Panasonic
ideas for life

P2HD

Panasonic®

ISO 9001

ISO 14001 — JACO — UKAS ENVIRONMENTAL MANAGEMENT 051

Factories of Systems Business Group have received
ISO14001:2004-the Environmental Management
System certification.

SP-P2HDP1

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Official Worldwide
Olympic Partner

With its outstanding speed, reliability and memory capacity,
P2 has changed the world of broadcasting and video production.
P2 brings the vast benefits of information technology into the workflow,
creating a new concept we call ING, or IT-based news gathering.
ING brings greatly improved mobility, flexibility and field readiness to news acquisition.
Now P2 has advanced to high definition.
P2HD supports DVCPRO HD, so it's compatible with existing NLE and server workflows.
And it offers HD/SD multi-format capabilities and multi-codec recording,
so it adapts to broadcasting systems used all around the globe.
P2HD also supports AVC-Intra,
a new codec that incorporates the most advanced compression technology.
P2HD provides a smart, cost-effective HD solution.
This new addition to the P2 family is helping to shape the next generation
of HD broadcasting and production.

Smart HD ideas

Ultra Reliable, Cost-effective
P2 Improves Speed of News Gathering.

P2 Card: Semiconductor Memory with Superior Reliability and Mobility

P2 (for "Professional Plug-in") is a semiconductor memory card developed by Panasonic for professional use. Comprising four SD memory cards packaged together in a rugged PC card case, this recording media can store 8 GB of HD/SD video data. Thanks to the SD memory card's proven technology, P2 products provide outstanding reliability, high transfer speed and excellent rewritability.

    The P2 card easily outperforms video tape and discs. It withstands impact up to 1,500 G and vibration up to 15 G, operates in temperatures from -20 to 60°C, and can be stored in temperatures from -40 to 80°C. This compact recording media provides exceptional reliability in harsh environments and is exceptionally mobile. Data is protected too, because with a P2 card it's not possible to accidentally overwrite recordings.

P2 Excels in IT-Based News Gathering

Many broadcasting stations are transitioning from tape to IT-ready (file-based) equipment with nonlinear editors and network servers. A major disadvantage of videotape recordings is that digitizing them is time and labor intensive.

P2 solves this problem. The MXF format files used by P2 can be transferred directly to nonlinear editing systems and network servers, without digitizing. And data transfer is fast, so no time is lost in editing and on-air transmission. P2 cards read data blazingly fast, reaching speeds up to 640 Mbps far beyond all other AV recording media. P2 improves efficiency too, which means lower production costs.

With its high level of performance, P2 opens the door to IT-based news gathering (ING), an evolutionary step forward in news production.

With the P2 cam, recording begins right away, so you don't miss shooting opportunities. After recording, you can select a clip by choosing a thumbnail and begin playback immediately on the monitor (or P2 cam, P2 mobile); the clip then can be sent out directly for on-air news transmission. Also, the P2 card plugs right into a PC card slot on a laptop* for direct nonlinear editing and high-speed transfer to a network.

* A P2 card driver (supplied with the product) must be installed on the laptop. The driver works with Windows XP, Windows 2000 and Mac OS X.

P2 Means Lower Costs and Less Environmental Impact

The P2 card's outstanding rewritability lowers your operating costs. When a card is full, download the files to a hard drive and use it again. P2 cards can be rewritten on tens of thousands of times, and they have passed insertion/removal tests of more than 30,000 cycles. Compared to tapes and discs, the P2 card means substantially less consumption, results in great savings in media costs as well as environmental benefits.

Also, there's no transport or rotation mechanism in a P2 recorder, so there's less replacement of consumable parts and longer intervals between maintenance. Power consumption is much lower too. Add these factors up, and you can see that P2 has a big advantage in both operating costs and environmental impact.

30,000 times insert/removal connector reliability | Write protect switch | Memo space

Aluminum diecast case | Card serial Number | Bar code
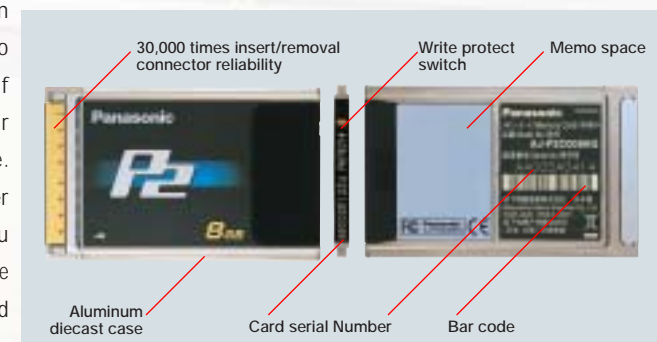
DVCPRO HD and New Codec:
P2 Video Quality Takes Another Step Forward

P2 mobile AJ-HPM100 "New"

P2 cam AJ-HPX2000 "New"

P2 handheld AG-HVX200
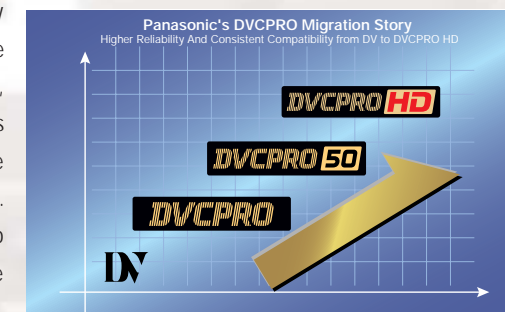
DVCPRO HD – The Pinnacle of DVCPRO Migration

The new P2HD Series records and plays back in DVCPRO HD as well as the DVCPRO 50, DVCPRO and DV formats supported by the standard P2 Series. DVCPRO broadcasting and production systems are now used by broadcasters and movie makers all around the world. DVCPRO HD, offering the most advanced performance of any tape-based recording system, stands at the top of the growing DVCPRO family.

DVCPRO HD uses 4:2:2 sampling with 74.25-MHz Y frequency and 37.125-MHz Pb/Pr frequency. All color information remains intact. DVCPRO HD's superior image quality is suitable for chromakey composition. Its intra-frame compression system, used throughout the DVCPRO family, handles the image data from each frame independently. This ensures superb image quality even in scenes with considerable motion, and it helps boost editing precision and image quality. Also, the same codec is used for recording on tape or P2 card, so media conversion and shared use of peripheral equipment are possible. This means smoother transition and implementation.

Panasonic's DVCPRO Migration Story
Higher Reliability And Consistent Compatibility from DV to DVCPRO HD

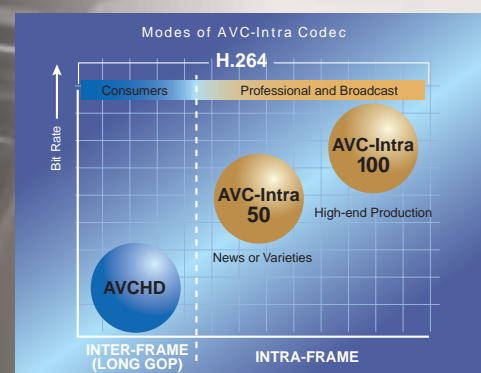DVCPRO HD
DVCPRO 50
DVCPRO
DV

HD/SD Multi-Format Capability and Multi-Codec Recording

The P2HD Series can record and play back both 1080i and 720p HD formats. In addition, it supports 24p (23.98p) and 30p (29.97p) for cinematic production, can record and play back in Standard Definition, and allows codec selection from among DVCPRO 50, DVCPRO and DV. Also equipped with a 59.94/50-Hz switchover function, the P2HD series supports all HD and SD broadcasting systems used anywhere in the world*. The AJ-HPM100 P2 mobile is further equipped with an up/down/cross-conversion function that converts between HD and SD or between 1080i and 720p during playback.

*AG-HVX200 don't support 59.94Hz / 50 Hz switchover.

New AVC-Intra Codec Answers Advanced HD Needs

The P2HD Series* supports HD recording and playback using AVC Intra. The new optional codec for broadcasting application was developed by Panasonic based on the advanced H.264 motion image compression standard. While AVC-Intra has a high data compression rate, it compresses within individual frames, much like DVCPRO HD, which ensures high image quality and editing precision.

The AVC-Intra codec has two modes. AVC-Intra 100 (1920/4:2:2/10 bits) offers high-end full-bit HD image quality. AVC-Intra 50 (1440/4:2:0/10 bits) provides lower bit-rate, storage efficient operation with high image quality. From news and television programming to documentaries, the AVC-Intra codec answers a wide range of HD production needs.

Modes of AVC-Intra Codec

H.264

Consumers | Professional and Broadcast

Bit Rate

AVC-Intra 100

AVC-Intra 50 — High-end Production

AVCHD

News or Varieties

INTER-FRAME (LONG GOP) | INTRA-FRAME

*The AJ-HPX2000 P2 cam and AJ-HPM100 P2 mobile support the AVC-Intra codec (note that each must have the latest version of the software installed). The AG-HVX200 does not support AVC-Intra.

High-Speed Transfer over a Network and Use of Metadata. P2 Offers an IT-Based Workflow.

Acquisition **On-Site Editing, Transmission** **Line Recording**

HD-SDI FPU Transmitter FPU Receiver

AJ-HPX2000 AJ-HPM100 HD-SDI
P2 Card

PROXY P2-MXF AJ-PCD20 P2 deck

FTP Transfer **Direct Editing** **On-Air**

Quick Operation P2 deck On-Air

Laptop PC
with P2 viewer software Internet On-Air Server

Meta-data Input

**Clip and Program
Archive System**

**Searching by Meta-data
and Preview** **Archive**

With P2, IT Becomes an Integral to the News Production Workflow

In addition to quick recording startup, P2 allows hot swapping and provides a text memo and shot marker function for added convenience in recording. In broadcast and production operations, the P2 mobile can be used for viewing, editing (creating playlists) and on-air transmission. You can also plug a P2 card into a laptop* and transfer data via FTP. The P2 driver can connect directly to a PC network or nonlinear editor in a broadcasting station. The USB2.0/IEEE 1394b interface allows fast transfer of P2 files to both Windows PCs and Mac .
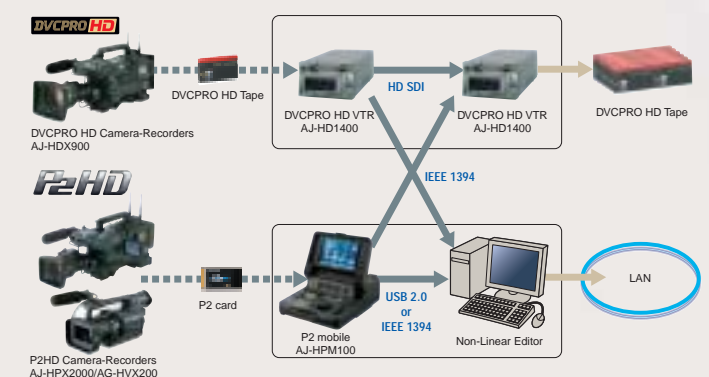
* A P2 card driver (supplied with the product) must be installed on the laptop. The driver works with Windows XP, Windows 2000 and Mac OS X.

Metadata and Proxy Files for Creating New Solutions

SD memory card slots expand your possibilities. On a Windows PC, you can create a metadata file containing the camera operator's name, program name, location and a text memo or other information, and add it to a video file via an SD memory card. Using this file together with a low-resolution proxy file lets you take advantage of PC and IT functions to perform convenient operations such as transferring data over a network or searching for metadata information.

Use Tape and Card Together – P2 Fits Smoothly into Your Current Environment

Because P2 files are recorded with the same codec as the DVCPRO family, degradation-free conversion between tape and file is possible using an IEEE 1394 digital interface. This lets the P2 cam fit smoothly into a tape-based production environment and also allows the use of DVCPRO HD materials in a P2-file-based broadcasting system. HD(SD)-SDI and analog interfaces are also provided for added flexibility.

DVCPRO HD Tape **HD SDI** DVCPRO HD Tape

DVCPRO HD Camera-Recorders
AJ-HDX900 DVCPRO HD VTR
AJ-HD1400 DVCPRO HD VTR
AJ-HD1400

IEEE 1394

P2 card **USB 2.0
or
IEEE 1394** LAN

P2HD Camera-Recorders
AJ-HPX2000/AG-HVX200 P2 mobile
AJ-HPM100 Non-Linear Editor

P2 HD

High-End P2 Camcorder that Offers DVCPRO HD (1080i/720p) Recording

Mobile HD/SD Recorder for Recording, Viewing, Editing and On-Air Playback

Handheld P2 Cam with Outstanding Mobility for News Acquisition and Video Production. Supports Variable Frame Rate Shooting.

AJ-HPX2000 side view (sub panel and LCD open)

AJ-HPX2000 `New`
Memory Card Camera-Recorder (P2 cam)

High Sensitivity, High Quality HD/SD Recording
DRS (Dynamic Range Stretcher) provides a wider dynamic range with minimal blown highlights and blocked shadows.
HD Progressive 2/3-inch 3-CCD System.
High sensitivity of F10 (at 2000 lux). Minimum illumination of 0.007 lux (at +74dB gain).
14-bit A/D processing and improved digital image processing technology.
12-pole linear matrix color correction function.
DVCPRO HD (1080i and 720p) recording and playback. 59.94-Hz/50-Hz switchable for recording and playback in any HD system worldwide.
SD (standard definition) codec (480/60i and 576/50i) supports DVCPRO 50, DVCPRO, and DV.
48-kHz/16-bit, 4-channel digital audio recording.
Line recording via HD/SD-SDI input (with the optional AJ-YA350G).
Supports AVC-Intra codec (option board now under development).
Scene file, user buttons, user menu, auto white balance with ATW, and other assist functions.
4-Position optical filter, viewfinder marker function and high-speed electronic shutter with synchro scan.
UniSlot wireless receiver slot.

Reliable P2 Recording and Advanced Functions
Reliable recording onto P2 cards with high resistance to shock, vibration and temperature changes, and no risk of accidentally overwriting.
Five P2 card slots allow continuous recording, card selection, hot-swap rec, loop rec and pre-rec.
Immediate playback using a clip thumbnail display on the built-in LCD monitor.
Text memos and shot markers can be added.
Proxy data recording possible (with the optional AJ-YAX800G).
IEEE 1394a (AVC), USB2.0 (Host and Device) interface.

AJ-HPX2000 Specification

Power Source :	DC12V, battery or DC input
Power Consumption :	36 W, when record without option, LCD monitor off
Weight:	10.0 lbs (4.5 kg), main unit only, without VF mount
Dimensions (W x H x D):	5-3/16" x 8-1/2" x 12-91/2" (137 x 209 x 317 mm) without handle and wireless option cover

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AJ-HPM100 `New`
Memory Card Recorder (P2 mobile)

HD/SD Multi-Format and Multi-Codec Recording
• DVCPRO HD (1080i and 720p) recording and playback. 59.94-Hz/50-Hz switchable for recording and playback in any HD system worldwide.
• 8-channel, high-quality digital audio.
• SD (standard definition) codec (480/60i and 576/50i) supports DVCPRO 50, DVCPRO, and DV.
• Built-in up-converter, down-converter and cross-converter for playback.
• Supports AVC-Intra codec (option board now under development).

Editing and On-Air Playback Functions
• Equipped with six P2 card slots and one SD card slot.
• Immediate playback using clip thumbnail display on 9" LCD monitor.
• Jog/shuttle dial and VTR-like operation buttons.
• Playlist function for simplified editing and on-air transmission of up to 100 events. Audio split also possible.
• Dubbing function (simplified voice-over function) for easy dialog addition.
• Equipped with large audio fader.

Mobile Body and Various Interface
• USB 2.0: Host/device dual-mode capability. In host mode, files can be copied onto an external hard disk.
• IEEE 1394a: Connection to DVCPRO HD equipment for transferring compressed HD/SD streams. Backup recording also possible.
• HD/SD switchable SDI IN/OUT.
• Analog IN/OUT, RS-422A Remote IN, TC IN/OUT.
• Compact, lightweight, durable. DC or AC operation.

AJ-HPM100 Specification

Power Source :	AC100V to 240V, 50/60Hz/DC12V
Power Consumption :	AC: 60W/DC: 12V/4.3A (full-option)
Weight:	14.4 lbs (6.5 kg)
Dimensions (W x H x D):	11-7/8" x 4-3/4" x 16-1/4" (301x 120 x 412 mm) without rubber shoes

AJ-HPM100 Control Panel

AG-HVX200
Memory Card Camera-Recorder (P2 handheld)

High-Quality HD/SD Multi-Format P2 Recording
• Leica Dicomar*1 13x zoom lens. Internal OIS for hand-shake compensation.
• High-quality, high-sensitivity 1/3" progressive CCD, and high-performance DSP with 14-bit A/D conversion and 19-bit inner processing capability.
• HD recording in 1080/24p*2, 1080/60i and 720/60p. SD (480i) multi-codec recording in DVCPRO 50/DVCPRO/DV, with 16:9/4:3 aspect ratios.
• Multifunction P2 capabilities. Shot marker, hot-swap (changing cards while recording), loop rec, pre-rec, one-shot rec, and interval rec functions.
• Immediate playback using a clip thumbnail display on the built-in LCD monitor.
• IEEE 1394/USB 2.0: Directly mountable to Mac/Windows nonlinear editors. IEEE 1394 output for synchro backup recording. 1394 host mode for copying files onto an external HD.

Variable Frame Rate Function and Professional Specifications
• 11-step frame rate selector for creative variable-speed shooting. Features 720p native mode and over 60p mode.
• Built-in DV tape drive. Allows DV recording, down-conversion recording from P2HD sources, and frame-rate conversion of clips recorded in native 720p.
• Auto or manual operation of cam-driven zoom, focus and aperture.
• Scene file, user buttons, white balance with ATW, and other assist functions.
• Analog component output, time-code setting via IEEE 1394, and camera remote function.
• XLR audio input terminals supporting 48-V phantom power supply, magnesium-alloy chassis, zebra, marker and tally lamp.

*1: Leica and Dicomar are registered trademarks of Leica Microsystems IR GmbH.
*2: 1080/24p is to be recorded in 1080/60i (pull-down).

AG-HVX200 Specification

Power Source :	DC7.2V / 7.9V, battery or DC input
Power Consumption :	11.6W (viewfinder), 12.0W (LCD), 14.0W (Max)
Weight:	5.5 lbs (2.5 kg) without battery and accessories
Dimensions (W x H x D):	6-11/16" x 7-1/8" x 15-3/8" (168.5 x 180 x 390 mm) without prominent parts

AG-HVX200 side view (LCD open)

Cost-Efficient P2 Cam with Outstanding Mobility and Low Power Consumption

AJ-SPC700
Memory Card Camera-Recorder (P2 cam)

Reliable P2 Recording and Advanced Functions
• Reliable recording onto P2 cards with high resistance to shock, vibration and temperature changes, and no risk of accidentally overwriting valuable data.
• Instantaneous recording start from standby mode.
• Five P2 card slots allow continuous recording, card selection, hot-swap rec, loop rec and pre-rec.
• DVCPRO 50/DVCPRO/DV multi-codec recording capability.
• Immediate playback using a clip thumbnail display on the built-in LCD monitor.
• Voice memos and shot markers can be added.
• Proxy data* recording possible (with the optional AJ-YAX800G).
• Optional IEEE 1394 interface (with the optional AJ-YAD800G), standard USB 2.0 terminal.

Camera-Recorder with Outstanding Mobility and
Low Power Consumption
• Low 17-watt power consumption (during recording, main unit only, with LCD monitor turned off).
• High-sensitivity 2/3″ IT-system 3CCD with superb reliability and high cost-efficiency.
• News gamma function reduces blown highlights.
• Scene file, user buttons, user menu, auto white balance with ATW, and other assist functions.
• 4-Position optical filter, viewfinder marker function and high-speed electronic shutter with synchro scan.
• UniSlot wireless receiver slot.
• Camera remote compatibility (with the optional AJ-EC3P).

*Proxy data is AV data with low-resolution MPEG4 video and audio containing time code, metadata, and other control information. You can select either of 1.5Mbps quality, 768kbps quality, or 196kbps quality. Use of DCF Technologies under license from Multi-Format, Inc.

AJ-SPC700 Specification

Power Source :	DC 12V (11.0V to 17.0V)
Power Consumption :	17W (without option, LCD monitor off)
Weight:	9.04 lbs (4.1 kg) main unit only, without VF mount
Dimensions (W x H x D):	5-3/16″ x 8-1/2″ x 12-91/2″ (137 x 209 x 318 mm) without handle and wireless option cover

Full-Featured P2 Cam with High Sensitivity, Digital Super Gain and 24p/30p Shooting

AJ-SPX800
Memory Card Camera-Recorder (P2 cam)

Meet Video Production Needs (Original AJ-SPX800 Functions)
• 2/3″ 520,000-pixel progressive CCD. High F13 (2000 lx) sensitivity and low noise with 65-dB S/N ratio.
• Digital Super Gain (cumulative mode) for extremely high sensitivity of +68 dB maximum.
• 2x (4x by area) digital zoom function.
• 24p/30p mode* and Cine-like gamma for film-like recording.
• Interval rec and one-shot rec functions for diverse applications.
• High-quality (48-kHz/16-bit) 4-channel digital audio recording. Stereo mic and 2-channel audio output.
• GPS data recording capability (with the optional AJ-GPS900G).
• Optional SDI output (with the optional AJ-YA902AG).

P2 Cam with Reliability and Mobility (Same as the AJ-SPC700)
• P2 Reliable recording with high resistance to shock, vibration and temperature changes, and no risk of overwriting.
• Five P2 card slots allow continuous recording, card selection, hot-swap rec, loop rec and pre-rec.
• DVCPRO 50/DVCPRO/DV multi-codec recording capability.
• Immediate playback using a clip thumbnail display on the built-in LCD monitor.
• Voice memos and shot markers can be added.
• Proxy data recording possible (with the optional AJ-YAX800G).
• Optional IEEE 1394 interface (with the optional AJ-YAD800G), standard USB 2.0 terminal.
• Scene file, user buttons, user menu, auto white balance with ATW, and other assist functions.
• 4-Position optical filter, viewfinder marker function and high-speed electronic shutter with synchro scan.
• UniSlot® wireless receiver slot. *UniSlot is a trademark of Ikegami Tsusinki Co., Ltd
• Camera remote compatibility (with the optional AJ-EC3P).

*Recorded in 60i (60 fields/sec) onto a P2 card in either mode.

AJ-SPX800 Specification

Power Source :	DC 12V (11.0V to 17.0V)
Power Consumption :	24 W, without option, LCD monitor off 27 W, with SDI & IEEE 1394 option, LCD monitor on
Weight:	9.26 lbs (4.2 kg) main unit only, without VF mount
Dimensions (W x H x D):	5-3/16″ x 8-1/2″ x 12-91/2″ (137 x 209 x 318 mm) without handle and wireless option cover

Ideal for Use in Existing Mobile Van and Studio Systems, with Playlist Editing Capability

AJ-SPD850
Memory Card Recorder (P2 deck)

P2SD Deck Capable of Immediate On-Air News Transmission
• DVCPRO 50/DVCPRO/DV multi-codec SD recording and playback.
• High-quality (48-kHz/16-bit) 4-channel digital audio recording and playback in all formats.
• Provided with five P2 card slots. Plays clips that were recorded in sequence onto multiple cards, and allows continuous line recording onto five cards.
• LCD monitor built into front panel. Clip can be selected quickly on the thumbnail display with jog and dial controls.
• Playlist creation function enables speedy simplified editing and on-air transmission of up to 100 events.
• Equipped with SD card slot for playlist backup and other uses.
• Plays voice memos (recorded with the P2 cam).

Conventional VTR-Like Operating Ease and Versatile Interfaces
• Equipped with a jog and shuttle dial (JOG/SHTL/VAR). Keys and key layouts are similar to those on a VTR for easy operation.
• Easy encoder remote adjustment of output video signals.
• A host of interfaces, including RS-422A, composite/component video, analog/digital audio and REF video.
• Allows P2 files to be backed up onto a DVD-RAM/-R drive (with the optional AJ-DVD850G).
• Standard PC interfaces include USB 2.0, RS-232C, and Ethernet.
• Optionally supports SDI and IEEE 1394 input/output.
• 4U-size height for mounting into a 19-inch rack (adaptor sold separately).

AJ-SPD850 Specification

Power Source :	AC100V to 240V, 50/60Hz
Power Consumption :	105W (full-option), 80W (without option)
Weight:	30.8 lbs (15 kg) without DVD-RAM/-R drive
Dimensions (W x H x D):	16-3/4″ x 6-15/16″ x 16-15/16″ (424 x 175.2 x 430 mm) without rubber shoes, connectors and JOG dial

NY1, a news station in the US, led many in the industry with its full introduction of P2.

P2 Is at Work Around the Globe

Around **25,000** *Units Delivered*
to Over **300** *Broadcasting Stations around the World*
As of October, 2006

Since its launch in April 2003, the DVCPRO P2 Series has attracted widespread attention from broadcasters and video producers all over the world. A year later, in April 2004, Panasonic released a full lineup of P2 products, including the P2 card, P2 cam, P2 deck and P2 drive. This gave shape to the Panasonic vision of evolving "from ENG to ING (IT News Gathering)."

Broadcasters everywhere – particularly forward-thinking broadcast stations that had been promoting in-house IT applications and network connectivity – began to use the P2 Series. They actively switched from tape-based to card-based (file-based) news gathering. P2 equipment was widely used in the 2004 Athens Olympics and 2006 Torino Winter Olympics, and impressed the world's broadcasters with their quick startup and high reliability.

In 2005, Panasonic released the AG-HVX200 HD-compatible handheld camera-recorder. Developed with cutting-edge video technologies, this handheld had a remarkable impact on the industry. Companies began putting the AG-HVX200 to work not only for news acquisition but for TV program, TV commercial and movie production as well.

More than 25,000 P2 Series products have been delivered to more than 300 of the world's broadcast stations. Panasonic's P2HD Series was also selected as the official broadcast equipment for the 2008 Beijing Olympics, which will be the first Olympic Games ever to be broadcast in full HD.

A BBC Resources crew using the P2 cam to record the Torino Olympics.

Portable Hard Disk Unit Copies P2 Card Data at High Speed

P2 Card Drive with IEEE 1394b/USB 2.0 Interface for Both Mac and Windows Use

Large Data Storage Capacity, High Transfer Speed, Superb Reliability. Solid-State Memory Card for Professional Use

AJ-PCS060G
Portable Hard Disk Unit (P2 store)

High-Speed Copying from 15 P2 Cards (4 GB)
- A portable hard disk unit with a P2 card slot, P2 store quickly and easily copies data from P2 cards.
- P2 store can copy 4 GB of data in only about four minutes.
- P2 store also re-formats the cards so you can use them again right away.
- P2 store can copy up to 15 P2 cards on its 60-GB hard-disk drive.

Compact, Lightweight and Durable
- Small in size and weighing only about 1.43 lbs (650 g), P2 store offers outstanding portability.
- It runs on DC power, so you can use batteries or an AC adaptor.
- A special impact-absorbing material helps cushion the hard disk, and a shock-resistant magnesium alloy body provides overall protection.

USB 2.0 Connection Allows Use as an External Drive
- USB 2.0 connection makes it easy to link to a PC* or a P2 mobile.
- The PC will recognize up to 16 (including P2 card slot) data volumes.
- To help safeguard data, the volumes are read-only and cannot be accidentally overwritten.

  *Supports Windows 2000/XP and Mac OS X. Mac computers with Intel CPUs are not supported.
  *The hard-disk drive is a high-precision device, and partial damage, or in the worst case, the loss of data can occur under some operating conditions. Use the hard-disk drive for temporary storage of copied data until it can be backed up on other storage media. Do not consider the internal hard-disk drive as a permanent data storage device.
  *No guarantee against data damage or loss is implied.

AJ-PCD20
Memory Card Drive (P2 drive)

High-Speed Data Transfer via IEEE 1394b or USB 2.0
- The USB 2.0 interface enables high-speed transfer of data to a Windows-PC-based nonlinear editor*.
- The IEEE 1394b interface offers higher transfer speeds than IEEE 1394 (a). Data can also be transferred to a Mac OS nonlinear editor* at high speeds.
- Nonlinear editor software allows the AV data (MXF files) on a P2 card to be directly loaded as clips.
- High-speed data transfer to servers or hard disks.

Use Externally or Install It into Your PC
- Install the AJ-PCD20 into a 5-inch bay on a desktop PC* and use it as an internal PC drive.
- With the AC adaptor and a USB or IEEE 1394b cable, you can use it as a stand-alone external drive.

Five P2 Card Slots
- The AJ-PCD20's five PC card slots let you mount up to five P2 cards at the same time.
- This is especially convenient for editing a continuous clip recorded by a P2 cam in sequence onto multiple cards.

  *A P2 card driver (standard equipped) must be installed in the PC. The P2 card driver operates under Windows XP, Windows 2000, or Mac OS X.

AJ-P2C008HG/AJ-P2C004HG
Memory Card (P2 card)

A Large Data Storage Capacity and
High Transfer Speed Based on SD Memory Card Technology
With four SD Memory Cards packaged into one, the P2 card offers four times the data storage capacity and four times the transfer speed of the SD Memory Card.
The 8-GB card (AJ-P2C008HG) achieves a long recording time and supports DVCPRO HD. Cards with larger capacities are scheduled for the future.
A high data transfer speed of 640 Mbps maximum.
Complies with the Type-II PC Card Standard (Card Bus) for direct plug-in to the PC card slot of laptop PCs*.
The AV data for each cut is recorded as an MXF file.

High Reliability Withstands Repeated Use
Highly reliable solid-state memory resists shock, vibration, and temperature changes.
Solid-state memory offers withstands 10,000s of rewriting operations.
An individual serial number, bar code, and write-protect switch ensures strict security.
Thin PC-card size and ultra-light weight of 1.6 oz (45 g).

  * A P2 card driver (standard equipped) must be installed in the PC. The P2 card driver operates under Windows XP, Windows 2000, or Mac OS X.

Windows PC Software for Easy Viewing and Copying of P2 Files

P2 Viewer 3.0
P2 Application Software (free for P2 users)

- Supports P2 clips (DVCPRO HD, DVCPRO 50, DVCPRO, DV) and proxy files.
- The software can be used to display clip lists, to play, display and edit clip metadata, to copy clips, and to initialize P2 cards.
- An enhanced GUI maximizes the use of P2 file features.
- P2 users can download the latest version of this software from a special Web site, free of charge.
  (To download P2 Viewer: http://panasonic.biz/sav/p2/)

AJ-PCS060G Specification

Power Source :	DC 7.2 V with battery pack, DC 7.9 V with AC adaptor
Power Consumption :	Max. 1.3 A (0.8 A when standard oparation)
Weight:	1.43 lbs (0.65 kg)
Dimensions (W x H x D):	3-9/16" x 1-13/16" x 7-1/8" (90 x 45 x 180.5 mm)
PC Interface:	USB Ver. 2.0 compliant, reed only
HDD Capacity:	60GB
PC System Requirement:	Microsoft® Windows XP Professional (later SP2) Microsoft® Windows 2000 (later SP4) Mac OS X (10.4.2, 10.4.6) for PowerPC*

*with the exception of Intel CPU Mac OS X computers.

AJ-PCD20 Specification

Power Source:	AC 100 V to 240 V (0.9A to 0.5A), 50/60 Hz DC 16 V (0.8 A) with AC adaptor
	DC 12 V (1.0 A) when PC built-in
Weight:	2.64 lbs (1.2 kg)
Dimensions (W x H x D):	5-7/8" x 1-11/16" x 7-7/8" (148.4 x 42.5 x 199.5 mm) excluding protruding parts

PC System Requirement

Operating System:	Microsoft® Windows XP Professional (later SP2) Microsoft® Windows 2000 (later SP4) Macintosh OS X (10.3.9, 10.4.2, 10.4.6)
Main Memory:	512 MB or greater recommended
Interface:	IEEE 1394b and USB Ver. 2.0 compliant

P2 card Specification

Interface:	CardBus (PC Card standards)
Power Source:	DC3.3V ±0.3V
Power Consumption:	Approx. 1.5W
Operating Temperature:	–20 C to 60 C
Operating Humidity:	5% to 90% (no condensation)
Storage Temperature:	–40 C to 80 C
Storage Humidity:	5% to 90% (no condensation)
Weight:	1.6 oz (45 g)
Dimensions (W x H x D):	2-1/8" x 1/4" x 3-3/8" (54 x 5 x 85.6 mm)

P2 viewer PC System Requirement

Operating System:	Microsoft® Windows XP Professional (later SP2) Microsoft® Windows 2000 (later SP4)
Requirement:	Installed Microsoft® DirectX 9.0b or later Installed P2 driver (supplied with P2 cam, P2 deck, P2 drive) 32-bit Full-Color Display, Audio function
Recommend PC :	SD: Pentium4 1.5GHz/512MB or more HD: PentiumD 3.2GHz/1GB or more

Optional Accessories

P2 cam (AJ-HPX2000/AJ-SPC700/AJ-SPX800) Options

AJ-HVF21G
2" HD EVF
59.94Hz/50.00Hz Switchable

AJ-VF20WBP
2" EVF 16:9/4:3 Switchable
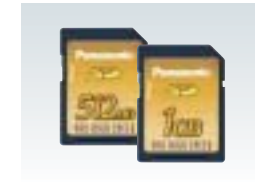
AJ-VF15BP
1.5" EVF for 4:3

Canon 2/3" Lens

Fujinon 2/3" Lens

AJ-MC700P
Microphone Kit

AJ-MH800G
Microphone Holder

AJ-MC900G
Stereo Microphone

Anton/Bauer Hytron

Anton/Bauer Dionic Batery

ULTRA LIGHT
AntonBauer Ultra Light

AJ-HT901G
Hard Carrying Case
*Not available in some area

AJ-SC900
Soft Carrying Case
*Not available in some area

SHAN-RC700
Rain Cover
*Not available in some area

SHAN-TM700
Tripod Adaptre

AJ-EC3P
Extension Control Unit

AJ-GPS900G
GPS Unit

AJ-YAX800G
Video Encoder Card
*Camera-Recorder software
upgrade is required.

AJ-RC10G
RCU (Remote Control Unit)
with 10m remote control cable

AJ-C10050G
Remote Control Cable (50 m)

AJ-YA350G
HD/SD Input Board
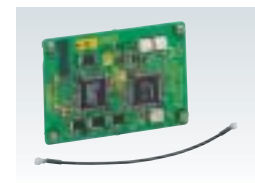
AJ-YA902AG
SDI Output Board
(for AJ-SPX800)
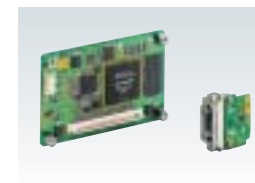
AJ-YAD800G
IEEE 1394 Interface Board

FireStore FS-100
Portable DTE Recorder
(FOCUS Enhancements, Inc.)

AVC-Intra Codec Board
(available June '07)

SD Memory Card

AJ-P2C008HG
AJ-P2C004HG
P2 Card

P2 cam options		AJ-HPX2000	AJ-SPC700	AJ-SPX800
2" HD EVF	AJ-HVF21G	Yes		
2" EVF	AJ-VF20WBP	Yes*¹	Yes	Yes
1.5" EVF	AJ-VF15BP	Yes*¹	Yes	Yes
Canon 2/3" Lens		Yes		
Fujinon 2/3" Lens			Yes*²	Yes*²
Microphone Kit	AJ-MC700P		Yes	Yes
Microphone Holder	AJ-MH800G	Yes	Yes	Yes
Stereo Microphone	AJ-MC900G	Yes		Yes*³
Anton/Bauer		Yes*⁴	Yes*⁴	Yes*⁴
AntonBauer Ultra Light		Yes	Yes	Yes
Hard Carrying Case	AJ-HT901G	Yes	Yes	Yes
Soft Carrying Case	AJ-SC900	Yes	Yes	Yes
Rain Cover	SHAN-RC700	Yes	Yes	Yes
Tripod Adaptr	SHAN-TM700	Yes	Yes	Yes
Remote Control Unit	AJ-RC10G	Yes		
Remote Control Cable	AJ-C10050G	Yes		
Extension Control Unit	AJ-EC3P		Yes	Yes
GPS Unit	AJ-GPS900G	Yes		Yes
Video Encoder Card	AJ-YAX800G	Yes	Yes	Yes
HD/SD Input Board	AJ-YA350G	Yes		
SDI Output Board	AJ-YA902AG	Standard		Yes
IEEE 1394 Interface Board	AJ-YAD800G	Standard	Yes	Yes
FOUCUS Portable DTE Recorder " FireStore"	FS-100	Yes	Yes	Yes
AVC-Intra Codec Board (available June '07)		Yes		
SD Memory Card		Yes	Yes	Yes
P2 Card	AJ-P2C004HG/AJ-P2C008HG	Yes	Yes	Yes

Yes: It is possible to use it.
*1: The MENU setting on the camera-recorder is required. Moreover, it becomes a down-converted image. *2: When shooting by 4:3 modes, x0.8 lens converter is required to obtain equal to 16:9 mode shooting area. *3: Remodeling and the upgrade of the camera-recorder are required. *4: The battery pack that the model can use respectively is different.

P2 handheld (AG-HVX200) /P2 store (AJ-PCS060G) Options

CGA-D54SE/1B
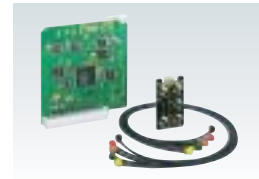Battery Pack (5.4 Ah)

AG-B25
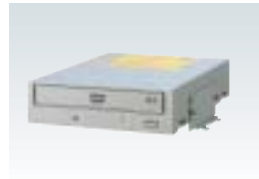AC adaptor kit for AG-HVX200

AG-B15
AC adaptor kit for AJ-PCS060G
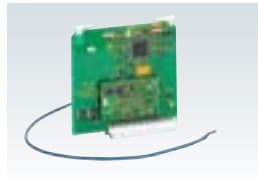
AG-MC200G
XLR microphone

P2 mobile (AJ-HPM100), P2 deck (AJ-SPD850) Options

AJ-YA755G
SDI Interface Board

AJ-DVD850G
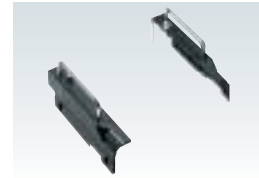DVD-RAM/DVD-R drive

AJ-YAD850G
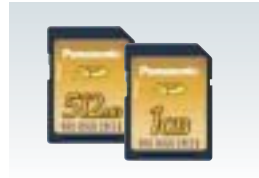IEEE 1394 Interface Board

FireStore FS-100
Portable DTE Recorder
(FOCUS Enhancements, Inc.)

AVC-Intra Codec Board
(available June '07)

AJ-MA75P
Rack Mount Adapter
*slide rail, not included

SD Memory Card

**AJ-P2C008HG
AJ-P2C004HG**
P2 Card

P2 mobile、P2 deck options		AJ-HPM100	AJ-SPD850
SDI Interface Board	AJ-YA755G	Standard	Yes
DVD-RAM/DVD-R drive	AJ-DVD850G		Yes
IEEE 1394 Interface Board	AJ-YAD850G	Standard	Yes
FOUCUS Portable DTE Recorder " FireStore"	FS-100	Yes	Yes
AVC-Intra Codec Board (for AJ-HPM100/AJ-HPS1500)		Yes	
Rack Mount Adapter	AJ-MA750P		Yes*
SD Memory Card		Yes	Yes
P2 Card	AJ-P2C004HG/AJ-P2C008HG	Yes	Yes

Yes: It is possible to use it.   * The slide rail is required, separately.

HD/SD LCD Monitors

Panasonic LCD monitors help to maximize the mobility and comfort of a P2 production system. Select from three types. The 8.4" model also serves as an EVF in the field, and the attractively designed wide-screen 17" or large-screen 26" model saves space in OB vans or on the desktop. All models feature the superb image quality, high-speed response, wide viewing angle, and HD/SD multi-format capability that broadcast applications demand.

BT-LH900A
8.4" LCD HD/SD Monitor

BT-LH1700W
17" LCD HD/SD Monitor

BT-LH2600W
26" LCD HD/SD Monitor

The P2 Partners

Panasonic has long followed an "open mind" policy that ensures easy use with products made by other manufacturers via interfaces such as IEEE 1394. This gives users the enormous benefit of purchasing new equipment that's compatible with their current hardware and software just with minimum additional investment .

We've followed the same policy with the P2 card. Throughout its development, Panasonic has provided advanced information to other manufacturers to enable them to develop products that use the P2 card.

We call this collaboration the P2 Partners Program. Thanks to the P2 Partners, you'll be able to choose a wider variety of P2-compatible products from a number of manufacturers.

• Final Cut Pro
www.apple.com

• D³-Edit
www.dayang.com.cn/

• NewsEdit™ LT/SC/XT
www.thomsongrassvalley.com

• A full-featured MXF editor
 "theScribe"
www.mog-solutions.com

www.avid.com

• DaletPlus News Suite
www.dalet.com

• Velocity NX/NXG/Q/HD/X
• NewsFlash FX
• Nexio XS
www.leitch.com

• MXFTk
www.opencubetech.com

• Précis News
 Production System
www.bitcentral.com

• CleanEdit
www.evs.tv/

• Kinoma Player 4 EX
www.kinoma.com

• sQ Edit Plus
• Marco
www.quantel.com

• EDIUS® Broadcast
• EDIUS® HD/EDIUS®
 SD/EDIUS® SP
www.canopus.com

• FireStore FS-100
• ProxSys
www.focusinfo.com

• Matrox Axio HD
• Matrox Axio LE
www.matrox.com/

• FlipFactory
• MAP
• Launch
www.telestream.net