- Differential gain (DG)
  - Within 5% for luminance
  - from 0 to 70 cd/m<sup>2</sup>
- Differential phase (DP)
  - Within 5% for luminance
  - from 0 to 70 cd/m<sup>2</sup>
- Frequency response
  - 48 Hz to 30 MHz +1dB/-3 dB
- DC restoration
  - Back porch type, back porch level: within 1% of peak luminance,
  - 10 to 90% APL

### Synchronisation

- Retrace time
  - Horizontal
    - under 3.77  $\mu$  sec
  - Vertical
    - under 650  $\mu$  sec

### Raster and Picture Performance

- Normal scan
  - 5% over scan of the effective picture area
- Under scan
  - 3% under scan of the effective picture area
- Linearity
  - Less than 1% within circle centered on the screen with a diameter equal to the vertical height, 2% at any other point\*
- Colour temperature
  - D65 / D93 / D56 / USER1-5 (User adjustable)
- Convergence
  - Less than 0.5mm within circle centered on the screen with a diameter equal to the vertical height, 0.8 mm at any other point

### Preset brightness

- 70 cd/m<sup>2</sup> (when a 1.0 Vp-p 100% white signal is input)
- Stability of raster size
  - 1% of picture height (at 70 cd/áú peak luminescence, 10 to 90 % APL)
- Scan delay
  - Horizontal
    - Approx. 2/9 line
  - Vertical
    - Approx. 1/2 field
- Resolution (Centre)
  - 16:9: 600 TV lines, 4:3 800 TV lines

### Operating Conditions

- Operating temperature
  - 0 to 35 °C,
  - Optimum operating range 20 to 30 °C
- Storage temperature
  - 10 to 40 °C
- Humidity
  - 30 to 90 % (no condensation)

# BVM-L230 Broadcast Master Monitor (PRELIMINARY INFORMATION)

Responding to the continued demands for a true master monitor, Sony introduces the BVM-L230, a 23-inch\* LCD master monitor that uses the all-new TRIMASTER™ technology.

## Features

- Innovative LCD Panel – 23-inch Full HD Resolution
- Precision Backlight System • Nonlinear Cubic Conversion Colour Management System • Selectable Colour Space • Digital Uniformity • Full HD Panel with 10-bit Driver • Newly Developed I/P Conversion Technology • Interlace picture reproduction • Picture side by side display • Black Frame Insertion • High Accuracy 12 bits Display Engine • Panel Calibration • Colour Feedback • Multiformat inputs • Dual-link video input capability • DVI-D input format • Conventional BVM

## Features and Functions

\* 22.5-inch viewable area measured diagonally.



## Specifications (tentative)

### Panel

Panel size (diagonal)

22.5-inch\*

Resolution

1920 x 1200 pixels

Backlight

High-purity LEDs

Driver

10 bit

Frame Rate

96 Hz, 100 Hz, 120 Hz

### Input Interface

Number of slots

4

Composite (NTSC/PAL/SECAM/PAL-M)

BKM-227W

Y/C

BKM-227W

Y/PBPR/RGB

BKM-229X

SD-SDI

BKM-220D

HD-SDI

BKM-243HS

Dual-Link HD-SDI

BKM-243HS x 2 pcs

DVI-D

Standard x1 (HDCP-compliant)

### General

Dimensions (W x H x D)

Approx. 565.5 x 435.2 x 248 mm

Approx. 22 3/8 x 17 1/4 x 9 7/8 inch

Mass

Approx. 24 kg

Approx. 52 lb 15 oz

\* Viewable area measured diagonally.



# LMD-2450W 24-inch colour monitor

## Features

- Full-HD resolution panel (1920 x 1200 pixels)
- Multi-format signal support
- ChromaTRU color processing for accurate gamma and stable white balance
- Excellent I/P conversion
- Excellent brightness and contrast
- Extremely wide viewing angle
- Advanced marker settings
- Color temperature selection
- Picture & picture display mode
- LAN Ethernet serial remote control
- Selectable scan size
- Three-color tally
- Computer input capability with Smart APA (auto pixel alignment)
- Parallel remote control
- Stereo audio monitoring
- Protected controls
- Closed-Caption decoder
- VESA Mounting

## Supplied Accessories

- Display Stand
- AC power cord
- AC plug holder
- Operating Instructions
- CD-ROM
- CD-ROM Manual

## Optional Accessories

- BKM-220D SDI 4:2:2 Input Adaptor
- BKM-243HS HD SDI&SDI Input Adaptor
- BKM-227W SONY NTSC/PAL Input Adaptor
- BKM-229X Analog Component Input Adaptor



## Specifications

### Picture Performance

- Type: A-Si TFT Active Matrix LCD
- Resolution: 1920 x 1200 pixels (WUXGA)
- Picture Size (H x W) (Viewable area) (Diagonal):
  - Approx. 518.4 x 324.0 mm (Approx. 20 1/2 x 12 1/8 inches)
  - Approx. 609.6 mm (24 inches)
- Aspect: 16:10
- Colors: Approx 1,677,000 colors (8bits)
- Viewing Angle: 89°/89°/89°/89° (typical) (up/down/left/right contrast>10:1)

### Input

- Standard
  - Composite: BNC x 1, 1.0 VP-p ±3dB sync negative
  - Y/C: 4pin Mini DIN x 1
    - Y: 1.0 Vp-p ± 3dB sync negative, C: 0.286 Vp-p ± 3dB (NTSC burst signal level), 0.3 Vp-p ± 3dB (PAL burst signal level)
  - RGB, Component: BNC x 3
    - RGB : 0.7 Vp-p ± 3dB (Sync On Green, 0.3 Vp-p sync negative)
    - Component : 0.7 Vp-p ± 3dB (75% chrominance standard color bar signal)
  - External Sync: BNC x 1
    - 0.3 to 4.0 Vp-p ± bipolarity ternary or negative polarity binary
  - Audio: RCA pin x 2 (L, R) -5 dBu 47 kΩ or higher

### HD15

- D-sub 15 pin x 1, R/G/B: 0.7 Vp-p sync positive (Sync On Green, 0.3 Vp-p sync negative)
- Sync : Total level (polarity free, H/V separate and composite sync)
- Plug & Play function : corresponds to DDC-2B

### DVI

- TMDS signal link
- Parallel remote: Modular connector 8 pin x 1 (pin assignment at users' allocation)
- Serial remote (LAN): D-sub 9-pin (RS232C) x 1, RJ-45 modular connector (ETHERNET) x 1 (10BASE-T/100BASE-TX)

### DC in

- XLR type 4pin x 1 DC24V (output impedance 0.005 Ω or less)

### Optional

- Option input slot: 2 slots (for HD-SDI, SDI capability and extra analog I/O's)

### Output

- Standard
  - Composite: BNC x 1, Loop-though, with 75 Ω automatic termination
  - Y/C: 4pin mini DIN x 1 Loop-though, with 75 Ω automatic termination
  - RGB, Component: BNC x 3, Loop-though, with 75 Ω automatic termination
  - External Sync: BNC x 1, Loop-though, with 75 Ω automatic termination
  - Audio monitor out: RCA pin type x 2 (L, R)
  - Speaker (Built-in): 1 W + 1 W (stereo)

### General

- Power Requirement: AC100V to 240V 50/60Hz 0.6A to 1.1A, DC24V 4.6A
- Power Consumption: Maximum Approx. 115 W (with 2 x BKM-229X)
- Operating Temperature: 0 to 35 °C (recommended operation temperature 20 to 30 °C)
- Operating Humidity: 30 to 85% (No condensation)
- Storage & Transport Temperature: -20 to 60 °C
- Storage & Transport Humidity: 0 to 90 %
- Operating/Storage/Trans. Pressure: 700 to 1060 hPa
- Dimensions (W x H x D)
  - Dimension: 602.4 x 497.9 x 269.9 mm (23 3/4 x 19 5/8 x 10 3/4 inch)
  - Dimension without stand: 602.4 x 386.2 x 110.0 mm (23 3/4 x 15 1/4 x 4 3/8 inch)
- Display Stand (W x H x D): 320.0 x 361.5 x 269.9 mm (12 5/8 x 14 1/4 x 10 3/4 inches)
- Mass:
  - With two option boards: Approx. 11.4 kg ( 25 lb 2 oz) with BKM-229X x 2
  - Without option boards: Approx. 11.0 kg ( 24 lb 4 oz)

# LMD-2050W 20-inch colour monitor

## Features

- High resolution panel (1680 x 1050 pixels)
- Multi-format signal support
- ChromaTRU color processing for accurate gamma and stable white balance
- Excellent I/P conversion
- Excellent brightness and contrast
- Extremely wide viewing angle
- Advanced marker settings
- Color temperature selection
- Picture & picture display mode
- LAN Ethernet serial remote control
- Selectable scan size
- Three-color tally
- Computer input capability with Smart APA (auto pixel alignment)
- Parallel remote control
- Stereo audio monitoring
- Protected controls
- Closed-Caption decoder
- Mounting flexibility (EIA and VESA)

## Supplied Accessories

Display Stand

AC power cord

AC plug holder

Operating Instructions

CD-ROM

CD-ROM Manual

## Optional Accessories

BKM-220D SDI 4:2:2 Input Adaptor

BKM-243HS HD SDI&SDI Input Adaptor

BKM-227W SONY NTSC/PAL Input Adaptor

BKM-229X Analog Component Input Adaptor

MB-529 Rack-Mount Bracket

## Specifications

### Picture Performance

#### Type

A-Si TFT Active Matrix LCD

#### Resolution

1680 x 1050 pixels (WSXGA+)

#### Picture Size (H x W) (Viewable area) (Diagonal)

Approx. 433.5 x 272.9 mm

(Approx. 17 1/8 x 10 3/4 inches)

Approx. 511.1 mm (20 1/8 inches)

#### Aspect

16:10

#### Colors

Approx 1,677,000 colors (8bits)

#### Viewing Angle

89°/89°/89°/89° (typical)

(up/down/left/right contrast>:10:1)

## Input

### Standard

#### Composite

BNC x 1, 1.0 VP-p ±3dB sync negative

#### Y/C

4pin Mini DIN x 1

Y: 1.0 Vp-p ± 3dB sync negative,

C: 0.286 Vp-p ± 3dB (NTSC burst signal level),

0.3 Vp-p ± 3dB (PAL burst signal level)

#### RGB, Component

BNC x 3

RGB : 0.7 Vp-p ± 3dB (Sync On Green,

0.3 Vp-p sync negative)

Component : 0.7 Vp-p ± 3dB (75% chrominance standard color bar signal)

#### External Sync

BNC x 1

0.3 to 4.0 Vp-p ± bipolarity ternary or negative polarity binary

#### Audio

RCA pin x 2 (L, R) -5 dBu 47 k Ω or higher

### HD15

D-sub 15 pin x 1,

R/G/B: 0.7 Vp-p sync positive

(Sync On Green, 0.3 Vp-p sync negative)

Sync : Total level (polarity free, H/V separate and composite sync)

Plug & Play function : corresponds to DDC-2B

### DVI

TMDS signal link

### Parallel remote

Modular connector 8 pin x 1 (pin assignment at users' allocation)

### Serial remote (LAN)

D-sub 9-pin (RS232C) x 1, RJ-45 modular connector (ETHERNET) x 1 (10BASE-T/100BASE-TX)

### DC in

XLR type 4pin x 1 DC24V (output impedance 0.005 Ω or less)

### Optional

#### Option input slot

2 slots (for HD-SDI, SDI capability and extra analog I/O's)

### Output

#### Standard

#### Composite

BNC x 1, Loop-though,

with 75 Ω automatic termination

#### Y/C

4pin mini DIN x 1 Loop-though,

with 75 Ω automatic termination

#### RGB, Component

BNC x 3, Loop-though,

with 75 Ω automatic termination

#### External Sync

BNC x 1, Loop-though,

with 75 Ω automatic termination

### Audio monitor out

RCA pin type x 2 (L, R)

Speaker (Built-in)

1 W + 1 W (stereo)

### General

#### Power Requirement

AC100V to 240V 50/60Hz 0.4A to 0.8A, DC24V 3.3A

#### Power Consumption

Maximum Approx. 95 W (with 2 x BKM-229X)

#### Operating Temperature

0 to 35 °C (recommended operation temperature 20 to 30 °C)

#### Operating Humidity

30 to 85% (No condensation)

#### Storage & Transport Temperature

-20 to 60 °C

#### Storage & Transport Humidity

0 to 90 %

#### Operating/Storage/Trans. Pressure

700 to 1060 hPa

#### Dimensions (W x H x D)

##### Dimension

518.5 x 468.4 x 269.9 mm

(20 1/2 x 18 1/2 x 10 3/4 inch)

##### Dimension without stand

518.5 x 328.7 x 104.7 mm

(20 1/2 x 13 x 4 1/8 inch)

#### Display Stand (W x H x D)

320.0 x 361.5 x 269.9 mm

(12 5/8 x 14 1/4 x 10 3/4 inches)

#### Mass

With two option boards

Approx. 10.5 kg ( 23 lb 2 oz)

with BKM-229X x 2

Without option boards

Approx. 10.1 kg ( 22 lb 4 oz)



# LMD-2030W 20-inch colour monitor

## Features

- High resolution panel (1680 x 1050 pixels) •Multi-format signal support •Excellent brightness and contrast •Wide viewing angle
- Advanced marker settings •Color temperature selection
- Selectable scan size •Three-color tally •Parallel remote control
- HDMI input standard •Monaural audio monitoring •Protected controls •Mounting flexibility (EIA and VESA)

## Supplied Accessories

- Display Stand
- AC power cord
- AC plug holder
- Operating Instructions
- CD-ROM
- CD-ROM Manual

## Optional Accessories

- MB-529 Rack-Mount Bracket
- BKM-320D SDI 4:2:2 Input adaptor



## Specifications

### Picture Performance

#### Type

A-Si TFT Active Matrix LCD

#### Resolution

1680 x 1050 pixels (WSXGA+)

#### Picture Size (H x W) (Viewable area) (Diagonal)

Approx. 433 x 271 mm

(Approx. 17 1/8 x 10 3/4 inches)

Approx. 511 mm (20.1-inch)

#### Aspect

16:10

#### Colors

Approx. 16,700,000

#### Viewing Angle

89°/89°/89°/89° (typical)

(up/down/left/right contrast>10:1)

## Input

### Line A

#### Composite

BNC x 1, 1.0 Vp-p ±3dB,

sync 0.3 Vp-p negative

#### Y/C

4-pin mini-DIN x 1

Y: 1.0Vp-p ±3 dB

C: 0.286 Vp-p ±3 dB (NTSC),

0.3 Vp-p ±3 dB (PAL),

sync 0.3 Vp-p negative

#### Audio in

RCA pin x 1, -5 dBu 47 Ω or higher

### RGB/Component

#### RGB/Component

BNC x 3, 0.7 Vp-p ±3 dB

(Sync on Green 0.3 Vp-p, negative: RGB)

(75% chrominance standard color bar

signal: Component)

#### Audio in

RCA pin x 1, -5 dBu 47 kΩ or higher

### Option

#### D1-SDI

D-sub 9-pin x 1

#### Audio in

AUDIO input (RCA pin x1),

-5 dBu 47 kΩ or higher

### External Sync

BNC x1, 0.3 to 4 Vp-p negative

polarity binary

### HDMI input

HDMI x 1

### Remote

Parallel remote

Modular connector 8-pin x1

## Output

### Line A

#### Composite

BNC x 1, Loop-through,

with 75 Ω automatic termination

#### Y/C

DIN 4 pin x 1, Loop-through,

with 75 Ω automatic termination

#### Audio out

RCA pin x1, Loop-through

### RGB/Component

#### RGB/Component

BNC x3, Loop-through,

with 75 Ω automatic termination

#### Audio out

BNC x1, Loop-through,

with 75 Ω automatic terminal function

#### External Sync

BNC x1, Loop-through,

with 75 Ω automatic terminal function

#### Built-in speaker output

0.5 W (mono)

## General

### Power Consumption

Approx. 72 W

### Power requirement

AC100 to 240V, 50/60 Hz

### Operating Temperature

0 to 35 °C (recommended operation

### Operating Humidity

30 to 85% (No condensation)

### Storage & Transport Temperature

-20 to 60 °C

### Storage & Transport Humidity

0 to 90 %

### Operating/Storage/Trans. Pressure

700 to 1060 hPa

### Dimensions (W x H x D)

#### Dimension

Approx. 493 x 408 x 264 mm

(19 1/2 x 16 1/8 x 10 1/2 inch)

#### Dimension without stand

Approx. 493 x 361 x 87mm

(19 1/2 x 14 1/4 x 3 1/2 inch)

### Mass

#### Panel & Stand

Approx. 9.6 kg (212 lb 3 oz)

#### Panel only

Approx. 7.9 kg (17 lb 6 oz)

# LMD-1420 LCD Monitor

14-inch 4:3 aspect high-brightness LCD monitor for professional picture monitoring.

## Features

- Precise reproduction of interlace SD images
- Excellent brightness and contrast
- Faithful colour reproduction
- Lightweight and thin
- Full range of analogue SD input capability
- Digital SD-SDI input capability with the use of the optional BKM-320D
- 19-inch EIA rack mountable (using MB-526 mounting bracket)
- VESA 100 x 100 pitch spacings
- Supplied monitor stand
- Operational features inherited from Sony PVM monitors.
- AR-Coated protection panel
- Normal scan and Under scan mode
- Assignable parallel remote control

## Supplied Accessories

- AC power cord x 1
- AC plug holder x 2
- CD-ROM x 1
- Using the CD-ROM Manual x 1

## Optional Accessories

- MB-526 Mounting Bracket
- BKM-320D SDI 4:2:2 input Adaptor

## Specifications

### Picture Performance

#### LCD Panel

##### Type

A-Si TFT Active Matrix LCD with an AR-coated protection panel

#### Resolution

640 x 480 dots

#### Pixel efficiency

99.99%

#### Dot pitch

0.443(H) x 0.443(V) mm

#### Picture Size

(H x W) Approx. 283 x 212mm  
(Diagonal) 354mm (14 inch)

#### Aspect

4:3

#### Colours

Approx. 16,200,000 colours

#### Viewing Angle

85°/85°/85°/85° (U/D/L/R, contrast >10:1 typical)

## Input

### Line A

#### Composite

BNC type x1

1.0Vp-p±3dB 75Ω terminated sync

0.3 Vp-p negative

#### Y/C

DIN 4 pin x 1

Y: 1.0Vp-p±3dB 75Ω terminated,

C: 0.286Vp-p±3dB(NTSC),

0.3Vp-p±3dB (PAL) 75Ω terminated,

sync 0.3 Vp-p negative

Audio in RCA pin x 1

-5dBu 47kΩ or higher

### Line B

Composite BNC type x 1

1.0Vp-p±3dB 75Ω terminated sync

0.3 Vp-p negative

Audio in RCA pin x 1

-5dBu 47kΩ or higher

## RGB/Component

RGB/Component BNC type x 3

0.7Vp-p±3dB 75Ω terminated

Sync on Green 0.3Vp-p, negative

## Audio in

RCA pin x 1

-5dBu 47kΩ or higher

## Option

D1-SDI

D-sub 9-pin x 1

## Audio in

RCA pin x 1 -5dBu 47kΩ or higher

## External Sync

BNC type x 1

## Remote

Parallel remote

Modular 8-pin (Assignable)

## TALLY

Controlled through parallel remote

(Moduler 8-pin)

## Output

### Line A

Composite BNC type x 1

Loop-through, with 75Ω automatic terminal function

### Y/C

DIN 4 pin x 1

Loop-through, with 75Ω automatic

terminal function

### Audio in

RCA pin x 1

Loop-through

### Line B

Composite

BNC type x 1

Loop-through, with 75Ω automatic

terminal function

### Audio in

RCA pin x 1

Loop-through

## RGB/Component

RGB/Component

BNC type x 3

Loop-through, with 75Ω automatic terminal function

## Audio in

RCA pin x 1

Loop-through

## External Sync

BNC type x 1 Loop-through

with 75 Ω automatic terminal function

## Speaker power

0.5W monaural

## General

Power Consumption

Approx. 51W

Power requirement

AC100 240V 50/60Hz

Operating Temperature

0 to 35 °C

Operating Humidity

30 to 85% (No condensation)

Storage & Transport Temperature

-10 to 40 °C

Storage & Transport Humidity

0 to 90%

Operating/Storage/Trans. Pressure

700 to 1060 hPa

Dimensions (W x H x D)

Dimension with stand (mm)

Approx. 343 x 354 x 264 mm

Dimension without stand

Approx. 343 x 304 x 87 mm

## Mass

Panel & Stand

Approx. 6.8 kg

Panel only

Approx. 5.1 kg



# LMD-1410 LCD Monitor

14-inch 4:3 aspect high-brightness LCD monitor for professional picture monitoring.

## Features

- Precise reproduction of interlace SD images
- Excellent Brightness and Contrast
- Faithful colour reproduction
- Lightweight and thin
- Full range of analogue SD input capability
- 19-inch EIA rack mountable (using MB-526 mounting bracket)
- VESA 100 x 100 pitch spacings
- Supplied monitor stand
- Operational features inherited from Sony PVM monitors.
- Normal scan and Under scan mode
- Assignable parallel remote control

## Supplied Accessories

- AC power cord x 1
- AC plug holder x 2
- CD-ROM x 1
- Using the CD-ROM Manual x 1

## Optional Accessories

- MB-526 Mounting Bracket



## Specifications

### Picture Performance

#### LCD Panel

##### Type

A-Si TFT Active Matrix LCD

#### Resolution

640 x 480 dots

#### Pixel efficiency

99,99%

#### Dot pitch

0.443(H) x 0.443(V) mm

#### Picture Size (H x V)

Approx. 283 x 212mm  
(Diagonal) 354mm (14 inch)

#### Aspect

4:3

#### Colours

Approx. 16,200,000 colours

#### Viewing Angle

85°/85°/85°/85° (U/D/L/R, contrast  
>10:1 typical)

## Input

### Line A

#### Composite

BNC type x1  
1.0Vp-p±3dB 75Ω terminated sync  
0.3 Vp-p negative

#### Y/C

DIN 4 pin x 1  
Y: 1.0Vp-p±3dB 75Ω terminated,  
C: 0.286Vp-p±3dB(NTSC),  
0.3Vp-p±3dB (PAL) 75Ω terminated,  
sync: 0.3 Vp-p negative

#### Audio in RCA pin x 1

-5dBu 47kΩ or higher

### Line B

Composite BNC type x 1  
1.0Vp-p±3dB 75Ω terminated sync  
0.3 Vp-p negative

#### Audio in RCA pin x 1

-5dBu 47kΩ or higher

### RGB/Component

RGB/Component BNC type x 3  
0.7Vp-p±3dB 75Ω terminated  
Sync on Green 0.3Vp-p, negative

### Audio in

RCA pin x 1  
-5dBu 47kΩ or higher

### Remote

Parallel remote  
Modular 8-pin (Assignable)

## Output

### Line A

Composite BNC type x 1  
Loop-through, with 75Ω automatic terminal function

### Y/C

DIN 4 pin x 1  
Loop-through, with 75Ω automatic terminal function

### Audio in

RCA pin x 1  
Loop-through

### Line B

Composite BNC type x 1  
Loop-through, with 75Ω automatic terminal function

### Audio in

RCA pin x 1  
Loop-through

### RGB/Component

RGB/Component BNC type x 3

Loop-through, with 75Ω automatic terminal function

### Audio in

RCA pin x 1  
Loop-through

### Speaker power

0.5W monaural

## General

### Power Consumption

Approx. 48W

### Power requirement

AC100 240V 50/60Hz

### Operating Temperature

0 to 35 °C

### Operating Humidity

30 to 85% (No condensation)

### Storage & Transport Temperature

-10 to 40 °C

### Storage & Transport Humidity

0 to 90%

### Operating/Storage/Trans. Pressure

700 to 1060 hPa

### Dimensions (W x H x D)

Dimension with stand (mm)  
Approx. 343 x 354 x 264 mm  
Dimension without stand  
Approx. 343 x 304 x 87 mm

## Mass

### Panel & Stand

Approx. 6.5 kg

### Panel only

Approx. 4.8 kg



## LMD-9050 8.4-inch Multiformat LCD Monitor

### Features

Excellent Picture Quality •Excellent Brightness and Contrast •Wide Viewing Angle •170 degrees, horizontally and vertically •AR-Coated Protection Panel •Versatile Input Signals: Composite PAL/NTSC, Y/C, Component and RGB, D1-SDI and HD SDI •Professional Functionalities •AC/DC operation •Battery operation •Parallel Remote (Modular 8-pin) •Colour Temperature Adjustment •Five gamma presets •Underscan mode •Blue Only Mode •External sync •Aspect ratio switchable •Three-colour tally lamp. •19-inch EIA dual rack mountable (using the MB-525/528 mounting bracket)

### Supplied Accessories

AC power cord x 1  
AC plug holder x 1  
AC adaptor x 1  
Approx. 101 x 171 x 88mm (including projections)  
Approx. 700g  
Operation Instructions x 1  
CD-ROM x 1  
Using the CD-ROM Manual x 1

### Optional Accessories

MB-525 Mounting Bracket  
MB-528 Blank Panel Attachment for MB-525  
VF-509 ENG Kit (Viewing Hood, Carrying Handle and Connector Protector)  
BP-GL95/BP-GL65 Rechargeable Lithium-ion Battery Pack  
BP-L60S Lithium-ion Battery Pack  
BC-L70 Lithium-ion Battery Charger



## Specifications

### Picture Performance

#### Type

a-Si TFT Active Matrix LCD with AR-coated protection panel

#### Resolution

1024 x 768 dots

#### Pixel efficiency

99.99%

#### Picture Size (WxH)

Approx. 170.496 x 127.872mm  
8.4 inch (213mm)

#### Aspect

4:3

#### Colours

16,770,000 colours

#### Viewing Angle

85°/85°/85°/85° (typical) (up/down/left/right contrast.10:1)

### Input/Output

#### INPUT

##### LINE A

Composite BNC x 1

Y/C 4-pin mini-DIN x 1

Audio Minijack 1

##### LINE B

Composite BNC x 1

Audio Minijack 1

#### RGB/Component

BNC x 3

Audio Minijack 1

#### HD-SDI/D1-SDI

BNC x 2 (HD and D1 are automatically detected)

#### Ext.sync

BNC x 1

Remote Parallel remote Modular 8-pin x 1

#### OUTPUT

##### LINE A

Y/C 4-pin mini-DINx1

Composite BNC x 1 automatic

75  $\Omega$  termination

##### LINE B

Composite BNC x 1 automatic

75  $\Omega$  termination

#### HD-SDI/D1-SDI Monitor output

BNC x 1

#### Audio output

Minijack 1

#### Headphones output

Mini jack x 1 (Monaural)

#### Speaker output

0.5W (Monaural)

### General

#### Power consumption

Approx. 25W with AC Adaptor

#### Power requirement

DC 12V (XLR Connector x1), AC100 to 240V, 50/60Hz (AC power adaptor x1), Battery

#### Operating Temperature

0 to 35 °C

#### Operating Humidity

30 to 85%(No condensation)

#### Operating/Storage/Trans. Pressure

700 to 1060 hPa

#### Storage & Transport Temperature

-10 to 40 °C

#### Storage & Transport Humidity

0 to 90%

#### Dimensions (WxHxD)

Approx. 216 x 206 (230 including stand) x 136.1 (159.5 including stand, 210 including AC adaptor) mm

#### Mass

Approx.3 Kg without supplied Accessories (3.11 Kg including stand, 3.9 Kg including AC adaptor)

## LMD-9030 8.4-inch LCD Video monitor

### Features

- One-piece monitor for Standard Definition •4:3/16:9 Switchable Display •SD-SDI capability as standard
- Analogue composite, Y/C and analogue component interfaces •Can also accept High Definition signals in component analogue format •High picture quality provided by high brightness, high contrast and wide viewing angles •AC/DC power •Battery operation
- Professional Functionalities •Underscan mode
- Blue only mode •19-inch EIA standard rack mountable
- Slim and light •AR-coated panel

### Supplied Accessories

- AC adaptor (1)
- AC Cord (1)
- AC plug holder (1)
- Operating instructions (1)
- CD-ROM (1)
- Using the CD-ROM Manual (1)

### Optional Accessories

- MB-525 Mounting Bracket
- MB-528 Blank Panel Attachment for MB-525
- VF-509 ENG Kit (Viewing Hood, Carrying Handle and Connector Protector)
- BP-GL95/BP-GL65 Rechargeable Lithium-ion Battery Pack
- BP-L60S Lithium-ion Battery Pack
- BC-L70 Lithium-ion Battery Charger





## Specifications

### Picture Performance

#### Type

a-Si TFT Active Matrix LCD with a multi-layer AR-coated protection panel

#### Resolution

640 x 680 dots

#### Pixel efficiency

99.99%

#### Picture Size (H x W), (Viewable area)

Approx. 170.9 x 128.2 mm,  
(Approx. 6 3/4 x 5 1/8 inches)  
(Diagonal) 213.6 mm (8.4-inch)

#### Aspect

4:3

#### Colours

16,770,000 colours

#### Viewing Angle

85°/85°/85°/85° (typical)  
(up/down/left/right contrast>10:1)

### Input

#### Line A

##### Composite

BNC x 1, 1.0 Vp-p +3dB,  
-6 dB sync negative  
4-pin mini-DIN x 1

##### Y/C

Y : 1.0 Vp-p + 3dB,  
-6 dB sync negative  
C : 0.286 Vp-p ±3 dB (NTSC),  
0.3 Vp-p ±3 dB (PAL)

##### Audio

Mini jack x 1, -5 dBu 47 kΩ or higher

#### Line B

##### Composite

BNC x 1, 1.0 Vp-p +3 dB,  
-6 dB sync negative

##### Audio

Mini jack x 1, -5 dBu 47 kΩ or higher

#### RGB/Component

##### RGB/Component

BNC x 3, RGB input :  
0.7 Vp-p +3 dB, -6 dB  
(Sync On Green,  
0.3 Vp-p sync negative)  
Component input : 0.7 Vp-p +3 dB,  
-6 dB (75% chrominance standard  
colour bar signal)

##### Audio

Mini jack x 1, -5 dBu 47 kΩ or higher

#### Ext.sync

BNC x 1, 0.3 to 4 Vp-p ± bipolarity ternary  
or negative polarity binary

#### D1-SDI

BNC x 2, Sampling frequency :Y/R-Y/B-Y  
13.5 MHz, Quantization 10 bits/sample

#### Remote

##### Parallel remote

Modular connector  
8-pin x 1 (Assignable)

### Output

#### Line A

##### Composite

BNC x 1, Loop-through,  
with 75 Ω automatic termination

##### Y/C

4-pin mini-DIN x 1, Loop-through,  
with 75 Ω automatic termination

#### Line B

##### Composite

BNC x 1, Loop-through,  
with 75 Ω automatic termination

##### D1-SDI Monitor output

BNC x 1, Output signal amplitude:  
800 mVp-p ±10%, Output impedance:  
75 Ω unbalanced

##### Audio output

Mini jack x 1, Loop-through

##### Headphones output

Mini jack x 1 (Monaural), Loop-through

##### Speaker output

0.5 W (Monaural)

### General

#### Power Consumption

Approx. 16W, With AC Adaptor:  
Approx. 22 W

#### Power requirement

AC 100 to 240 V, 50/60 Hz, 0.82 to 0.42 A,  
DC 12 V 1.6 A,  
Rechargeable Battery Pack

#### Operating Temperature

0 to 40 °C

#### Operating Humidity

30 to 85 % (No condensation)

#### Operating/Storage/Trans. Pressure

700 to 1060 hPa

#### Storage & Transport Temperature

-20 to 60 °C

#### Storage & Transport Humidity

0 to 90 %

#### Dimensions (W x H x D)

Approx. 216 x 206 x 136.1 mm  
(8 5/8 x 8 1/8 x 5 3/8 inches)  
Dimension with the supplied stand  
Approx. 216 x 230 x 159.5 mm  
(8 5/8 x 9 1/8 x 6 3/8 inches)  
Dimension with the supplied stand  
and AC adaptor  
Approx. 216 x 230 x 210 mm  
(8 5/8 x 9 1/8 x 8 3/8 inches)

#### Mass

Approx. 2.9 Kg (6 lb 6 oz)  
With the supplied stand  
Approx. 3.1 Kg (6 lb 13 oz)  
With the supplied stand and AC adaptor  
Approx. 3.8 Kg (8 lb 6 oz)

## LMD-9020 8.4-inch LCD Video monitor

### Features

- One-piece monitor for Standard Definition
- 4:3/16:9 Switchable Display
- Analogue composite, Y/C and analogue component interfaces
- Can also accept High Definition signals in component analogue format
- High picture quality provided by high brightness, high contrast and wide viewing angles
- AC/DC power
- Battery operation
- Professional Functionalities
- Underscan mode
- Blue only mode
- 19-inch EIA standard rack mountable
- slim and light
- AR-coated panel

### Supplied Accessories

- AC adaptor (1)
- AC Cord (1)
- AC plug holder (1)
- Operating instructions (1)
- CD-ROM (1)
- Using the CD-ROM Manual (1)

### Optional Accessories

- MB-525 Mounting Bracket
- MB-528 Blank Panel Attachment for MB-525
- VF-509 ENG Kit (Viewing Hood, Carrying Handle and Connector Protector)
- BP-GL95/BP-GL65 Rechargeable Lithium-ion Battery Pack
- BP-L60S Lithium-ion Battery Pack
- BC-L70 Lithium-ion Battery Charger



## Specifications

### Picture Performance

#### Type

a-Si TFT Active Matrix LCD with a multi-layer AR-coated protection panel

#### Resolution

640 x 680 dots

#### Pixel efficiency

99.99%

#### Picture Size (H x W), (Viewable area)

Approx. 170.9 x 128.2 mm,  
(Approx. 6 3/4 x 5 1/8 inches)  
(Diagonal) 213.6 mm (8.4-inch)

#### Aspect

4:3

#### Colours 1

6,770,000 colours

#### Viewing Angle

85°/85°/85°/85° (typical)  
(up/down/left/right contrast>10:1)

### Input

#### Line A

##### Composite

BNC x 1, 1.0 Vp-p +3dB,  
-6 dB sync negative 4-pin mini-DIN x 1

##### Y/C

Y : 1.0 Vp-p + 3dB,  
-6 dB sync negative  
C : 0.286 Vp-p ±3 dB (NTSC),  
0.3 Vp-p ±3 dB (PAL)

##### Audio

Mini jack x 1, -5 dBu 47 kΩ or higher

#### Line B

##### Composite

BNC x 1, 1.0 Vp-p +3 dB,  
-6 dB sync negative

##### Audio

Mini jack x 1, -5 dBu 47 kΩ or higher

### RGB Component

#### RGB/Component

BNC x 3,  
RGB input : 0.7 Vp-p +3 dB, -6 dB  
(Sync On Green,  
0.3 Vp-p sync negative)  
Component input : 0.7 Vp-p +3 dB, -6 dB  
(75% chrominance standard colour bar  
signal)

#### Audio

Mini jack x 1, -5 dBu 47 kΩ or higher

### Ext.sync

BNC x 1, 0.3 to 4 Vp-p ± bipolarity  
ternary or negative polarity binary

### Remote

#### Parallel remote

Modular connector  
8-pin x 1 (Assignable)

### Output

#### Line A

##### Composite

BNC x 1, Loop-through,  
with 75 Ω automatic termination

##### Y/C

4-pin mini-DIN x 1, Loop-through,  
with 75 Ω automatic termination

#### Line B

##### Composite

BNC x 1, Loop-through,  
with 75 Ω automatic termination

#### Audio output

Mini jack x 1, Loop-through

#### Headphones output

Mini jack x 1 (Monaural), Loop-through

#### Speaker output

0.5 W (Monaural)

### General

#### Power Consumption

Approx. 15 W, With AC Adaptor :  
Approx. 20 W

#### Power requirement

AC 100 to 240 V, 50/60 Hz, 0.82 to 0.42 A,  
DC 12 V 1.5 A,  
Rechargeable Battery Pack

#### Operating Temperature

0 to 40 °C

#### Operating Humidity

30 to 85 % (No condensation)

#### Operating/Storage/Trans. Pressure

700 to 1060 hPa

#### Storage & Transport Temperature

-20 to 60 °C

#### Storage & Transport Humidity

0 to 90 %

#### Dimensions (W x H x D)

Approx. 216 x 206 x 136.1 mm  
(8 5/8 x 8 1/8 x 5 3/8 inches)

#### Dimension

with the supplied stand  
Approx. 216 x 230 x 159.5 mm  
(8 5/8 x 9 1/8 x 6 3/8 inches)

#### Dimension

with the supplied stand and AC adaptor  
Approx. 216 x 230 x 210 mm  
(8 5/8 x 9 1/8 x 8 3/8 inches)

#### Mass

Approx. 2.8 Kg (6 lb 3 oz)  
With the supplied stand Approx.  
3.0 Kg (6 lb 10 oz)  
With the supplied stand and AC adaptor  
Approx. 3.7 Kg (8 lb 3 oz)

# LMD-7220W Multiple LCD Monitor

## Features

- Dual screen 7-inch 16:9 aspect ratio high-brightness LCD monitor
- 7-inch 16:9 aspect ratio LCD panels (x2)
- Selectable Aspect Ratio (between 16:9 and 4:3)
- High picture quality provided by high brightness, high contrast, wide viewing angle panels
- 19-inch EIA standard rack mountable
- SDI input (using BKM-320D optional input adaptor)
- Low power consumption
- Slim and Light
- 5-step tilt

## Supplied Accessories

- AC power adaptor (1)
- AC power cord (1)
- AC plug holder (1)
- Screws for AC adaptor holder (2)
- Operating Instructions (1)

## Optional Accessories

- BKM-320D SDI 4:2:2 Input adaptor



## Specifications

### LCD Panel

- Type
  - a-Si TFT Active Matrix LCD
- Resolution
  - 480 x 234 dots
- Pixel efficiency
  - 99,99%
- Picture Size (H x W)
  - Approx. 154.1 x 86.6 mm
  - (6 1/8 x 3 1/2 inches)
- Diagonal
  - 7 inches (176.7 mm)
- Aspect
  - 16:09
- Colours
  - Full colour
- Viewing Angle
  - 40°/65°/65°/65° (typical)
  - (up/down/left/right contrast>10:1)

### Input / Output

- Composite
  - Input
    - BNC (x 2)
    - 1.0 Vp-p ±2 dB, sync negative
  - Output
    - BNC (x 2), Loop through Automatic
    - 75 Ω termination
- OPTION IN
  - D-sub 9pin connector (x2)
- Remote
  - Parallel
    - Modular 8 pin (x2)

### General

- Power Consumption
  - Maximum: Approx. 68 W
  - (with 2 x BKM-320D)
  - Standard:
    - Approx. 23 W
    - (without optional input adaptor)
- Power Requirement
  - 12V DC (with the supplied AC power adaptor)
  - AC power adaptor:
    - AC 100 to 240 V, 50/60 Hz
- Peak inrush current
  - (1) Power on, current probe method: 57A (230V)
  - (2) Hot switching inrush current, measured in accordance with European standard EN55103-1:8A (230V)
- Operating Temperature
  - 0 to 35°C (32 to 95° F)
- Operating Humidity
  - 30 to 85 % (no condensation)
- Storage & Transport Temperature
  - 10 to 40°C (14 to 104° F)
- Storage & Transport Humidity
  - 0 to 90 %
- Operating / Storage / Trans. Pressure
  - 700 hPa to 1060 hPa
- Dimensions (W x H x D)(inches)
  - 482 x 133 x 47 (19 x 5 1/4 x 1 7/8)\*1
  - With AC adaptor and BKM-320D:
    - 482 x 133 x 116 (19 x 5 1/4 x 4 5/8)
- Mass
  - Approx. 2.3Kg (5 lb 1 oz)\*2

\*1 Without projecting parts.

\*2 Excluding supplied accessories.

# LMD-5320 Multiple LCD Monitor

## Features

Triple screen 5.6-inch 4:3 aspect ratio high-brightness LCD monitor •5.6-inch 4:3 aspect ratio LCD panels (x3)  
 •High picture quality provided by high brightness, high contrast, wide viewing angle panels •19-inch EIA standard rack mountable •SDI input (using BKM-320D optional input adaptor) •Low power consumption  
 •Slim and Light •5-step tilt

## Supplied Accessories

AC power adaptor (1)  
 AC power cord (1)  
 AC plug holder (1)  
 Screws for AC adaptor holder (2)  
 Operating Instructions (1)

## Optional Accessories

BKM-320D SDI 4:2:2 Input adaptor



## Specifications

### LCD Panel

Type  
 a-Si TFT Active Matrix LCD  
 Resolution  
 320 x 234 dots  
 Pixel efficiency  
 99,99%  
 Picture Size (H x W)  
 Approx. 113 x 85 mm (4 1/2 x 3 3/8 inches)  
 Diagonal  
 5 5/8 inches (142.24 mm)  
 Aspect  
 4:03  
 Colours  
 Full colour  
 Viewing Angle  
 50°/30°/50°/50°(typical)  
 (up/down/left/right contrast>10:1)

### Input / Output

Composite  
 Input  
 BNC (x 3)  
 1.0 Vp-p ±2 dB, sync negative  
 Output  
 BNC (x 3), Loop through Automatic 75 Ω termination  
 OPTION IN  
 D-sub 9pin connector (x3)  
 Remote  
 Parallel  
 Modular 8 pin (x3)

### General

Power Consumption  
 Maximum: Approx. 28W  
 (with 3 x BKM-320D)  
 Standard:  
 Approx. 22 W (without optional input adaptor)  
 Power Requirement  
 12V DC (with the supplied AC power adaptor)  
 AC power adaptor: AC 100 to 240 V, 50/60 Hz  
 Peak inrush current  
 (1) Power on, current probe method:55A  
 (230V)  
 (2) Hot switching inrush current, measured  
 in accordance with European standard  
 EN55103-1:8A (230V)  
 Operating Temperature  
 0 to 35°C (32 to 95° F)  
 Operating Humidity  
 30 to 85 % (no condensation)  
 Storage & Transport Temperature  
 -10 to 40°C (14 to 104° F)  
 Storage & Transport Humidity  
 0 to 90 %  
 Operating / Storage / Trans. Pressure  
 700 hPa to 1060 hPa  
 Dimensions (W x H x D)(inches)  
 482 x 88.1 x 47 mm (19 x 3 1/2 x 1 7/8)\*1  
 With AC adaptor and BKM-320D:  
 482 x 88.1 x 116 mm (19 x 3 1/2 x 4 5/8)  
 Mass  
 Approx. 2.3Kg (5 lb 1 oz)\*2

\*1 Without projecting parts.

\*2 Excluding supplied accessories.

# LMD-4420 Multiple LCD Monitor

## Features

Quad screen 4-inch 4:3 aspect ratio high-brightness LCD monitor •4-inch 4:3 aspect ratio LCD panels (x4)  
 •High picture quality provided by high brightness, high contrast, wide viewing angle panels •19-inch EIA standard rack mountable •SDI input (using BKM-320D optional input adaptor) •Low power consumption  
 •Slim and Light •3-step tilt



## Supplied Accessories

AC power adaptor (1)  
 AC power cord (1)  
 AC plug holder (1)  
 Screws for AC adaptor holder (2)  
 Operating Instructions (1)



## Optional Accessories

BKM-320D SDI 4:2:2 Input adaptor

## Specifications

### LCD Panel

Type  
 a-Si TFT Active Matrix LCD  
 Resolution  
 480 x 234 dots  
 Pixel efficiency  
 99,99%  
 Picture Size (H x W)  
 Approx. 82.1 x 61.8 mm (3 1/4 x 2 1/2 inches)  
 Diagonal  
 4 1/8 inches (102.8 mm)  
 Aspect  
 4:03  
 Colours  
 Full colour  
 Viewing Angle  
 50°/30°/50°/50°(typical)  
 (up/down/left/right contrast>10:1)

### Input / Output

Composite  
 Input  
 BNC (x 4)  
 1.0 Vp-p ±2 dB, sync negative  
 Output  
 BNC (x 4), Loop through Automatic  
 75 Ω termination  
 OPTION IN  
 D-sub 9pin connector (x4)  
 Remote  
 Parallel  
 Modular 8 pin (x4)

### General

Power Consumption  
 Maximum: Approx. 26 W (with 4 x BKM-320D)  
 Standard: Approx. 18 W (without optional input adaptor)  
 Power Requirement  
 12V DC (with the supplied AC power adaptor)  
 AC power adaptor: AC 100 to 240 V, 50/60 Hz  
 Peak inrush current  
 (1) Power on, current probe method:  
 35A (230V)  
 (2) Hot switching inrush current, measured in accordance with European standard EN55103-1:8A (230V)  
 Operating Temperature  
 0 to 35°C (32 to 95° F)  
 Operating Humidity  
 30 to 85 % (no condensation)  
 Storage & Transport Temperature  
 -10 to 40°C (14 to 104° F)  
 Storage & Transport Humidity  
 0 to 90 %  
 Operating / Storage / Trans. Pressure  
 700 hPa to 1060 hPa  
 Dimensions (W x H x D)(inches)  
 482 x 88.1 x 47 (19 x 3 1/2 x 1 7/8)\*1  
 With AC adaptor and BKM-320D:  
 482 x 88.1 x 116 (19 x 3 1/2 x 4 5/8)  
 Mass  
 Approx. 1.9 Kg (4 lb 3 oz)\*\*2

\*1 Without projecting parts.

\*\*2 Excluding supplied accessories.

## Monitor Accessories

BKM-14L	434
BKM-15R	434
BKM-16R	435
BKM-227W	435
BKM-229X	436
BKM-220D	436
BKM-243HS	437
BKM-30E14	437
BKM-30E20	437
BKM-320D	438
BKM-35H	438
BKM-37H	438
BKM-61D	438
BKM-62HS	439
BKM-68X	439
MB-510	440
MB-525	440
MB-526	440
MB-528	441
MB-529	441
SMF-700	441
VF-509	442

### BKM-14L Auto Setup Probe

#### Features

- External probe for colour temperature auto alignment
- Auto white balance •Colour temperature analysis



#### Applicable Models

BVM-A20F1M Broadcast Video Monitor  
BVM-A14F5M Broadcast Video Monitor

#### Specifications

##### Mass

135 g (4 oz)

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### BKM-15R Monitor control unit

#### Features

- Central control unit
- up to 32 monitors can be controlled



#### Applicable Models

BVM-A20F1M Broadcast Video Monitor  
BVM-A14F5M Broadcast Video Monitor

#### Specifications

LAN (10 BASE-T/100 BASE-TX) RJ-45x1  
AC 100/240V or DC 5V in

#### Dimensions

424 (W) x 58.8 (H) x 247.8 (D) mm  
(16 3/4 x 2 3/8 x 9 7/8 inches)

#### Mass

2.1kg (4 lb 10 oz)



## BKM-16R Monitor control unit

### Features

- Central control unit
- up to 32 monitors can be controlled



### Applicable Models

BVM-L230 Broadcast Video Monitor

### Specifications

LAN (10 BASE-T/100 BASE-TX) RJ-45x1  
AC 100/240V or DC 5V in

### Dimensions

424 x 59 x 156.5 (WHD) mm  
(16 11/16 x 2 5/16 x 6 3/16 inches)

### Mass

2.1kg (4 lb 10 oz)

## BKM-227W NTSC/PAL Input Adaptor

### Features

- Input adaptor for NTSC/PAL signals
- Composite (BNCx 1) input/output
- Y/C (4-pin mini DIN x 1) input/output

### Supplied Accessories

Operating instructions (1)

### Applicable Models

BVM-L230 LCD Monitor  
LMD-2050W LCD monitor  
LMD-2450W LCD monitor



### Specifications

#### General

#### Mass

Approx. 240 g (8 oz)

#### Voltage

3.3 V, +5 V (supplied from the main unit)

#### Power consumption

Approx. 1.8 W

#### Operating conditions

#### Temperature

0°C to 35°C (32°F to 95°F)

#### Optimum temperature

20°C to 30°C (68°F to 86°F)

#### Humidity

0% to 90% (no condensation)

#### Pressure

700hPa to 1060 hPa

#### Storage and transport conditions

#### Temperature

-10°C to 40°C (14°F to 104°F)

#### Humidity

0% to 90%

#### Pressure

700 hPa to 1060 hPa

#### Maximum external dimensions (W/H/D)

100 x 20 x 162 mm

(4 x 13/16 x 6 1/2 inches)

#### Input/output connectors

#### Video input connector

Composite

BNC x 1

1 Vp-p ± 3 dB sync negative

#### Y/C

4-pin mini DIN x 1

Y: 1 Vp-p ± 3 dB sync negative

C: 0.286 Vp-p ± 3 dB

(NTSC burst signal level)

0.3 Vp-p ± 3 dB (PAL burst signal level)

#### Video output connector

BNC x 1

Loop-through, 75 Ω automatic termination

4-pin mini DIN x 1

Loop-through, 75 Ω automatic termination

#### Signal characteristics

Video signal (NTSC/PAL)

Sampling frequency

Y/R-Y/B-Y: 13.5 MHz

Quantization

10 bits/sample

## BKM-229X Analogue Component Input Adaptor

### Features

- Input adaptor for analog component signals
- BNC (x 3) input/output connectors
- Accepts RGB and Component video signals including 575/50i, 480/60i, 576/50p, 480/60p, 1080/50i, 1035/60i, 1080/60i, 720/60p

Supplied Accessories  
Operating instructions (1)

### Applicable Models

BVM-L230 LCD Monitor  
LMD-2050W LCD monitor  
LMD-2450W LCD monitor



### Specifications

#### General

Mass  
Approx. 250 g (9 oz)  
Voltage  
3.3 V, +5 V (supplied from the main unit)  
Power consumption  
Approx. 4.0 W

#### Operating conditions

Temperature  
0°C to 35°C (32°F to 95°F)  
Optimum temperature  
20°C to 30°C (68°F to 86°F)  
Humidity  
0% to 90% (no condensation)

#### Pressure

700hPa to 1060 hPa

#### Storage and transport conditions

Temperature  
-10°C to 40°C (14°F to 104°F)

Humidity  
0% to 90%

#### Pressure

700 hPa to 1060 hPa

#### Maximum external dimensions (W/H/D)

100 x 20 x 162 mm  
(4 x 13/16 x 6 1/2 inches)

#### Input/output connectors

Video input connector  
BNC x 3  
RGB  
0.7 Vp-p ± 3 dB (Sync on Green,  
0.3 Vp-p sync negative)  
Component  
0.7 Vp-p ± 3 dB  
External synchronized input  
BNC x 1  
0.3 to 4 Vp-p ± bipolarity ternary  
or negative polarity binary

#### Signal characteristics

Video signal (Y/R-Y/B-Y)  
Quantization: 10 bits/sample  
Y/R-Y/B-Y: 13.5 MHz

## BKM-220D SDI 4:2:2 Input Adaptor

SDI 4:2:2 Input Adaptor main unit providing video input and output connectors for the main unit and a decoder for serial digital component signals.

### Features

- Decoder for serial digital component signals
- Serial digital input and output signal connector



### Applicable Models

BVM-L230 LCD Monitor  
LMD-2450W LCD Monitor  
LMD-2050W LCD Monitor

### Supplied Accessories

Operating Instructions (1)

### Specifications

#### General

Mass  
Approx. 250 g (9 oz)  
Voltage  
+5 V (supplied from the main unit)  
Power consumption  
Approx. 1.5 W

#### Operating conditions

Temperature  
0°C to 35°C (32°F to 95°F)  
Optimum temperature  
20°C to 30°C (68°F to 86°F)  
Humidity  
0% to 90% (no condensation)

#### Pressure

700hPa to 1060 hPa

#### Storage and transport conditions

Temperature  
-10°C to 40°C (14°F to 104°F)

Humidity  
0% to 90%

#### Pressure

700 hPa to 1060 hPa

#### Maximum external dimensions (w/h/d)

100 x 20 x 162 mm  
(4 x 13/16 x 6 1/2 inches)

#### Input/output connectors

Digital input  
BNC x 2, with monitor output connector

#### Signal characteristics

Digital component signals  
Sampling frequency  
Y/R-Y/B-Y: 13.5 MHz  
Quantization  
10bits/sample

#### MONITOR OUT

Output signal amplitude:  
800 mVp-p ± 10%  
Output impedance:  
75-ohms unbalanced  
Transmission distance  
200 m (approx. 656 ft) max. (When  
using 5C-2V coaxial cables (Fujikura,  
Inc.) or equivalent.)

## BKM-243HS HD SDI & SDI Input Adaptor

HD SDI & SDI Input Adaptor providing video input and output connectors for the main unit and a decoder for HD/D1 serial digital component signals.



### Features

- Decoder for serial digital component signals
- Serial digital input and output signal connector

### Applicable Models

BVM-L230 LCD Monitor  
 LMD-2450W LCD Monitor  
 LMD-2050W LCD Monitor

### Supplied Accessories

Operating Instructions (1)

### Specifications

#### General

Voltage  
 +3.3 V, +5 V (supplied from the main unit)

Power consumption  
 Approx. 2 W

Operating conditions  
 Temperature  
 0°C to 35°C (32°F to 95°F)  
 Optimum temperature  
 20°C to 30°C (68°F to 86°F)  
 Humidity  
 0% to 90% (no condensation)

Pressure  
 700hPa to 1060 hPa

Storage and transport conditions  
 Temperature  
 -10°C to 40°C (14°F to 104°F)  
 Humidity  
 0% to 90%

Pressure  
 700 hPa to 1060 hPa

Maximum external dimensions (w/h/d)  
 100 x 20 x 162 mm  
 (4 x 13/16 3 6 1/2 inches)

Mass  
 Approx. 250 g (9 oz)

Input/output connectors  
 Digital input  
 BNC x 2, with monitor output connector

Signal characteristics  
 Digital component signals  
 Sampling frequency  
 D1-SDI: Y/R-Y/B-Y: 13.5 MHz  
 HD-SDI: Y/PB/PR: 74.25 MHz

Quantization  
 10bits/sample

MONITOR OUT  
 Output signal amplitude:  
 800 mVp-p ± 10%  
 Output impedance:  
 75-ohms unbalanced

Transmission distance  
 D1-SDI: 200 m (approx. 656 ft) max.  
 (When using 5C-2V coaxial cables (Fujikura, Inc.) or equivalent.)  
 HD-SDI: 100 m (approx. 328 ft) max.  
 (When using 5C-FB coaxial cables (Fujikura, Inc.) or equivalent.)

## BKM-30E14 Rack Mount Kit

### Features

- 19-inch EIA standard rack mount kit for 14-inch stand-alone monitors

### Applicable Models

BVM-A14F5M Broadcast Video Monitor



## BKM-30E20 Rack Mount Kit

### Features

- 19-inch EIA standard rack mount kit for 20-inch monitors

### Applicable Models

BVM-A20F1M Broadcast Video Monitor



## BKM-320D SDI 4:2:2 Input adaptor

SDI 4:2:2 Input adaptor

### Applicable Models

LMD-4420 Multiple LCD Monitors  
LMD-5320 Multiple LCD Monitors  
LMD-7220W Multiple LCD Monitors  
LMD-2030W LCD Monitors  
LMD-1420 LCD Monitors

### Specifications

#### Signal characteristics

Input signal format:  
SMPTE259M 270Mbps, 10bit, 4:2:2  
component digital video

#### Input/output connectors

Input: BNC x 1

Output: D-sub9 pin

#### General

Power requirements: +5V(supplied from  
the monitor)

Power consumption: Approx.1.7W

Dimensions(W x H X D):

Approx.68 x 20 x 56 mm(2 3/4 x 1 3/16  
x 2 1/4 inches)  
Mass: Approx.75g(3oz)



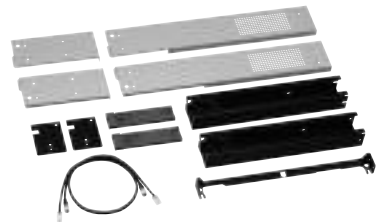
## BKM-35H Control Unit Attachment Kit

### Features

•Attachment kit to attach BKM-15R  
to BVM-A20F1M

### Applicable Models

BVM-A20F1M Broadcast Video Monitor



## BKM-37H Control Unit Attachment Kit

### Features

•Attachment kit to attach BKM-16R  
to BVM-A20F1M

### Applicable Models

BVM-L230 Broadcast Video Monitor

## BKM-61D SDI/Analogue multi input adaptor

### Features

•SDI input with monitor output and analogue composite  
video inputs with loopthrough

### Applicable Models

BVM-A20F1M Broadcast Video Monitor  
BVM-A14F5M Broadcast Video Monitor

### Specifications

#### SDI

2x inputs / 1x monitor output (BNC)

#### Composite PAL/NTSC/SECAM

3x inputs with loop through (BNC)

#### Y/C

1x input (BNC)

### Dimensions

25 (W) x 256 (H) x 248 (D) mm  
(1 x 10 1/8 x 9 7/8 inches)

### Mass

930g (2 lb 1oz)



## BKM-62HS HD SDI/SDI Input Adaptor

### Features

- Automatic detection for HD/SD signal
- Multi format capability
- Single or dual link HD signal

### Applicable Models

BVM-A20F1M Broadcast Video Monitor  
BVM-A14F5M Broadcast Video Monitor

### Specifications

#### HD SDI / SDI

2x inputs with 2x Monitor output (BNC)  
accept 4:4:4 HD, 4:2:2HD and 4:2:2  
Multi format: 1080/48i, 1080/50i, 576/50p,  
480/60p, 1035/60i, 1080/60i, 720/50p,  
720/60p

### Dimensions

25 (W) x 256 (H) x 248 (D) mm  
(1 x 10 1/8 x 9 7/8 inches)

### Mass

910g (2 lb)



---

## BKM-68X HD/SD Analogue Component Input Adaptor

### Features

- Analogue Component/RGB input

### Applicable Models

BVM-A20F1M Broadcast Video Monitor  
BVM-A14F5M Broadcast Video Monitor

### Specifications

1x Y/Pb/Pr or RGB input with loop through (BNC)  
1x Ext Sync with loop through (BNC)  
Multi format: 1080/48i, 1080/50i, 576/50p,  
480/60p, 1035/60i, 1080/60i, 720/50p, 720/60p

### Dimensions

25 (W) x 256 (H) x 248 (D) mm  
(1 x 10 1/8 x 9 7/8 inches)

### Mass

900g (1 lb 16 oz)



## MB-510 Mounting Attachment

### Features

- Mounting attachment for attaching BKM-15R control unit to monitors

### Applicable Models

BKM-15R Central Control Unit



## MB-525 Mounting Bracket

### Features

5U size Rack-Mount Bracket

### Applicable Models

LMD-9050 LCD Monitor

LMD-9030 LCD Monitor

LMD-9020 LCD Monitor

### Specifications

Dimension (W x H x D):

Approx. 484.4 x 222.5 x 158 mm

Mass:

Approx. 1.8kg



## MB-526 Mounting Bracket

### Features

7U size Rack-Mount Bracket

### Applicable Models

LMD-1410 LCD Monitor

LMD-1420 LCD Monitor

### Specifications

Dimensions (W x H x D):

Approx. 483 x 310 x 89 mm

Mass:

Approx. 2kg



## MB-528 Blank Panel

Applicable Models  
MB-525

Specifications  
Dimensions (W x H x D):  
Approx. 216 x 208 x 49 mm  
Mass:  
Approx. 0.6kg

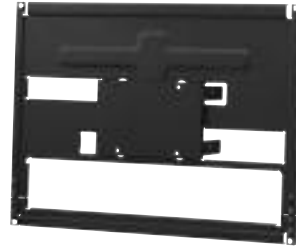


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## MB-529 Rack-Mount Bracket

Applicable Models  
LMD-2030W LCD monitor  
LMD-2050W LCD monitor

Specifications  
Dimensions (W x H x D):  
Approx. 216 x 208 x 49 mm  
Mass:  
Approx. 0.6kg



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## SMF-700 Monitor Interface Cable

Features  
Ethernet and DC power cable for  
connection between BKM-15R and  
BVM-A series

Applicable Models  
BVM-A20F1M Broadcast Video Monitor  
BVM-A14F5M Broadcast Video Monitor  
BKM-15R Central Control Unit

Specifications  
2 metres length



# VF-509 Monitor ENG Kit

### Features

Monitor ENG Kit • Carrying Handle, Viewing Hood and Cable Protector are included.

### Applicable Models

LMD-9050 LCD Monitor

LMD-9030 LCD Monitor

LMD-9020 LCD Monitor

### Specifications

Mass:

Approx.: 1.3kg





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# VPL-CX61 Multi Purpose XGA Projector



High brightness and a range of additional features ensure that the VPL-CX61 will meet the requirements of even the most demanding multi purpose projector users.

## Features

- Side Shot™ for flexibility
- Advanced Intelligent Auto Set-up and Auto Focus
- Brightness in ANSI Lumens: 2500
- Contrast Ratio: 350:1
- Projection System: 3 LCD panels 1 lens system
- Panel Size: 0.79 inch
- Native resolution: XGA 1024x768x3
- Max. Input Signal Resolution: SXGA+ 1400x1050
- Low Fan Noise: 28dB
- Screen Size (diagonally): 40 - 300 inch / 102 - 762 cm



## Supplied Accessories

- Remote Control (RM-PJ5)
- Battery Remote
- Connecting Cable (HD 15-pin)
- Replacement Air Filter
- AC Power Cord

## Optional Accessories

- Replacement Lamp
- Ceiling Mount Bracket
- Ceiling Security Mount Bracket

## Inputs

- HD D-sub 15-pin (1)
- Composite Video (1)
- S-Video (1)
- Audio in (1)

## Specifications

- Brightness in ANSI Lumens  
2500
- Contrast Ratio  
350:1
- Projection System  
3 LCD panels  
1 lens system
- LCD Panel Size  
0.79 inch
- Native Resolution  
XGA 1024x768x3
- Max. Input Signal Resolution  
SXGA+ 1400x1050
- Lens  
Standard zoom  
1.2 times (Powered)  
Optional  
No
- Fan Noise  
28dB
- Keystone Correction  
Vertical  
+/- 30°  
Horizontal  
Side Shot

## Lamp

- Type  
190W UHP
- Life in hours  
3000
- Replacement  
LMP-C190
- Screen Size (diagonally)  
40 - 300 inch  
102 - 762 cm
- Throwing Distance  
80"/2m screen  
2.47 - 2.84m  
100"/2.5m screen  
3.07 - 3.45m
- Ceiling Mount Bracket (optional accy)  
PSS-AT6
- Speaker  
1W Mono
- HD ready  
No
- Filter Cleaning Time (Hours)  
1000
- Off & Go  
Yes
- Power Consumption  
Max: 280W  
Standby: 5W
- Colour  
Silver/Black
- Dimensions (WxHxD) in mm  
328x92.6x283.8
- Weight  
3.7kg

## VPL-CX63 Multi Purpose XGA Projector



High brightness and a range of additional features ensure that the VPL-CX63 will meet the requirements of even the most demanding multi purpose projector users.

### Features

- Side Shot™ for flexibility
- Advanced Intelligent Auto Set-up and Auto Focus
- Brightness in ANSI Lumens: 3000
- Contrast Ratio: 350:1
- Projection System: 3 LCD panels 1 lens system
- Panel Size: 0.79 inch
- Native resolution: XGA 1024x768x3
- Max. Input Signal Resolution: SXGA+ 1400x1050
- Low Fan Noise: 28dB
- Screen Size (diagonally): 40 - 300 inch / 102 - 762 cm



### Supplied Accessories

- Remote Control (RM-PJ5)
- Battery Remote
- Connecting Cable (HD 15-pin)
- Replacement Air Filter
- AC Power Cord

### Optional Accessories

- Replacement Lamp
- Ceiling Mount Bracket
- Ceiling Security Mount Bracket

### Inputs

- HD D-sub 15-pin (1)
- Composite Video (1)
- S-Video (1)
- Audio in (1)

### Specifications

- Brightness in ANSI Lumens  
3000
- Contrast Ratio  
350:1
- Projection System  
3 LCD panels  
1 lens system
- LCD Panel Size  
0.79 inch
- Native Resolution  
XGA 1024x768x3
- Max. Input Signal Resolution  
SXGA+ 1400x1050
- Lens  
Standard zoom  
1.2 times (Powered)  
Optional  
No
- Fan Noise  
28dB
- Keystone Correction  
Vertical  
+/- 30°  
Horizontal  
Side Shot

### Lamp

- Type  
190W UHP
- Life in hours  
3000
- Replacement  
LMP-C190
- Screen Size (diagonally)  
40 - 300 inch  
102 - 762 cm
- Throwing Distance  
80"/2m screen  
2.47 - 2.84m  
100"/2.5m screen  
3.07 - 3.45m
- Ceiling Mount Bracket (optional accy)  
PSS-AT6
- Speaker  
1W Mono
- HD ready  
No
- Filter Cleaning Time (Hours)  
1000
- Off & Go  
Yes
- Power Consumption  
Max: 280W  
Standby: 5W
- Colour  
Silver/Black
- Dimensions (WxHxD) in mm  
328x92.6x283.8
- Weight  
3.7kg

# VPL-CX76 Wireless Mobile XGA Projector



Wireless presentations are made truly simple with the VPL-CX76, using Sony Air Shot™ (Version 2) technology.

## Features

- Air Shot™ (Version 2) technology enables connection using the 802.11b/g standard
- All wireless Air Shot™ accessories are supplied
- Brightness in ANSI Lumens: 2500
- Contrast Ratio: 350:1
- Projection System: 3 LCD panels 1 lens system
- Panel Size: 0.79 inch
- Native resolution: XGA 1024x768x3
- Max. Input Signal Resolution: SXGA+ 1400x1050
- Low Fan Noise: 30dB
- Screen Size (diagonally): 40 - 300 inch / 102 - 762 cm
- Memory Stick Standard, Pro and Duo



## Supplied Accessories

- Remote Control (RM-PJM17 & PJP1)
- Battery Remote (2xR6 & 2xR03)
- Connecting Cable (HD 15-pin & USB)
- Replacement Air Filter
- Carrying Case (Soft)
- 802.11b/g Air Shot 2

## Optional Accessories

- Replacement Lamp
- Ceiling Mount Bracket
- USB Wireless Module with Memory for PC

## Inputs

- D sub 15-pin (Input A) (1)
- Composite Video (1)
- S-Video, Component Video (via Input A) (1)
- USB (1)
- Wireless LAN Card Slot (1)
- Audio in (1)
- Memory Stick Standard, Pro & Duo (1)

## Specifications

- Brightness in ANSI Lumens  
2500
- Contrast Ratio  
350:1
- Projection System  
3 LCD panels  
1 lens system
- LCD Panel Size  
0.79 inch
- Native Resolution  
XGA 1024x768x3
- Max. Input Signal Resolution  
SXGA+ 1400x1050
- Lens  
Standard zoom  
1.2 times (Powered)  
Optional  
No
- Fan Noise  
30dB

- Keystone Correction  
Vertical  
+/- 30° (H=0)  
Horizontal  
Side Shot
- Lamp  
Type  
165W UHP  
Life in hours  
3000  
Replacement  
LMP-C161
- Screen Size (diagonally)  
40 - 300 inch  
102 - 762 cm
- Throwing Distance  
80"/2m screen  
2.4 - 2.7m  
100"/2.5m screen  
3.0 - 3.4m
- Ceiling Mount Bracket (optional accy)  
PSS-AT4
- Speaker  
1W Mono  
HD ready  
No
- Filter Cleaning Time (Hours)  
500
- Off & Go  
Yes
- Power Consumption  
Max: 240W  
Standby: 9W
- Colour  
Pearl White
- Dimensions (WxHxD) in mm  
298x69x244
- Weight  
2.9kg

# VPL-CX86 Wireless Bright XGA Installation Projector



Wireless, stylish and fully packed with a great range of features suitable for standard installation, integration in AV systems, stand-alone display or connection to a LAN.

## Features

- Air Shot™ (Version 2) technology enables a faster and more secure connection using the 802.11b/g standard
- All wireless Air Shot™ accessories are supplied
- Connectors include an RS-232C port for management and control of the projector
- Two 15-pin D Sub inputs allow for flexible connection
- Brightness in ANSI Lumens: 3000
- Contrast Ratio: 350:1
- Projection System: 3 LCD panels 1 lens system
- Panel Size: 0.79 inch
- Native resolution: XGA 1024x768x3
- Max. Input Signal Resolution: SXGA+ 1400x1050
- Low Fan Noise: 28dB
- Screen Size (diagonally): 40 - 300 inch / 102 - 762 cm
- Memory Stick Standard, Pro and Duo



## Supplied Accessories

- Remote Control (RM-PJM17 & PJP1)
- Battery Remote (2xR6 & 2xRC3)
- Connecting Cable (HD 15-pin & USB)
- Replacement Air Filter
- Carrying Case (Soft)
- 802.11b/g Air Shot 2

## Optional Accessories

- Replacement Lamp
- Ceiling Mount Bracket
- USB Wireless Module with Memory for PC

## Inputs

- D sub 15-pin (Input A/B) (2)
- Composite Video (1)
- S-Video (1)
- Component Video (via Input A) (1)
- USB (1)
- RS-232C (1)
- Wireless LAN Card slot (1)
- Audio In (2)
- Memory Stick Standard, Pro & Duo

## Specifications

- Brightness in ANSI Lumens  
3000
- Contrast Ratio  
350:1
- Projection System  
3 LCD panels  
1 lens system
- LCD Panel Size  
0.79 inch
- Native Resolution  
XGA 1024x768x3
- Max. Input Signal Resolution  
SXGA+ 1400x1050
- Lens  
Standard zoom  
1.2 times (Powered)  
Optional  
No
- Fan Noise  
28dB

- Keystone Correction  
Vertical  
+/- 30° (H=0)  
Horizontal  
Side Shot
- Lamp  
Type  
190W UHP  
Life in hours  
3000  
Replacement  
LMP-C190
- Screen Size (diagonally)  
40 - 300 inch  
102 - 762 cm
- Throwing Distance  
80"/2m screen  
2.4 - 2.7m  
100"/2.5m screen  
3.0 - 3.4m
- Ceiling Mount Bracket (optional accy)  
PSS-AT3
- Speaker  
1W Mono  
HD ready  
No
- Filter Cleaning Time (Hours)  
1000
- Off & Go  
Yes
- Direct On/Off  
Yes
- Power Consumption  
Max: 280W  
Standby: 7W
- Colour  
Pearl White
- Dimensions (WxHxD) in mm  
328x93x284
- Weight  
3.8kg

# VPL-CX100 Data Projector



## Features

- High picture quality (XGA resolution) and bright images (2700 lumens) •3LCD projection system •Multiple interfaces for flexible configurations •Easy lamp replacement and filter cleaning (minimal maintenance)
- Vertical digital keystone correction •Quiet and efficient operation •High security (control panel key lock, password authentication system, security bar, and Kensington lock) •Compact Card-Type remote commander unit •Digital zoom function (up to 4x) •Image freeze function •Smart APA (auto pixel alignment) •Multi language OSD •Ceiling mount design\* •Direct power On/Off •Picture/Audio muting •Low power consumption (0.5 w standby power)



## Supplied Accessories

- Remote Commander Unit (Card type) (1)
- Lithium battery CR2025 (2)
- Lens cap (1)
- HD D-sub 15-pin cable (2m) (1)
- AC Power Cord (1)
- Operating Instructions and Application Software (CD-ROM) (1)
- Quick Reference Manual (1)
- Safety Regulations (1)
- Security Label (1)
- Warranty Card (1)

## Optional Accessories

- LMP-C200 Projector Lamp (for replacement)

## Specifications

### Optical

- Projection system
  - 3 LCD panels, 1 lens projection system
- LCD panel
  - 0.79-inch XGA panel,
  - 2,359,296 (1024 x 768 x 3) pixels
- Projection lens
  - 1.2 times zoom lens, f23.5 to 28.2 mm,
  - F1.75 to 2.17
- Lamp
  - 200W ultra high pressure Lamp
- Screen coverage
  - 40 to 300 inches (measured diagonally)
- Keystone correction range
  - Vertical: +/- 25° (max.)
- Light output
  - 2700 lumens (lamp mode high),
  - 1900 lumens (lamp mode standard)

### Signals

- Color system
  - NTSC3.58, PAL, SECAM, NTSC4.43,
  - PAL-M, PAL-N, PAL60 (automatically/ manually selected)
- Resolution
  - Video: 750 TV lines,
  - RGB: 1024 x 768 pixels
- Acceptable computer signals
  - fH : 19 to 92KHz, fV : 48 to 92Hz
  - (Up to SXGA+ (fV 60Hz))

### Acceptable video signals

- 15khz RGB 50/60Hz, Component 50/60Hz, Progressive Component 50/60Hz, DTV (480/60i, 575/50i, 480/60p, 575/50p, 720/60p, 720/50p, 1080/60i, 1080/50i), Composite Video, Y/C Video

### Speaker

- Mono 1 W (max.) x1

### General

- Dimensions (W x H x D)
  - 372 x 90 x 298 mm,
  - (14 3/4 x 3 5/8 x 11 3/4 inches)
- Mass

- Approx. 4.1 kg (9 lbs 1 oz)
- Power requirements
  - AC 100 to 240 V, 2.9 - 1.2 A, 50/60 Hz
- Power consumption
  - Max. 285 W, Standby 7 W,
  - Standby (low) 0.5 W
- Heat dissipation
  - 973 BTU
- Operating temperature
  - 0 to 35 °C (32 to 95 °F)
- Operating humidity
  - 35 to 85% (no condensation)
- Storage temperature
  - 20 to 60 °C (-4 to 140 °F)
- Storage humidity
  - 10 to 90%

### Inputs/Outputs

- VIDEO IN
  - Video
    - Composite Video (RCA phono jack)
  - S Video
  - Y/C Mini DIN 4-pin
- Audio
  - Stereo mini jack
- INPUT A
  - Analog RGB / Component
    - HD D-sub 15-pin (female)
  - Audio
    - Stereo mini jack
- INPUT B
  - Analog RGB
    - HD D-sub 15-pin (female)
  - Audio
    - Stereo mini jack

### OUTPUT

- Monitor out
  - HD D-sub 15pin
- Audio
  - Stereo mini jack (variable out)
- REMOTE
  - RS-232C: D-sub 9 pin (female)

# VPL-CX120 Data Projector



## Features

- High picture quality (XGA resolution) and bright images (3000 lumens) •3LCD projection system •Multiple interfaces for flexible configurations •Easy lamp replacement and filter cleaning (minimal maintenance)
- Vertical digital keystone correction •Quiet and efficient operation •High security (control panel key lock, password authentication system, security bar, and Kensington lock) •Compact Card-Type remote commander unit •Digital zoom function (up to 4x) •Image freeze function •Smart APA (auto pixel alignment) •Multi language OSD •Ceiling mount design\* •Direct power On/Off •Picture/Audio muting •Low power consumption (0.5 w standby power)



## Supplied Accessories

- Remote Commander Unit (Card type) (1)
- Lithium battery CR2025 (2)
- Lens cap (1)
- HD D-sub 15-pin cable (2m) (1)
- AC Power Cord (1)
- Operating Instructions and Application Software (CD-ROM) (1)
- Quick Reference Manual (1)
- Safety Regulations (1)
- Security Label (1)
- Warranty Card (1)

## Optional Accessories

- LMP-C200 Projector Lamp (for replacement)

## Specifications

### Optical

- Projection system
  - 3 LCD panels, 1 lens projection system
- LCD panel
  - 0.79-inch XGA panel, 2,359,296 (1024 x 768 x 3) pixels
- Projection lens
  - 1.2 times zoom lens, f23.5 to 28.2 mm, F1.75 to 2.17
- Lamp
  - 200W ultra high pressure Lamp
- Screen coverage
  - 40 to 300 inches (measured diagonally)
- Keystone correction range
  - Vertical: +/- 25° (max.)
- Light output
  - 3000 lumens (lamp mode high),
  - 2200 lumens (lamp mode standard)

### Signals

- Color system
  - NTSC3.58, PAL, SECAM, NTSC4.43, PAL-M, PAL-N, PAL60 (automatically/ manually selected)
- Resolution
  - Video: 750 TV lines,
  - RGB: 1024 x 768 pixels
- Acceptable computer signals
  - fH: 19 to 92KHz, fV : 48 to 92Hz (Up to SXGA+ (fV 60Hz))

### Acceptable video signals

- 15khz RGB 50/60Hz, Component 50/60Hz, Progressive Component 50/60Hz, DTV (480/60i, 575/50i, 480/60p, 575/50p, 720/60p, 720/50p, 1080/60i, 1080/50i), Composite Video, Y/C Video

### Speaker

- Mono 1 W (max.) x1

### General

- Dimensions (W x H x D)
  - 372 x 90 x 298 mm,
  - (14 3/4 x 3 5/8 x 11 3/4 inches)
- Mass

- Approx. 4.1 kg (9 lbs 1 oz)
- Power requirements n
  - AC 100 to 240 V, 2.9 - 1.2 A, 50/60 Hz
- Power consumption
  - Max. 285 W, Standby 7 W,
  - Standby (low) 0.5 W
- Heat dissipation
  - 973 BTU
- Operating temperature
  - 0 to 35 °C (32 to 95 °F)
- Operating humidity
  - 35 to 85% (no condensation)
- Storage temperature
  - 20 to 60 °C (-4 to 140 °F)
- Storage humidity
  - 10 to 90%

### Inputs/Outputs

- VIDEO IN
  - Video
    - Composite Video (RCA phono jack)
  - S Video
  - Y/C Mini DIN 4-pin
- Audio
  - Stereo mini jack
- INPUT A
  - Analog RGB / Component
    - HD D-sub 15-pin (female)
  - Audio
    - Stereo mini jack
- INPUT B
  - Analog RGB
    - HD D-sub 15-pin (female)
  - Audio
    - Stereo mini jack

### OUTPUT

- Monitor out
  - HD D-sub 15pin
- Audio
  - Stereo mini jack (variable out)
- REMOTE
  - RS-232C: D-sub 9 pin (female)

## VPL-CX150 Data Projector



The VPL-CX150 is a compact and stylish projector ideal for use in both classrooms and conference rooms. This projector is capable of projecting high-quality images in XGA resolution with a brightness of 3500 lumens.

### Features

- High Picture Quality and Bright Images •3LCD Projection System •Multiple Interfaces for Flexible Configurations •Easy Lamp Replacement and Filter Cleaning (Minimal Maintenance) •Vertical digital keystone correction •Quiet and Efficient Operation •High Security (Control Panel Key Lock, Password Authentication System, Security Bar, and Kensington Lock) •Multi-Function Remote Commander Unit
- Digital Zoom Function (up to 4x) •Image Freeze Function •Smart APA (Auto Pixel Alignment) •Multi Language OSD •Ceiling Mount Design\* •Direct Power On/Off •Picture/Audio Muting •Low Power Consumption (0.5 W standby power)

\* Requires an optional ceiling mount kit. Please contact your local Sony sales office for details.



### Supplied Accessories

- Remote Commander Unit (Card type)
- Lithium battery CR2025
- Lens cap
- HD D-sub 15-pin cable (2m)
- AC Power Cord
- Operating Instructions and Application Software (CD-ROM)
- Quick Reference Manual
- Safety Regulations
- Security Label
- Warranty Card

### Optional Accessories

- LMP-C200 Projector Lamp (for replacement)

### Specifications

#### Optical

- Projection system
  - 3 LCD panels, 1 lens projection system
- LCD panel
  - 0.79-inch XGA panel, 2,359,296 (1024 x 768 x 3) pixels
- Projection lens
  - 1.2 times zoom lens, f23.5 to 28.2 mm, F1.75 to 2.17

#### Lamp

- 200W ultra high pressure Lamp
- Screen coverage
  - 40 to 300 inches (measured diagonally)
- Keystone correction range
  - Vertical: +/- 25° (max.)
- Light output
  - 3500 lumens (lamp mode high),
  - 2500 lumens (lamp mode standard)

#### Signals

- Color system
  - NTSC3.58, PAL, SECAM, NTSC4.43, PAL-M, PAL-N, PAL60 (automatically/ manually selected)
- Resolution
  - Video: 750 TV lines, RGB: 1024 x 768 pixels
- Acceptable computer signals
  - fH : 19 to 92KHz, fV : 48 to 92Hz (Up to SXGA+ (fV 60Hz))
- Acceptable video signals
  - 15k RGB 50/60Hz, Component 50/60Hz, Progressive Component, DTV (480/60i, 575/50i, 480/60p, 575/50p, 720/60p, 720/50p, 1080/60i, 1080/50i), Composite Video, Y/C Video

#### Speaker

- Mono 1 W (max.) x1

#### General

- Dimensions (W x H x D)
  - 372 x 90 x 298 mm, (14 3/4 x 3 5/8 x 11 3/4 inches)
- Mass
  - Approx. 4.1 kg (9 lbs 1 oz)
- Power requirements
  - AC 100 to 240 V, 2.9 - 1.2 A, 50/60 Hz
- Power consumption
  - Max. 285 W, Standby 7 W, Standby (low) 0.5 W
- Heat dissipation
  - 973 BTU
- Operating temperature
  - 0 to 35 °C (32 to 95 °F)
- Operating humidity
  - 35 to 85% (no condensation)
- Storage temperature
  - 20 to 60 °C (-4 to 140 °F)
- Storage humidity
  - 10 to 90%

#### Inputs/Outputs

- VIDEO IN
  - Video
    - Composite Video (RCA phono jack)
  - S Video
    - Y/C Mini DIN 4-pin
  - Audio
    - Stereo mini jack
- INPUT A
  - Analog RGB / Component
    - HD D-sub 15-pin (female)
  - Audio
    - Stereo mini jack
- INPUT B
  - Analog RGB
    - HD D-sub 15-pin (female)
  - Audio
    - Stereo mini jack
- OUTPUT
  - Monitor out
    - HD D-sub 15pin
  - Audio
    - Stereo mini jack (variable out)
- REMOTE
  - RS-232C: D-sub 9 pin (female)



# VPL-CX125 Data Projector



The VPL-CX125 is a compact and stylish projector ideal for use in both classrooms and conference rooms. This projector is capable of projecting high-quality images in native XGA (1024 x 768) resolution with a brightness of 3000 lumens.

## Features

- High Picture Quality and Bright Images
- 3LCD Projection System
- Multiple Interfaces for Flexible Configurations
- Easy Lamp Replacement and Filter Cleaning (Minimal Maintenance)
- ID Function for Multi-Projector Installation
- Vertical and Horizontal Digital Keystone Correction
- Maintenance via Network
- Quiet and Efficient Operation
- High Security (Control Panel Key Lock, Password Authentication System, Security Bar, and Kensington Lock)
- Multi-Function Remote Commander Unit
- Network Presentations
- High-speed Image Transfer over IP Networks
- Network Presentations Using up To Five Projectors
- Network Presentations Almost Anywhere
- Digital Zoom Function (up to 4x)
- Image Freeze Function
- Smart APA (Auto Pixel Alignment)
- Multi Language OSD
- Ceiling Mount Design\*
- Direct Power On/Off
- Picture/Audio Muting
- Low Power Consumption (0.5 W standby power)



\* Requires an optional ceiling mount kit. Please contact your local Sony sales office for details.

## Supplied Accessories

- Remote Commander Unit (1)
- Size AA (R6) batteries (2)
- Lens cap (1)
- HD D-sub 15-pin cable (2m) (1)
- AC Power Cord (1)
- Operating Instructions and Application Software (CD-ROM) (1)
- Quick Reference Manual (1)
- Safety Regulations (1)
- Security Label (1)
- Warranty Card (1)
- Optional Accessories

## Optional Accessories

- LMP-C200 Projector Lamp (for replacement)

## Specifications

### Optical

- Projection system
  - 3 LCD panels, 1 lens projection system
- LCD panel
  - 0.79-inch XGA panel, 2,359,296 (1024 x 768 x 3) pixels
- Projection lens
  - 1.2 times zoom lens, f23.5 to 28.2 mm, F1.75 to 2.17
- Lamp
  - 200W ultra high pressure Lamp
- Screen coverage
  - 40 to 300 inches (measured diagonally)
- Keystone correction range
  - Vertical: +/- 25° (max.),
  - Horizontal: +/- 15°(max.)

### Light output

- 3000 lumens (lamp mode high),
- 2200 lumens (lamp mode standard)

### Signals

- Color system
  - NTSC3.58, PAL, SECAM, NTSC4.43, PAL-M, PAL-N, PAL60 (automatically/ manually selected)

### Resolution

- Video: 750 TV lines,
  - RGB: 1024 x 768 pixels
- Acceptable computer signals
- fH : 19 to 92KHz, fV : 48 to 92Hz (Up to SXGA+ (fV 60Hz))

### Acceptable video signals

- 15khz RGB 50/60Hz, Component 50/60Hz, Progressive Component 50/60Hz, DTV (480/60i, 575/50i, 480/60p, 575/50p, 720/60p, 720/50p, 1080/60i, 1080/50i), Composite Video, Y/C Video

### Speaker

- Mono 1 W (max.) x1

### General

- Dimensions (W x H x D)
  - 372 x 90 x 298 mm,
  - (14 3/4 x 3 5/8 x 11 3/4 inches)

### Mass

- Approx. 4.1 kg (9 lbs 1 oz)

### Power requirements

- AC 100 to 240 V, 2.9 - 1.2 A, 50/60 Hz

### Power consumption

- Max. 285 W, Standby 7 W,
- Standby (low) 0.5 W

### Heat dissipation

- 973 BTU

### Operating temperature

- 0 to 35 °C (32 to 95 °F)

### Operating humidity

- 35 to 85% (no condensation)

### Storage temperature

- 20 to 60 °C (-4 to 140 °F)

### Storage humidity

- 10 to 90%

### Inputs/Outputs

#### VIDEO IN

- Video
  - Composite Video (RCA phono jack)

#### S Video

- Y/C Mini DIN 4-pin

#### Audio

- Stereo mini jack

#### INPUT A

- Analog RGB / Component
- HD D-sub 15-pin (female)

#### Audio

- Stereo mini jack

#### INPUT B

- Analog RGB
- HD D-sub 15-pin (female)

#### Audio

- Stereo mini jack

#### INPUT C

- Network
- RJ45: 100BASE-TX/10BASE-T

#### OUTPUT

- Monitor out
- HD D-sub 15pin
- Audio
- Stereo mini jack (variable out)

#### REMOTE

- RS-232C: D-sub 9 pin (female)

# VPL-CX155 Data Projector



The VPL-CX155 is a compact and stylish projector ideal for use in both classrooms and conference rooms. This projector is capable of projecting high-quality images in XGA resolution with a brightness of 3500 lumens and NetWork Presentation capability.

## Features

- High Picture Quality and Bright Images •3LCD Projection System •Multiple Interfaces for Flexible Configurations •Easy Lamp Replacement and Filter Cleaning (Minimal Maintenance) •ID Function for Multi-Projector Installation •Vertical and Horizontal Digital Keystone Correction •Maintenance via Network •Quiet and Efficient Operation •High Security (Control Panel Key Lock, Password Authentication System, Security Bar, and Kensington Lock) •Multi-Function Remote Commander Unit •Network Presentations •High-speed Image Transfer over IP Networks •Network Presentations Using up To Five Projectors •Network Presentations Almost Anywhere •Digital Zoom Function (up to 4x) •Image Freeze Function •Smart APA (Auto Pixel Alignment) •Multi Language OSD •Ceiling Mount Design\* •Direct Power On/Off •Picture/Audio Muting •Low Power Consumption (0.5 W standby power)



\* Requires an optional ceiling mount kit. Please contact your local Sony sales office for details.

## Supplied Accessories

- Remote Commander Unit
- Size AA (R6) batteries
- Lens cap
- HD D-sub 15-pin cable (2m)
- AC Power Cord
- Operating Instructions and Application Software (CD-ROM)
- Quick Reference Manual
- Safety Regulations
- Security Label
- Warranty Card

## Optional Accessories

- LMP-C200 Projector Lamp (for replacement)

## Specifications

### Optical

- Projection system  
3 LCD panels, 1 lens projection system
- LCD panel  
0.79-inch XGA panel,  
2,359,296 (1024 x 768 x 3) pixels
- Projection lens  
1.2 times zoom lens, f23.5 to 28.2 mm,  
F1.75 to 2.17
- Lamp  
200W ultra high pressure Lamp
- Screen coverage  
40 to 300 inches (measured diagonally)
- Keystone correction range  
Vertical: +/- 25° (max.),  
Horizontal: +/- 15° (max.)

### Light output

- 3500 lumens (lamp mode high),  
2500 lumens (lamp mode standard)

### Signals

- Color system  
NTSC3.58, PAL, SECAM, NTSC4.43,  
PAL-M, PAL-N, PAL60 (automatically/  
manually selected)
- Resolution  
Video: 750 TV lines,  
RGB: 1024 x 768 pixels
- Acceptable computer signals  
fH : 19 to 92KHz, fV : 48 to 92Hz  
(Up to SXGA+ (fV 60Hz))
- Acceptable video signals  
15k RGB 50/60Hz, Component 50/60Hz,  
Progressive Component, DTV (480/60i,  
575/50i, 480/60p, 575/50p, 720/60p,  
720/50p, 1080/60i, 1080/50i), Composite  
Video, Y/C Video

### Speaker

- Mono 1 W (max.) x1

### General

- Dimensions (W x H x D)  
372 x 90 x 298 mm,  
(14 3/4 x 3 5/8 x 11 3/4 inches)
- Mass  
Approx. 4.1 kg (9 lbs 1 oz)
- Power requirements  
AC 100 to 240 V, 2.9 - 1.2 A, 50/60 Hz
- Power consumption  
Max. 285 W, Standby 7 W,  
Standby (low) 0.5 W
- Heat dissipation  
973 BTU

### Operating temperature

- 0 to 35 °C (32 to 95 °F)
- Operating humidity  
35 to 85% (no condensation)
- Storage temperature  
-20 to 60 °C (-4 to 140 °F)
- Storage humidity  
10 to 90%

### Inputs/Outputs

- VIDEO IN  
Video  
Composite Video (RCA phono jack)
- S Video  
Y/C Mini DIN 4-pin
- Audio  
Stereo mini jack
- INPUT A  
Analog RGB / Component  
HD D-sub 15-pin (female)
- Audio  
Stereo mini jack
- INPUT B  
Analog RGB  
HD D-sub 15-pin (female)
- Audio  
Stereo mini jack
- INPUT C  
Network  
RJ45: 100BASE-TX/10BASE-T
- OUTPUT  
Monitor out  
HD D-sub 15pin
- Audio  
Stereo mini jack (variable out)
- REMOTE  
RS-232C: D-sub 9 pin (female)

# VPL-CW125 Data Projector



## Features

- High picture quality (WXGA resolution) and bright images (3000 lumens) •3LCD projection system
- Multiple interfaces for flexible configurations •Easy lamp replacement and filter cleaning (minimal maintenance)
- ID function for Multi-Projector installation •Vertical and horizontal digital keystone correction •Maintenance via network
- Quiet and efficient operation •High security (control panel key lock, password authentication system, security bar, and Kensington lock) •Multi-Function remote commander unit
- Network presentations •High-speed image transfer over IP networks •Network presentations using up to five projectors
- Network presentations almost anywhere using a remote PC •Digital zoom function (up to 4x) •Image freeze function
- Smart APA (auto pixel alignment) •Multi language OSD •Ceiling mount design
- Direct power On/Off •Picture/Audio muting •Low power consumption (0.5 w standby power)



## Supplied Accessories

- Remote Commander Unit (1)
- Size AA (R6) batteries
- Lens cap (1)
- HD D-sub 15-pin cable (2m) (1)
- AC Power Cord (1)
- Operating Instructions and Application Software (CD-ROM) (1)
- Quick Reference Manual (1)
- Safety Regulations (1)
- Security Label (1)
- Warranty Card (1)

## Optional Accessories

- LMP-C200 Projector Lamp (for replacement)

## Specifications

### Optical

- Projection system
  - 3 LCD panels, 1 lens projection system
- LCD panel
  - 0.74-inch WXGA panel, 3,278,400 (1366 x 800 x 3) pixels
- Projection lens
  - 1.2 times zoom lens, f23.5 to 28.2 mm, F1.75 to 2.17
- Lamp
  - 200W ultra high pressure Lamp
- Screen coverage
  - 40 to 300 inches (measured diagonally)
- Keystone correction range
  - Vertical: +/- 22° (max.),
  - Horizontal: +/- 16° (max.)
- Light output
  - 3000 lumens (lamp mode high),
  - 2200 lumens (lamp mode standard)

### Signals

- Color system
  - NTSC3.58, PAL, SECAM, NTSC4.43, PAL-M, PAL-N, PAL60 (automatically/ manually selected)

### Resolution

- Video: 750 TV lines, RGB: 1366 x 800 pixels
- Acceptable computer signals
  - fH : 19 to 92KHz, fV : 48 to 92Hz (Up to SXGA+ (fV 60Hz))
- Acceptable video signals
  - 15khz RGB 50/60Hz, Component 50/60Hz, Progressive Component 50/60Hz, DTV (480/60i, 575/50i, 480/60p, 575/50p, 720/60p, 720/50p, 1080/60i, 1080/50i), Composite Video, Y/C Video

### Speaker

- Mono 1 W (max.) x1

### General

- Dimensions (W x H x D)
  - 372 x 90 x 298 mm, (14 3/4 x 3 5/8 x 11 3/4 inches)

### Mass

- Approx. 4.1 kg (9 lbs 1 oz)

### Power requirements

- AC 100 to 240 V, 2.9 - 1.2 A, 50/60 Hz

### Power consumption

- Max. 287 W, Standby 7 W, Standby (low) 0.5 W

### Heat dissipation

- 979 BTU

### Operating temperature

- 0 to 35 °C (32 to 95 °F)

### Operating humidity

- 35 to 85% (no condensation)

### Storage temperature

- 20 to 60 °C (-4 to 140 °F)

### Storage humidity

- 10 to 90%

## Inputs/Outputs

- VIDEO IN
  - Video
    - Composite Video (RCA phono jack)
  - S Video
    - Y/C Mini DIN 4-pin
  - Audio
    - Stereo mini jack
- INPUT A
  - Analog RGB / Component
    - HD D-sub 15-pin (female)
  - Audio
    - Stereo mini jack
- INPUT B
  - Analog RGB
    - HD D-sub 15-pin (female)
  - Audio
    - Stereo mini jack
- INPUT C
  - Network
    - RJ45: 100BASE-TX/10BASE-T
- OUTPUT
  - Monitor out
    - HD D-sub 15pin
  - Audio
    - Stereo mini jack (variable out)
- REMOTE
  - RS-232C: D-sub 9 pin (female)

# VPL-FX52/L Bright XGA Data Projector



The VPL-FX52 delivers a high brightness of 6000 ANSI lumens in a stylish and sophisticated design. Its outstanding functionality includes the ability to project high quality images, networking capability and installation flexibility, making it ideal for almost any large conference room or auditorium. The VPL-FX52L has three optional lenses for long, short and rear projection applications.



## Features

- Dynamic Detail Enhancer (DDE) for high quality video images
- Lens Shift
- 90° tilt function
- Brightness in ANSI Lumens: 6000
- Contrast Ratio: 1000:1
- Projection System: 3 LCD panels 1 lens system
- Panel Size: 1.3 inch
- Native resolution: XGA 1024x768x3
- Max. Input Signal Resolution: UXGA 1600x1200
- Fan Noise: 35dB
- Screen Size (diagonally): 40 - 300 inch / 102 - 762 cm

## Supplied Accessories

- Remote Control (RM-PJM17)
- Battery Remote (2xR6 AA)
- Replacement Air Filter

## Optional Accessories (VPL-FX52L)

- 3 lenses for long, short and rear projection applications

## Inputs

- D sub 15-pin (Input A)
- Composite Video (1)
- S-Video (1)
- Component Video (via 5BNC)
- DVI-D (Input B)
- RS-232C (1)
- CTRL S (1)
- 5BNC (Input C)
- Ether (RJ-45)
- Trigger Out (1) 12 V
- (Output) Monitor Out

## Specifications

- Brightness in ANSI Lumens  
6000
- Contrast Ratio  
1,000:1
- Projection System  
3 LCD panels  
1 lens system
- LCD Panel Size  
1.3 inch
- Native Resolution  
XGA 1024x768x3
- Max. Input Signal Resolution  
UXGA 1600x1200
- Lens  
Standard zoom (VPL-FX52)  
1.3 times (Powered)  
Optional (VPL-FX52/L)  
VPLL-FM21/ ZM31/ZM101
- Fan Noise  
35dB

- Keystone Correction  
Vertical  
+/- 20°  
Horizontal  
No
- Lamp  
Type  
300W UHP  
Life in hours  
2500  
Replacement  
LMP-F300
- Screen Size (diagonally)  
40 - 300 inch  
102 - 762 cm
- Throwing Distance  
80"/2m screen  
3.06 - 3.74m  
100"/2.5m screen  
3.85 - 4.7m
- Ceiling Mount Bracket (optional accy)  
PSS-620
- Speaker  
No
- HD ready  
Accept HD Signal  
Scan to XGA
- Filter Cleaning Time (Hours)  
1500
- Off & Go  
Yes
- Direct On/Off  
Yes
- Power Consumption  
Max: 400W  
Standby: 7W
- Colour  
White & Silver
- Dimensions (WxHxD) in mm  
420x169x502 (VPL-FX52)  
420x169x464 (VPL-FX52L)
- Weight  
10.5kg (VPL-FX52)  
9.1kg (VPL-FX52L)

# VPL-FX40/L XGA Network Projector



BrightEra.

Delivering an extremely bright 4000 ANSI lumens in a slick sophisticated body, the VPL-FX40 is an excellent projector for high-impact multimedia presentations. For applications ranging from business conferences and seminars to education, in locations such as boardrooms, large conference rooms, R&D facilities, and university classrooms, this projector will captivate audiences with breathtaking image quality.

The VPL-FX40 and VPL-FE40 installation projectors are the first in our new line up to incorporate our new BrightEra™ inorganic alignment layer 0.79" LCD panels. The VPL-FX40L has three optional lenses.



## Features

- Dynamic Detail Enhancer (DDE) for high quality video images
- Lens Shift
- 90° tilt function
- Brightness in ANSI Lumens: 4000
- Contrast Ratio: 700:1
- Projection System: 3 inorganic LCD panels 1 lens system
- Panel Size: 0.79 inch
- Native resolution: XGA 1024x768
- Max. Input Signal Resolution: 1024 x 768 x 3
- Fan Noise: 28dB
- Screen Size (diagonally): 40 - 600 inch (for VPL-FX40L, screen coverage is 40-600 inches with VPLL-Z1024 or VPLL-Z1032/ 60-300 inches with VPLL-1008)

## Supplied Accessories

- Remote Commander Unit (x1)
- AA batteries (x2)
- Operating instructions and application software (x1)
- Quick reference manual (x1)
- Warranty card (x1)

## Optional Accessories

- Replacement lamp (LMP-F270)
- Ceiling Bracket (PSS-610NL)
- Ziris Light management software

## Optional lenses for VPL-FX40L

- VPLL-1008 Fixed lens
- VPLL-Z1024 Zoom lens
- VPLL-Z1032 Zoom lens

## Inputs

### VIDEO IN

- Video
  - Composite Video (RCA phono jack)
- S Video
  - Y/C Mini DIN 4-pin
- Audio
  - Stereo (RCA phono jack)

### INPUT A

- Analogue RGB
  - HD D-sub 15-pin (female)
- Audio
  - Stereo mini jack

### INPUT B

- Analogue RGB
  - HD D-sub 15-pin (female)
- Audio
  - Stereo mini jack

### INPUT C

- Analogue RGB/component
  - BNC x5

## Audio

- Stereo mini jack
- INPUT D
  - Digital RGB/Audio
  - Digital RGB/Y CB (PB) CR (PR):
  - HDMI (HDCP)
- INPUT E

## Network

- RJ45: 100Base-TX/10Base-T

## OUTPUT

- Monitor out
  - Analogue RGB: HD D-sub 15pin
- Audio

- Stereo mini jack (variable out)

## REMOTE RS-232C

- D-sub 9 pin (female)
- Control S IN
  - Stereo mini jack (plug-in-power)

## Key Specifications

- Native Resolution
  - XGA (1024x 768)
- Max Signal Input Resolution
  - 1024 x 768 x 3
- Panel Type
  - 0.79" TFT LCD x 3
- Projection System
  - 3 Inorganic LCD panels, 1 lens system
- Brightness
  - 4000 ANSI lumen
- Contrast Ratio
  - 700:1
- Fan Noise
  - 28dB
- Weight
  - Approx 9.8 kg (Approx. 9.0 kg for VPL-FX40L)
- Dimensions (W x H x D)
  - 532 x 145 x 352 mm

## General

- Standard Lens
  - 1.3 times powered zoom lens\*
- Vertical Keystone Correction
  - ± 30°
- Vertical and Horizontal Shift
  - V Shift 0 - 1/2V / H Shift 1/10 H
- Lamp Type
  - 275W Ultra High Pressure
- Lamp Life (Replacement time)
  - 2500 H
- Max Power Consumption
  - 400W
- Standby Power Consumption
  - 15W (Standby mode: Standard / 0.5W (low))

## Throwing Distance (Standard Lens)

- Min - Max Screen Size (diagonally)
  - 40 - 600 inch\*\*
- 40-inch / 1m screen
  - 1.48 - 1.9m
- 80-inch / 2m screen
  - 3.03 - 3.86m
- 100-inch / 2.5m screen
  - 3.81 - 4.84m
- 150-inch / 3.8m screen
  - 5.74 - 7.29m
- 200-inch / 5.1m screen
  - 7.68 - 9.74m
- 300-inch / 7.6m screen
  - 11.55 - 14.64m
- 600-inch / 15.2m screen
  - 23.16 - 29.35m

\* Not supplied with the VPL-FX40L.

\*\* For VPL-FX40L, screen coverage is 40-600 inches with VPLL-Z1024 or VPLL-Z1032 / 60-300 inches with VPLL-1008.

# VPL-FE40/L SXGA+ Data Projector



BrightEra.

Delivering an extremely bright 4000 ANSI lumens in a slick sophisticated body, the VPL-FE40 is an excellent projector for high-impact multimedia presentations. For applications ranging from business conferences and seminars to education, in locations such as boardrooms, large conference rooms, R&D facilities, and university classrooms, this projector will captivate audiences with breathtaking image quality.

The VPL-FX40 and VPL-FE40 installation projectors are the first in our new line up to incorporate our new BrightEra™ inorganic alignment layer 0.79" LCD panels. The VPL-FE40L has three optional lenses.



## Features

- Dynamic Detail Enhancer (DDE) for high quality video images
- Lens Shift
- 90° tilt function
- Brightness in ANSI Lumens: 4000
- Contrast Ratio: 700:1
- Projection System: 3 inorganic LCD panels 1 lens system
- Panel Size: 0.79 inch
- Native resolution: SXGA+ 1400 x 1050
- Max. Input Signal Resolution: 1400 x 1050 x 3
- Fan Noise: 35dB
- Screen Size (diagonally): 40 - 600 inch (for VPL-FE40L, screen coverage is 40-600 inches with VPLL-Z1024 or VPLL-Z1032/ 60-300 inches with VPLL-1008)

## Supplied Accessories

- Remote Commander Unit (x1)
- AA batteries (x2)
- Operating instructions and application software (x1)
- Quick reference manual (x1)
- Warranty card (x1)

## Optional Accessories

- Replacement lamp (LMP-F270)
- Ceiling Bracket (PSS-610NL)
- Ziris Light management software

## Optional lenses for VPL-FE40L

- VPLL-1008 Fixed lens
- VPLL-Z1024 Zoom lens
- VPLL-Z1032 Zoom lens

## Inputs

### VIDEO IN

- Video
  - Composite Video (RCA phono jack)
- S Video
  - Y/C Mini DIN 4-pin
- Audio
  - Stereo (RCA phono jack)

### INPUT A

- Analogue RGB
  - HD D-sub 15-pin (female)

- Audio
  - Stereo mini jack

### INPUT B

- Analogue RGB
  - HD D-sub 15-pin (female)

- Audio
  - Stereo mini jack

### INPUT C

- Analogue RGB/component
  - BNC x5

## Audio

- Stereo mini jack
- INPUT D
  - Digital RGB/Audio
    - Digital RGB/Y CB (PB) CR (PR):
      - HDMI (HDCP)
- INPUT E
  - Network
    - RJ45: 100Base-TX/10Base-T
- OUTPUT
  - Monitor out
    - Analogue RGB: HD D-sub 15pin
  - Audio
    - Stereo mini jack (variable out)
- REMOTE RS-232C
  - D-sub 9 pin (female)
- Control S IN
  - Stereo mini jack (plug-in-power)

## Key Specifications

- Native Resolution
  - SXGA+ (1400 x 1050)
- Max Signal Input Resolution
  - 1400 x 1050 x 3
- Panel Type
  - 0.79" TFT LCD x 3
- Projection System
  - 3 Inorganic LCD panels, 1 lens system
- Brightness
  - 4000 ANSI lumen
- Contrast Ratio
  - 700:1
- Fan Noise
  - 35dB
- Weight
  - Approx 9.8 kg (Approx. 9.0 kg for VPL-FE40L)
- Dimensions (W x H x D)
  - 532 x 145 x 352 mm

## General

- Standard Lens
  - 1.3 times powered zoom lens\*
- Vertical Keystone Correction
  - ± 30°
- Vertical and Horizontal Shift
  - V Shift 0 - 1/2V / H Shift 1/10 H
- Lamp Type
  - 275W Ultra High Pressure
- Lamp Life (Replacement time)
  - 2500 H
- Max Power Consumption
  - 400W
- Standby Power Consumption
  - 15W (Standby mode: Standard / 0.5W (low))

## Throwing Distance (Standard Lens)

- Min - Max Screen Size (diagonally)
  - 40 - 600 inch\*\*
- 40-inch / 1m screen
  - 1.48 - 1.9m
- 80-inch / 2m screen
  - 3.03 - 3.86m
- 100-inch / 2.5m screen
  - 3.81 - 4.84m
- 150-inch / 3.8m screen
  - 5.74 - 7.29m
- 200-inch / 5.1m screen
  - 7.68 - 9.74m
- 300-inch / 7.6m screen
  - 11.55 - 14.64m
- 600-inch / 15.2m screen
  - 23.16 - 29.35m

\* Not supplied with the VPL-FE40L.

\*\* For VPL-FE40L, screen coverage is 40-600 inches with VPLL-Z1024 or VPLL-Z1032 / 60-300 inches with VPLL-1008.

# VPL-VW50

## Full HD 3 SXRDT™ Home Theatre Projector



1080 Full HD 3 SXRDT™ high picture performance projector with two HDMI inputs.

### Features

- 3 Sony SXRDT™ Panels; 6.22 million pixels with narrow inter-pixel spacing of 0.35µm to deliver film quality smoothness
- 200W UHP lamp
- ARC-F (All Range Crisp Focus) Lens designed specifically to optimise the full HD SXRDT™ panel. Motorised lens zoom range of 1.8 times
- Advanced Iris 2 (Settings: Auto1, Auto2, Manual, Off)
- Contrast Ratio: 15,000:1 (Auto) 6,000:1 (On) 3,000:1 (Off)
- Brightness in ANSI Lumens: 900
- Projection System: 3 SXRDT™ panels 1 lens system
- Panel Panel Size: 0.61 inch
- Native resolution: Full HD 1920x1080x3
- Max. Input Signal Resolution: Full HD
- Two HDMI™ inputs
- Accepts 1080/24p input signals
- Low Fan Noise: 22dB
- Screen Size (diagonally): 40 - 300 inch / 102 - 762 cm



### Supplied Accessories

- Remote Control (RM-PJVW50)
- Battery Remote (2xR6 AA)
- Replacement Air Filter (Air Filter Cover)
- Image Director 2 Software CD-ROM

### Optional Accessories

- Replacement Lamp (LMP-H200)
- Matching Ceiling Mount Bracket (PSS-H10)

### Inputs

- D sub 15-pin (Input A) Analogue
- RGB/Component
- Composite Video (1)
- S-Video (1)
- Component Video (1)
- HDMI (2)
- RS-232C (1)
- Trigger Output (1) 12 V

### Specifications

- Technology: SXRDT
- Brightness in ANSI Lumens: 900
- Contrast Ratio: 3,000 - 15,000:1
- Projection System: 3 SXRDT panels, 1 lens system
- SXRDT Panel Size: 0.61 inch
- Native Resolution: Full HD 1920x1080x3
- Max. Input Signal Resolution: Full HD
- Lens: Standard zoom (1.8 times (Powered)), Optional (No)

- Fan Noise: 22dB
- Keystone Correction: Vertical, Lens Shift 65% & Vertical Keystone, Horizontal, Lens Shift 6.7% (manual fine adjustment)
- Replacement lamp: LMP-H200 200W UHP, Recommended exchange: 3000 hours
- Screen Size (diagonally): 40 - 300 inch, 102 - 762 cm
- Throwing Distance: 80"/2m screen, 2.5 - 4.3m, 100"/2.5m screen, 3.1 - 5.3m
- Ceiling Mount Bracket (optional accy): PSS-H10
- Speaker: No
- HD ready: Yes
- Filter Cleaning Time (Hours): 1500
- Power Consumption: Max: 300W, Standby: 8W (eco 0.5W)
- Colour: Glossy White
- Dimensions (WxHxD) in mm: 395 x 173.5 x 471.4
- Weight: 11kg

# VPL-VW60

## Full HD 3 SXR<sup>TM</sup> Home Theatre Projector



EISA Award winning 1080p Full HD 3 SXR<sup>TM</sup> Home Theatre Projector with massive contrast ratios of up to 35.000:1.

### Features

- New 3 Sony SXR<sup>TM</sup> Panels; 6.22 million pixels with narrow inter-pixel spacing of 0.35 µm to deliver film quality smoothness
- BRAVIA ENGINE picture processing
- BRAVIA Theatre Sync
- 200W UHP lamp
- ARC-F (All Range Crisp Focus) Lens designed specifically to optimise the full HD SXR<sup>TM</sup> panel. Motorised lens zoom range of 1.8 times
- Advanced Iris 2 (Settings: Auto1, Auto2, Manual, Off)
- Contrast Ratio: 35.000:1 (Auto) 7.000:1 (Off)
- Brightness in ANSI Lumens: 1000
- Projection System: 3 SXR<sup>TM</sup> panels 1 lens system
- Panel Size: 0.61 inch
- Native resolution: Full HD 1920x1080x3
- Max. Input Signal Resolution: Full HD
- Two HDMI<sup>TM</sup> inputs
- Accepts 1080/24p input signals
- Full Screen Panel Alignment
- Low Fan Noise: 22dB
- Screen Size (diagonally): 40 – 300 inch / 102 – 762 cm.



### Supplied Accessories

- Remote Control (RM-PJVW60)
- Battery Remote (2xR6 AA)
- Replacement Air Filter (Air Filter Cover)
- Image Director 3 Gamma Software CD-ROM

### Optional Accessories

- Replacement Lamp (LMP-H200)
- Matching Ceiling Mount Bracket (PSS-H10)

### Inputs

- D sub 15-pin (Input A) Analogue
- RGB/Component
- Composite Video (1)
- S-Video (1)
- Component Video (1)
- HDMI (2 CEC)
- RS-232C (1)
- Trigger Output (1) 12 V

### Specifications

- Technology: SXR
- Brightness in ANSI Lumens: 1000
- Contrast Ratio: 7,000:1 – 35,000:1
- Projection System: 3 SXR panels, 1 lens system
- SXR Panel Size: 0.61 inch
- Native Resolution: Full HD 1920x1080x3
- Max. Input Signal Resolution: Full HD
- Lens: Standard zoom 1.8 times (Powered), Optional No

- Fan Noise: 22dB
- Keystone Correction: Vertical, Lens Shift 65% & Vertical Keystone Horizontal, Lens Shift 6.7% (manual fine adjustment)
- Replacement lamp: LMP-H200 200W UHP, Recommended exchange 3000 hours
- Screen Size (diagonally): 40 - 300 inch, 102 - 762 cm
- Throwing Distance: 80"/2m screen, 2.7 – 4.4m, 100"/2.5m screen, 3.3 - 5.5m
- Ceiling Mount Bracket (optional accy): PSS-H10
- Speaker: No
- HD ready: Yes
- Filter Cleaning Time (Hours): 1500
- Power Consumption: Max: 300W, Standby: 8W (eco 0.5W)
- Colour: Dynamic anthracite
- Dimensions (WxHxD) in mm: 395 x 173.5 x 471.4
- Weight: 11kg





# VPL-VW200

## Full HD SXRDTM Home Theatre Projector



The VPL-VW200 combines features from three award winning products; VPL-VW60, VPL-VW100 and QUALIA 004 and takes it further. The renowned Sony SXRDTM technology in combination with a pure Xenon lamp and a Carl Zeiss Vario Tessar lens deliver outstanding picture quality, and an incredible contrast ratio of 35,000:1. On top of that it is the first Home Projector in the market featuring 100Hz High Frame Rate technology.



### Features

- New 3 Sony SXRDTM Panels; 6.22 million pixels with narrow inter-pixel spacing of 0.35µm to deliver film quality smoothness
- Motionflow Dark Frame Insertion
- BRAVIA ENGINE PRO picture processing
- Pure Xenon lamp (400W) for more natural colour reproduction
- x.v.Colour
- Real Colour Processing
- BRAVIA Theatre Sync.
- Carl Zeiss Vario-Tessar lens F 2,5- 3,5/19-34 designed specifically to optimise the full HD SXRDTM panel.
- Motorised lens zoom range of 1.8 times
- Advanced Iris 2 (Settings: Auto1, Auto2, Manual, Off)
- Contrast ratio: 35.000:1 (Auto) 7.000:1 (Off)
- Brightness in ANSI Lumens: 800
- Projection System: 3 SXRDTM panels 1 lens system
- Panel Size: 0.61 inch
- Native resolution: Full HD 1920x1080x3
- Accepts 1080/24p input signals via HDMI
- Zone Panel Alignment
- Low Fan Noise: 22dB
- Screen Size (diagonally): 40 – 300 inch / 102 – 762 cm



### Supplied Accessories

- Remote Control (RM-PJW200)
- Battery Remote (2xR6 AA)
- Replacement Air Filter (Air Filter Cover)
- Image Director 3 Software CD-ROM

### Optional Accessories

- Replacement Lamp (LMP-H400)
- Matching Ceiling Mount Bracket (PSS-H10)

### Inputs

- D sub 15-pin (Input A) Analogue
- RGB/Component
- Composite Video (1)
- S-Video (1)
- Component Video (1)
- HDMI (2) (CEC)
- RS-232C (1)
- Ethernet (RJ-45)
- Trigger Output (1) 12 V

### Specifications

- Technology
  - SXRDTM
- Brightness in ANSI Lumens
  - 800
- Contrast Ratio
  - 7,000:1 - 35,000:1
- Projection System
  - 3 SXRDTM panels
  - 1 lens system
- SXRDTM Panel Size
  - 0.61 inch

- Native Resolution
  - Full HD 1920x1080x3
- Max. Input Signal Resolution
  - Full HD 1080p
- Lens
  - Standard zoom
  - 1.8 times (Powered)
- Optional
  - No
- Fan Noise
  - 22dB
- Keystone Correction
  - Vertical
    - Lens Shift 65% & Vertical Keystone
  - Horizontal
    - Lens Shift 6.7% (manual fine adjustment)
- Replacement lamp
  - LMP-H400 Pure Xenon 400W
  - Recommended exchange
    - 2500 hours
- Screen Size (diagonally)
  - 40 - 300 inch
  - 102 - 762 cm
- Throwing Distance
  - 80"/2m screen
    - 2.7 – 4.5m
  - 100"/2.5m screen
    - 3.4 – 5.6m
- Ceiling Mount Bracket (optional accy)
  - PSS-H10

- Speaker
  - No
- HD ready
  - Yes
- Filter Cleaning Time (Hours)
  - 1500
- Power Consumption
  - Max: 610W
  - Standby: 10W (eco 0.5W)
- Colour
  - Midnight Blue
- Dimensions (WxHxD) in mm
  - 496x175x574
- Weight
  - 20kg

**SONY**

# Large Venue Projectors

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## SRX-R110CE SXR D 4K Projectors SRX-R105CE

Sony's large venue projectors, tailored with stunning features and picture performance to address the quality-critical demands of high definition video and high resolution images for fixed installations, events & staging, post production and digital cinema applications.

### Features

- 4K resolution 4096(V) x 2160(H) pixel image
- Accepts a wide selection of input formats using supplied analogue input board and optional digital input boards
- High contrast ratio of greater than 1800:1
- Selectable preset gamma curves for accurate colour reproduction
- Multiple screen capability; 4096 x 2160 pixels image in single-mode, two HD 1920 x 1080 pixel images in dual-mode, four HD 1920 x 1080 pixel images in quad-mode
- Dual lamp system operated in single and dual-lamp modes
- PC-based control of set-up parameters, input configurations, colourimetry control and maintenance settings

### Supplied Accessories

LKRI-001 Analogue input board  
RM-PJ4K Simple remote controller unit  
PC set-up software CD-ROM (PC not supplied)

### Optional Accessories

LKRL-90 Projection lens, x0.9  
LKRL-Z115 Projection lens, 1.5-1.9 zoom  
LKRL-Z117 Projection lens, 1.7-1.9 zoom  
LKRL-Z119 Projection lens, 1.8-2.3 zoom  
LKRL-Z122 Projection lens, 2.2-4.0 zoom  
LKRL-Z140 Projection lens, 4.0-7.0 zoom  
LKRX-105 Xenon lamp for SRX-R105CE/SRX-S105  
LKRX-110 Xenon lamp for SRX-R110CE/SRX-S110  
LKRX-B105 Xenon lamp house for SRX-R105CE/SRX-S105  
LKRX-B110 Xenon lamp house for SRX-R110CE/SRX-S110  
LKRA-001 8-inch exhaust duct adaptor

NOTE: The projector does not come with the lamp houses. When ordering a projector, 2 pcs of either LKRX-B105 or LKRX-B110 have to be ordered separately. Xenon lamp is included in a lamp house.

### Optional Boards

LKRI-002 SDI and HD-SDI (4:2:2) input board  
LKRI-003 Dual-link HD-SDI input board  
LKRI-004 DVI-D input board

### Specifications

#### SXR D Device

Display device  
SXR D (Silicon X-tal Reflective Display)

Size  
1.55" across diagonal

Resolution  
4096(V) x 2160(H)

Reflectivity  
72%

Contrast ratio (as device)  
4000:1



### Optical

Projection system  
3-SXR D panel, prism colour integrated system

Lamp  
2KW Xenon lamp x 2 for SRX-R110CE/SRX-S110  
1KW Xenon lamp x 2 for SRX-R105CE/SRX-S105

Light output  
10,000 ANSI lumens  $\pm$  10% for SRX-R110CE  
5,000 ANSI lumens  $\pm$  10% for SRX-R105CE

Screen coverage  
14 feet to 51 feet/4.5m to 15.5m measured horizontally

### General

Contrast ratio (of projector)  
>1800:1

Power requirements  
AC 200 to 240V 50/60Hz

Power consumption  
5.4KW for SRX-R110CE  
3KW for SRX-R105CE

Dimensions (W x H x D)  
Approx. 740 x 500 x 1320 mm

Mass  
Approx. 110 Kg

### Input Boards

LKRI-001 Analogue input board  
BNC x 5 HD/SD input board  
RGB/YCrCb selectable

LKRI-002 SDI and HD-SDI (4:2:2) input board  
BNC x 2 (input x 1 and loop through out x 1)  
HD-SDI (SMPTE-292M) and SDI (SMPTE-259M)

LKRI-003 Dual-link HD-SDI input board  
BNC x 2 (input x 2, loop through out x 2)  
HD-SDI single-link 4:2:2 SMPTE-292M  
HD-SDI single-link 4:2:2 with 2048 support  
Dual-link HD-SDI 4:4:4 RGB SMPTE-372M  
Dual-link HD-SDI 4:4:4 RGB with 2048 support

LKRI-004 DVI-D input board  
DVI 24-pin, male x2  
DVI-D, AUX

## SRX-S110 SXR D 4K Projectors SRX-S105

Sony's new, large venue projectors, tailored with stunning features and picture performance to address the critical demands of Visualisation, Simulation and Command & Control applications.

### Features

- 4K resolution 4096(V) x 2160(H) pixel image
- Accepts a wide range of input formats using the standard DVI-D input and optional digital input boards
- 60P frame refresh
- High contrast ratio of greater than 1800:1
- Selectable preset gamma curves for accurate colour reproduction
- Multiple screen capability; 4096 x 2160 pixels image in single-mode, two HD 1920 x 1080 pixel images in dual-mode, four HD 1920 x 1080 pixel images in quad-mode
- Dual lamp system operated in single and dual-lamp modes
- PC-based control of set-up parameters, input configurations, colourimetry control and maintenance settings

### Supplied Accessories

RM-PJ4K Simple remote controller unit  
PC set-up software CD-ROM (PC not supplied)

### Optional Accessories

LKRL-90 Projection lens, x0.9  
LKRL-Z115 Projection lens, 1.5-1.9 zoom  
LKRL-Z117 Projection lens, 1.7-1.9 zoom  
LKRL-Z119 Projection lens, 1.8-2.3 zoom  
LKRL-Z122 Projection lens, 2.2-4.0 zoom  
LKRL-Z140 Projection lens, 4.0-7.0 zoom  
LKRX-105 Xenon lamp for SRX-R105CE/SRX-S105  
LKRX-110 Xenon lamp for SRX-R110CE/SRX-S110  
LKRX-B105 Xenon lamp house for SRX-R105CE/SRX-S105  
LKRX-B110 Xenon lamp house for SRX-R110CE/SRX-S110  
LKRA-001 8-inch exhaust duct adaptor

NOTE: The projector does not come with the lamp houses.  
When ordering a projector, 2 pcs of either LKRX-B105 or LKRX-B110 have to be ordered separately. Xenon lamp is included in a lamp house.

### Optional Boards

LKRI-001 Analogue input board  
LKRI-002 SDI and HD-SDI (4:2:2) input board  
LKRI-003 Dual-link HD-SDI input board  
LKRI-004 DVI-D input board

### Specifications

#### SXR D Device

Display device  
SXR D (Silicon X-tal Reflective Display)

Size  
1.55" across diagonal

Resolution  
4096(V) x 2160(H)

Reflectivity  
72%

Contrast ratio (as device)  
4000:1



### Optical

Projection system  
3-SXR D panel, prism colour integrated system

Lamp  
2KW Xenon lamp x 2 for SRX-S110  
1KW Xenon lamp x 2 for SRX-S105

Light output  
10,000 ANSI lumens  $\pm$  10% for SRX-S110  
5,000 ANSI lumens  $\pm$  10% for SRX-S105

Screen coverage  
14 feet to 51 feet/4.5m to 15.5m measured horizontally

### General

Contrast ratio (of projector)  
>1800:1

Power requirements  
AC 200 to 240V 50/60Hz

Power consumption  
5.4KW for SRX-S110  
3KW for SRX-S105

Dimensions (W x H x D)  
Approx. 740 x 500 x 1320 mm

Mass  
Approx. 110 Kg

### Input Boards

LKRI-001 Analogue input board  
BNC x 5 HD/SD input board  
RGB/YCrCb selectable

LKRI-002 SDI and HD-SDI (4:2:2) input board  
BNC x 2 (input x 1 and loop through out x 1)  
HD-SDI (SMPTE-292M) and SDI (SMPTE-259M)

LKRI-003 Dual-link HD-SDI input board  
BNC x 2 (input x 2, loop through out x 2)  
HD-SDI single-link 4:2:2 SMPTE-292M  
HD-SDI single-link 4:2:2 with 2048 support  
Dual-link HD-SDI 4:4:4 RGB SMPTE-372M  
Dual-link HD-SDI 4:4:4 RGB with 2048 support

LKRI-004 DVI-D input board  
DVI 24-pin, male x2  
DVI-D, AUX

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## Recording Media

PFD23A Disc	466
HDCAM SR tape	466
HDCAM tape	467
MPEG IMX tape	467
Digital Betacam tape	468
Digital Master™ tape for HDV	468
DVCAM tape	469

# PFD23A Disc Professional Disc

Professional optical disc for XDCAM and XDCAM HD products.



## Features

- Designed together with XDCAM decks for maximum system performance
- Dual format SD/HD Recording
- 2.4x writing speed
- Totally flexible 'Format Free' recording
- High capacity Optical Disc - Up to 23.3 GB of storage
- Quick random access saves time and improves reliability
- Ultra fast data transfer (Write)
- Outstanding picture quality across HD, MPEG IMX & DVCAM
- Tough enough for extreme conditions
- Advanced Hard Coat Technology.



## Applicable Models

XDCAM Camcorders: PDW-510P; PDW-530P.  
 XDCAM Compact Deck: PDW-1500  
 XDCAM Field Recorder: PDW-R1  
 XDCAM HD Camcorders: PDW-F330; PDW-F350L  
 XDCAM HD Decks: PDW-F30; PDW-F70; PDW-V1

## Specifications

Storage Capacity: 23,3 GB  
 Laser wavelength: 405 nm (blue-violet)  
 Data Transfer Rate (writing): 72 Mb/s  
 Disc diameter: 120mm (4 5/8 inches)  
 Mass: 90 g (3 oz)  
 Recording format: Phase Change Recording

## XDCAM Recording

Video Codec	Compression	Bit Rate	Recording Time
SD (DVCAM)	DV 4:1:1 (NTSC) / 4:2:0 (PAL)	25 Mb/s	85 min
SD (MPEG IMX)	MPEG-2 4:4:4 @ML	30, 40, 50 Mb/s	68, 57, and 45 minutes
HD (MPEG HD)	MPEG-2 4:2:0 MP@HL	35 (HQ), 25 (SP), 18 (LP) Mb/s	60, 90, 120 minutes

# BCT-SR Series HDCAM SR Tape

Small / Large / Cleaning



The most advanced metal particle tape in the whole broadcast family.

## Features

- Equipped with the TeleFile™ system to allow quick viewing and access to recordings
- Ultrafine high-performance metal particles and new calendaring technology realise high output
- Durability to withstand repeated playbacks and high C/N and edits.



## Applicable Models

SRW-5000  
 SRW-5500  
 SRW-1

## Specifications

Model	Playing time (min.)
BCT-6SR	6
BCT-33SR	33
BCT-40SR	40
BCT-64SRL	64
BCT-94SRL	94
BCT-124SRL	124
BCT-HD12CL	12



# BCT-HD Series HDCAM Tape

Small / Large / Cleaning



HDCAM has become a worldwide standard for production and exchange of high quality HD content.

### Features

- Designed for HDCAM VTRs
- Using Advanced Metal Tape Technology (MP++)
- Setting a new standard in high-density recording with ultra-fine magnetic particles
- Developed for multi-generation operations (23.98PsF, 24PsF, 25PsF, 29.97PsF, and 50i, 59.94i interlaced)
- Outstanding archive potential using specially developed alumina-silica protective layer
- Distinctive HDCAM cassette design with bright orange antistatic lid.



### Applicable Models

HDW-F900R  
 HDW-750PC  
 HDW-750P  
 HDW-730S  
 HDW-1800  
 HDW-D1800  
 HDW-2000  
 HDW-D2000  
 HDW-M2000P  
 HDW-M2100P  
 HDW-S280/1

### Specifications

Model	Playing time (min.)
BCT-6HD	6
BCT-12HD	12
BCT-22HD	22
BCT-32HD	32
BCT-40HD	40
BCT-34HDL	34
BCT-64HDL	64
BCT-94HDL	94
BCT-124HDL	124
BCT-HD12CL	12

# BCT-MX Series MPEG IMX Tape

Small / Large / Cleaning



The BCT-MX Series cassettes are intrinsically designed for reliability, durability and to support high-density recording. MPEG IMX uses open MPEG-2 compression at 30Mbps, 40Mbps and 50Mbps as advocated by the EBU/SMPTE.

### Features

- High picture quality (video NET: 50 Mbps)
- New calendering system for smoother surface
- Enhanced binder system improves particle adhesion by 30%
- Double recording time indication (525i/625i).



### Applicable Models

MSW-970P  
 MSW-M2000P/1  
 MSW-A2000P/1  
 MSW-2000  
 MSW-M2100P/1

### Specifications

Model	Playing time (min.)
BCT-6MX	7
BCT-12MX	14
BCT-22MX	26
BCT-32MX	38
BCT-60MX	71
BCT-64MXL	76
BCT-94MXL	112
BCT-124MXL	148
BCT-184MXL	220
BCT-HD12CL	12

## BCT-D Series Digital Betacam Tape Small / Large / Cleaning

Digital BETACAM

Since its launch in 1994, the Digital Betacam format has become the worldwide standard for high quality SD broadcast production.

### Features

- Ultra-fine magnetic particles for high output
- High-performance binder increases output
- Specially developed lubricant increases head contact and reduces headwear
- Designed for long-term playback reliability
- Low-shrinkage for archival stability.



### Applicable Models

J-30  
J-30/SDI  
DVW-970P  
DVW-M2000  
DVW-M2000P  
DVW-2000  
DVW-2000P

### Specifications

Model	Playing time (min.)
BCT-D6	6
BCT-D12	12
BCT-D22	22
BCT-D32	32
BCT-D40	40
BCT-D34L	34
BCT-D64L	64
BCT-D94L	94
BCT-D124L	124
BCT-D12CL	12

## PHDV Series Digital Master™ Media for HDV

Digital Master™

Highly affordable and accessible, DigitalMaster™ Tape for HDV is the ideal first step into HD. It offers an easy migration path from DVCAM.

### Features

- The only Pro DV tape with two active magnetic layers
- Superior in quality to consumer DV and DVCAM™ tape with less dropout and error rate results
- features the latest high density Advanced Metal Evaporated (AME-II) technology.
- Specially developed lubricant increases head contact and reduces headwear.

### Applicable Models

HVR-Z1E  
HVR-A1E  
HVR-V1E  
HVR-M15E  
HVR-M25E  
HVR-1500

### Specifications

HDV/DV Recording (min)	
PHDVM-63DM	63
PHDV-64DM	64
PHDV-124DM	124
PHDV-186DM	186
PHDV-276DM	276
PDVM-12CL	12
PDV-12CL	12

### DVCAM™ Recording (min)

PHDVM-63DM	41
PHDV-64DM	42
PHDV-124DM	82
PHDV-186DM	124
PHDV-276DM	184
PDVM-12CL	12
PDV-12CL	12



## PDV-ME / PDV-N DVCAM Tape Mini and Standard



Delivering the superior image quality that DV compression affords, Sony DVCAM tape is ideal for both high-quality editing and for low-cost acquisition.

### Features

- Advanced manufacturing techniques ensure Sony DVCAM tape shrinkage is half as much as with DV media
- Advanced DLC layer for better durability and long term storage
- Strong, Safe and Secure, DVCAM media is protected by a rugged professional hard case
- Unbeatable Range of Media : with or without IC memory.



### Applicable Models

DSR-400PK  
DSR-400PL  
DSR-450WSPL  
DSR-250P/1  
DSR-PD170P  
DSR-2000AP  
DSR-1800AP  
DSR-1600AP  
DSR-1500AP  
DSR-45P  
DSR-11  
DSR-50P

### Specifications

Model	Playing time (min.)
PDVM-12ME	12
PDVM-22ME	22
PDVM-32ME	32
PDVM-40ME	40
PDV-34ME	34
PDV-64ME	64
PDV-94ME	94
PDV-124ME	124
PDV-184ME	184
PDVM-12N	12
PDVM-22N	22
PDVM-32N	32
PDVM-40N	40
PDV-34N	34
PDV-64N	64
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**SONY**

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# CCA-5 Cables 8-pin/8-pin Remote Control Cable

CCA-5-30/1  
CCA-5-10  
CCA-5-3

### Features

- Remote control cable for 700 series control panels

### Applicable Models

HDCU-1000/1500 Camera Control Unit  
CCU-790P/590P Camera Control Unit  
RCP-700/701/750/751 Remote Control Panels  
MSU-900/MSU-950 Master Setup Unit

### Specifications

CCA-5-10: 10m (33ft)  
CCA-5-3: 3m (10ft)  
CCA-5-30/1 30m

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# CCA-7 Cables 10-pin/10-pin Cable

CCA-7-25  
CCA-7-5  
CCA-7-50

### Features

- 10-pin (male) / 10-pin (female) • RM-M7G / DXC-D35/300/327B series • RM-M7G / CCU-M7/M5 • RM-M7G / CA-325A/325B

### Applicable Models

RCP-D50 Remote Control Panel (Joystick Type)  
RCP-D51 Remote Control Panel (Dial Control Type)

### Specifications

CCA-7-5: 5 m (16.5 ft)  
CCA-7-25: 25 m (82 ft)  
CCA-7-50: 50 m (165 ft)  
CCA-7-100: 100 m (330 ft)

---

# CCDC Cables 12-pin/4-pin DC Cables

CCDC-10  
CCDC-100  
CCDC-25  
CCDC-5  
CCDC-50

### Features

- 12-pin (female) <-> 4-pin (male)
- DXC-390/990 Series <-> CMA-D2

### Applicable Models

DXC-390 3-CCD Colour Video Camera  
DXC-390P 3-CCD Colour Video Camera  
DXC-990 3-CCD Colour Video Camera  
DXC-990P 3-CCD Colour Video Camera

### Specifications

CCDC-5: 5 m (16.4 ft)  
CCDC-10: 10 m (32 ft)  
CCDC-25: 25 m (82 ft)



## CCDC-A Cables 12-pin/4-pin Cable

CCDC-100A  
CCDC-50A

### Features

•12-pin (female) / 4-pin (male) •DXC-390 / CMA-D2

### Applicable Models

DXC-990 3-CCD Colour Video Camera  
DXC-990P 3-CCD Colour Video Camera

### Specifications

CCDC-50A: 50 m (164 ft)  
CCDC-100A: 100 m (330 ft)



## CCF Cables Hybrid Fibre cables

CCF-100  
CCF-200  
CCF-300

### Features

•Hybrid fibre cables for HDC-1500 camera family

### Applicable Models

HDC-1000  
HDC-1500  
HDC-3300  
HDCU-1000  
HDCU-1500  
HDCU-3300

### Specifications

CCF-100: 100m  
CCF-200: 200m  
CCF-300: 300m

## CCFC-M100 Cable Optical Fibre Cable

CCFC-M100

### Applicable Models

BRC-300 3-CCD Colour Video Camera  
BRU-300 Optical Multiplex Unit

### Specifications

Cable length: Approx. 100 m



## CCFC-M100HG Cable HD Optical Fibre Cable

CCFC-M100HG

### Applicable Models

BRC-H700 HD 3-CCD Colour Video Camera

### Specifications

Cable length: Approx. 100 m



## CCFD-L Cable DV Cable (6-pin to 4-pin)

CCFD-3L

### Features

6-pin to 4-pin

#### Applicable Models

DSR-11 Recorder	DSR-DR1000AP Video Disc Recorder
DSR-1500AP Editing Recorder	DSR-25 Recorder
DSR-1600AP Editing Player	DSR-45AP Recorder
DSR-1800AP Editing Recorder	DSR-400PK DVCAM Camcorder
DSR-2000AP Editing Recorder	DSR-400PL DVCAM Camcorder
DSR-250P/1 DVCAM Camcorder	DSR-450WSPL DVCAM Camcorder
DSR-50P Portable Recorder	HVR-Z1E HDV Camcorder
	HVR-M10E HDV Recorder
	PDW-510P XDCAM Camcorder
	PDW-530P XDCAM Camcorder
	PDW-F330 XDCAM HD Camcorder
	PDW-F350 XDCAM HD Camcorder

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## CCF-L Cable DV Cable (6-pin to 6-pin)

CCF-3L

### Features

6-pin to 6-pin

#### Applicable Models

DSR-1500AP Editing Recorder  
DSR-1600AP Editing Player  
DSR-1800AP Editing Recorder  
DSR-2000AP Editing Recorder  
DSR-250P/1 DVCAM Camcorder  
DSR-50P Portable Recorder  
DSR-DR1000AP Video Disc Recorder  
DSR-400PK DVCAM Camcorder  
DSR-400PL DVCAM Camcorder  
DSR-450WSPL DVCAM Camcorder  
PDW-510P XDCAM Camcorder  
PDW-530P XDCAM Camcorder  
PDW-F330 XDCAM HD Camcorder  
PDW-F350 XDCAM HD Camcorder





# CCMC-3MZ Cable

CCMC-3MZ

### Features

For connection of CMA-D3/D3CE, capable of connecting to the CCZ-A2/A5/A10/A25/A50/A100 cables (3 m)

### Applicable Models

DXC-990 3-CCD Colour Video Camera  
DXC-990P 3-CCD Colour Video Camera

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# CCMC-9DS Cable 9-pin/4BNCs, DIN 4-pin

CCMC-9DS

### Features

- 9-pin D-sub (male) <-> BNCs (R/G/B/SYNC, male), DIN 4-pin (Y/C, male) • 5 m (16.4 ft) • For video output from DXC-390/990

### Applicable Models

BRC-300 3-CCD Colour Video Camera  
DXC-390 3-CCD Colour Video Camera  
DXC-390P 3-CCD Colour Video Camera  
DXC-990 3-CCD Colour Video Camera  
DXC-990P 3-CCD Colour Video Camera  
DXC-C33 3-CCD Colour Video Camera  
DXC-C33P 3-CCD Colour Video Camera



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# CCT Cables Triax Cable

CCT-100

CCT-150

CCT-300

CCT-50

### Features

- BVP-E30 series to CCU-790P or CCU-590P
- DXC-D55 series to CCU-TX50P

### Specifications

CCT-50: 50 m (164 ft)  
CCT-100: 100 m (328 ft)  
CCT-150: 150 m (492 ft)  
CCT-300: 300 m (984 ft)

## CCXC-12P Cables 12-pin/12-pin Multi Core Cables

CCXC-12P05N  
CCXC-12P10N  
CCXC-12P25N

### Features

12-pin (male) <>12-pin (female)  
•DXC-390/990 Series <> CMA-D2

### Applicable Models

DXC-390 3-CCD Colour Video Camera  
DXC-390P 3-CCD Colour Video Camera  
DXC-990 3-CCD Colour Video Camera  
DXC-990P 3-CCD Colour Video Camera

### Specifications

CCXC-12P05N: 5 m (16.4 ft)  
CCXC-12P10N: 10 m (33 ft)  
CCXC-12P25N: 25 m (82 ft)



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## CCXC-6P Cable Trigger Cable

CCXC-6P05

### Features

Trigger Cables

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## CCXC-9DB Cable 9-pin/9-pin Cable

CCXC-9DB

### Features

RGB Cable, 9-pin male - 5 m

### Applicable Models

DXC-C33 3-CCD Colour Video Camera  
DXC-C33P 3-CCD Colour Video Camera

# CCXC-9DBS Cable 9-pin/5BNCs Cable

CCXC-9DBS

### Features

- 9-pin D-sub (male) <—> BNCs (R/G/B/SYNC/VBS) (male) •5m (16.4 ft) •For video output from DXC-950/950P/390/390P

### Applicable Models

BRC-300 3-CCD Colour Video Camera  
DXC-390 3-CCD Colour Video Camera  
DXC-390P 3-CCD Colour Video Camera  
DXC-990 3-CCD Colour Video Camera  
DXC-990P 3-CCD Colour Video Camera



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# CCXC-9DD Cable 9-pin/9-pin Cable

CCXC-9DD

### Features

- 9-pin D-sub (male) <—> 9-pin D-sub (male) •5m (16.4 ft)  
•For video output from DXC-950/950P/390

### Applicable Models

DXC-990 3-CCD Colour Video Camera  
DXC-990P 3-CCD Colour Video Camera  
DXC-C33 3-CCD Colour Video Camera  
DXC-C33P 3-CCD Colour Video Camera

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# CCXC-T20 Cables ccu to CHU cables

CCXC-T20P02

CCXC-T20P05

CCXC-T20P10

### Specifications

CCXC-T20P02: 2 m  
CCXC-T20P05: 5 m  
CCXC-T20P10: 10 m

## CCZ-A Cables 26-pin/26-pin Cable

CCZ-A10  
CCZ-A100  
CCZ-A2  
CCZ-A25  
CCZ-A5  
CCZ-A50



### Features

- 26-pin (male) <—> 26-pin (female)
- DXC-D55P/D55WSP series <—> CCU-M50P

### Applicable Models

CA-D50 Camera Adaptor  
CCU-D50 Camera Control Unit  
CCU-D50P Camera Control Unit  
DXC-390 3-CCD Colour Video Camera  
DXC-390P 3-CCD Colour Video Camera  
DXC-D55PH 3-chip CCD Portable Colour Camera  
DXC-D55PK 3-chip CCD Portable Colour Camera  
DXC-D55PL 3-chip CCD Portable Colour Camera  
DXC-D55WSPL 3-chip CCD Portable Colour Camera  
DXC-H10 3-CCD Colour Video Camera

### Specifications

CCZ-A2: 2m (6.5 ft)  
CCZ-A5: 5m (16.5 ft)  
CCZ-A10: 10m (33 ft)  
CCZ-A25: 25m (82 ft)  
CCZ-A50: 50m (164 ft)  
CCZ-A100: 100m (330 ft)

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## RCC-5AA Cable 9-pin/15-pin Audio mixer control cable

RCC-5AA

### Features

- 9-pin (male) <—> 15-pin (female), 5m (16ft)
- PVE-500 <—> MXP-290



# RCC-G Cable 9-pin/9-pin Cable

RCC-5G

## Features

•9-pin (male) <—> 9-pin (male)



## Applicable Models

- DSR-45AP Recorder
- DSR-1500AP Editing Recorder
- DSR-1600AP Editing Player
- DSR-1800AP Editing Recorder
- DSR-2000AP Editing Recorder
- DSR-DR1000AP Video Disc Recorder
- DVW-2000 Digital Betacam Recorder
- DVW-2000P Digital Betacam Recorder
- DVW-M2000 Digital Betacam Recorder
- DVW-M2000P Digital Betacam Recorder
- HDW-1800 HDCAM VTR
- HDW-D1800 HDCAM VTR
- HDW-2000 HDCAM VTR
- (all versions including /20)
- HDW-M2000 HDCAM VTR
- (all versions including /20)
- HDW-M2000P HDCAM VTR
- (all versions including /20)
- HDW-D2000 HDCAM VTR
- (all versions including /20)
- HDW-M2100 HDCAM Player
- (all versions including /20)
- HDW-M2100P HDCAM Player
- (all versions including /20)
- MSW-2000 MPEG IMX Recorder
- (all versions including /1)
- MSW-A2000 MPEG IMX Recorder
- (all versions including /1)
- MSW-A2000P MPEG IMX Recorder
- (all versions including /1)
- MSW-M2000 MPEG IMX Recorder
- (all versions including /1)
- MSW-M2000P MPEG IMX Recorder
- (all versions including /1)
- MSW-M2100 MPEG IMX Player
- (all versions including /1)
- MSW-M2100P MPEG IMX Player
- (all versions including /1)
- PC-3000 Signal Interface Switcher
- PDW-1500 XDCAM Compact Deck
- (Recording and Playback)
- PDW-F70 XDCAM HD Recording Deck
- PDW-F30 XDCAM HD Viewing Deck
- PDW-R1 XDCAM Field Recorder

## Specifications

RCC-5G: 5 m (16 ft)

## RCC-R Cable Cascade Connection Cable

RCC-5R

Specifications

RCC-5R: 5m (16.4 ft)

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## VMC-IL44 Cables 4-pin <-> 4-pin i.LINK Cable

VMC-IL4415

VMC-IL4435

Applicable Models

DSR-11 Recorder

DSR-25 Recorder

DSR-45AP Recorder

DSR-PD170P DVCAM Camcorder

HVR-Z1E HDV Camcorder

HVR-A1E HDV Camcorder

HVR-M10E HDV Recorder



VMC-IL4415

Specifications

VMC-IL4415: 1.5 m(5 ft)

VMC-IL4435: 3.5 m(12 ft)

## VMC-IL46 Cables 4-pin <-> 6-pin i.LINK Cable

VMC-IL4615  
VMC-IL4635



VMC-IL4615

### Applicable Models

DSR-11 Recorder  
DSR-25 Recorder  
DSR-250P/1 DVCAM Camcorder  
DSR-45AP Recorder  
DSR-50P Portable Recorder  
DSR-PD170P DVCAM Camcorder  
DXC-C33 3-CCD Colour Video Camera  
DXC-C33P 3-CCD Colour Video Camera  
HVR-Z1E HDV Camcorder  
HVR-A1E HDV Camcorder  
HVR-M10E HDV Recorder  
PDW-1500 XDCAM Compact Deck  
(Recording and Playback)  
PDW-510 XDCAM Camcorder  
(DVCAM Recording)  
PDW-510P XDCAM Camcorder  
(DVCAM Recording)  
PDW-530 XDCAM Camcorder  
(MPEG IMX/DVCAM Recording)

PDW-530P XDCAM Camcorder  
(MPEG IMX/DVCAM Recording)  
PDW-F70 XDCAM HD Recording Deck  
PDW-F30 XDCAM HD Viewing Deck  
PDW-R1 XDCAM Field Recorder  
PDW-D1 XDCAM Drive Unit  
PDW-V1 XDCAM Mobile Deck  
(Playback and File Recording)  
PDW-F330 XDCAM HD Camcorder  
PDW-F350 XDCAM HD Camcorder

### Specifications

VMC-IL4615: 1.5 m (5 ft)  
VMC-IL4635: 3.5 m (12 ft)

## VMC-IL66 Cables 6-pin <-> 6-pin i.LINK Cable

VMC-IL6615  
VMC-IL6635



VMC-IL6615

### Applicable Models

DSR-250P/1 DVCAM Camcorder  
DSR-50P Portable Recorder  
DXC-C33 3-CCD Colour Video Camera  
DXC-C33P 3-CCD Colour Video Camera  
PDW-1500 XDCAM Compact Deck  
(Recording and Playback)  
PDW-510 XDCAM Camcorder  
(DVCAM Recording)  
PDW-510P XDCAM Camcorder  
(DVCAM Recording)  
PDW-530 XDCAM Camcorder  
(MPEG IMX/DVCAM Recording)  
PDW-530P XDCAM Camcorder  
(MPEG IMX/DVCAM Recording)  
PDW-F70 XDCAM HD Recording Deck  
PDW-F30 XDCAM HD Viewing Deck  
PDW-R1 XDCAM Field Recorder  
PDW-D1 XDCAM Drive Unit  
PDW-V1 XDCAM Mobile Deck  
(Playback and File Recording)  
PDW-F330 XDCAM HD Camcorder  
PDW-F350 XDCAM HD Camcorder

### Specifications

VMC-IL6615: 1.5 m(5 ft)  
VMC-IL6635: 3.5 m(12 ft)

**SONY**



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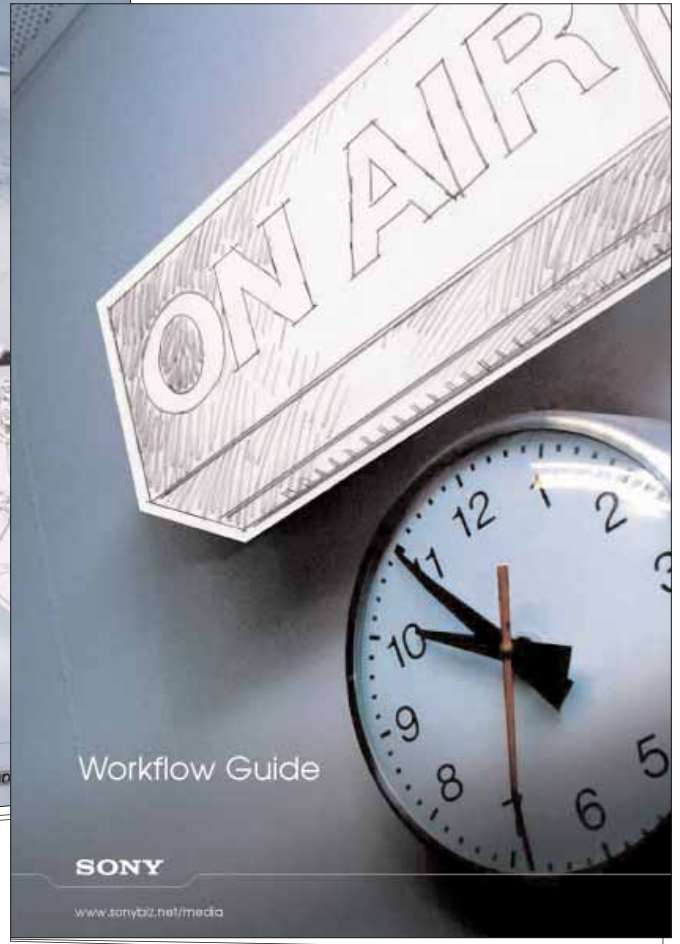
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