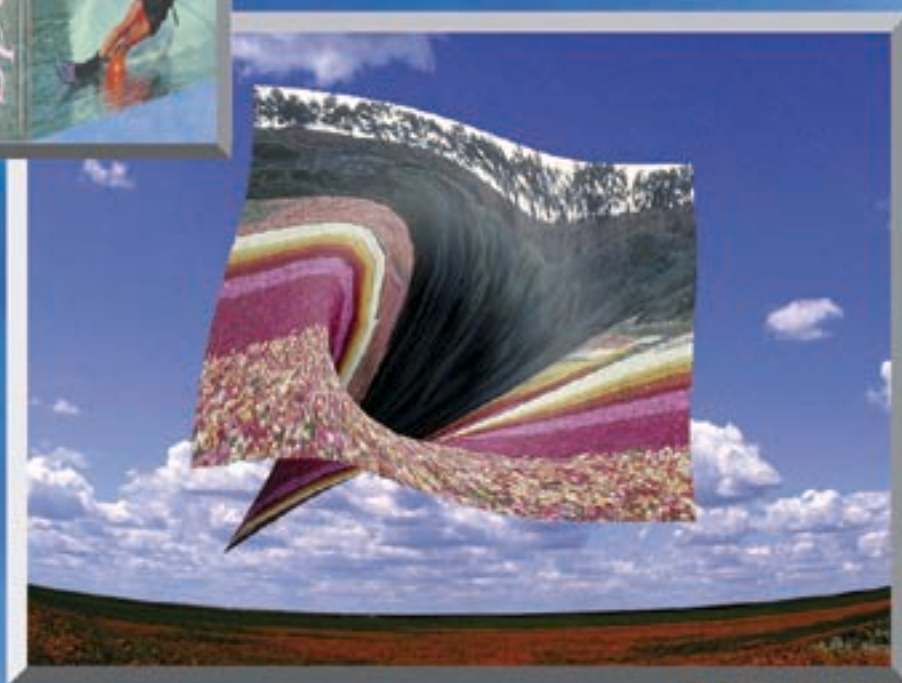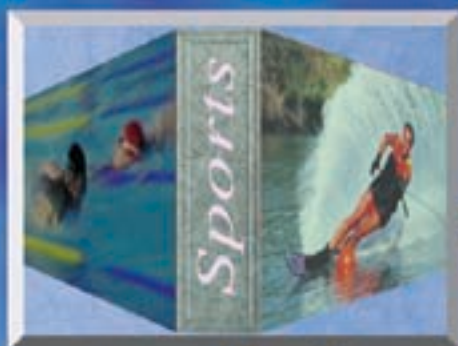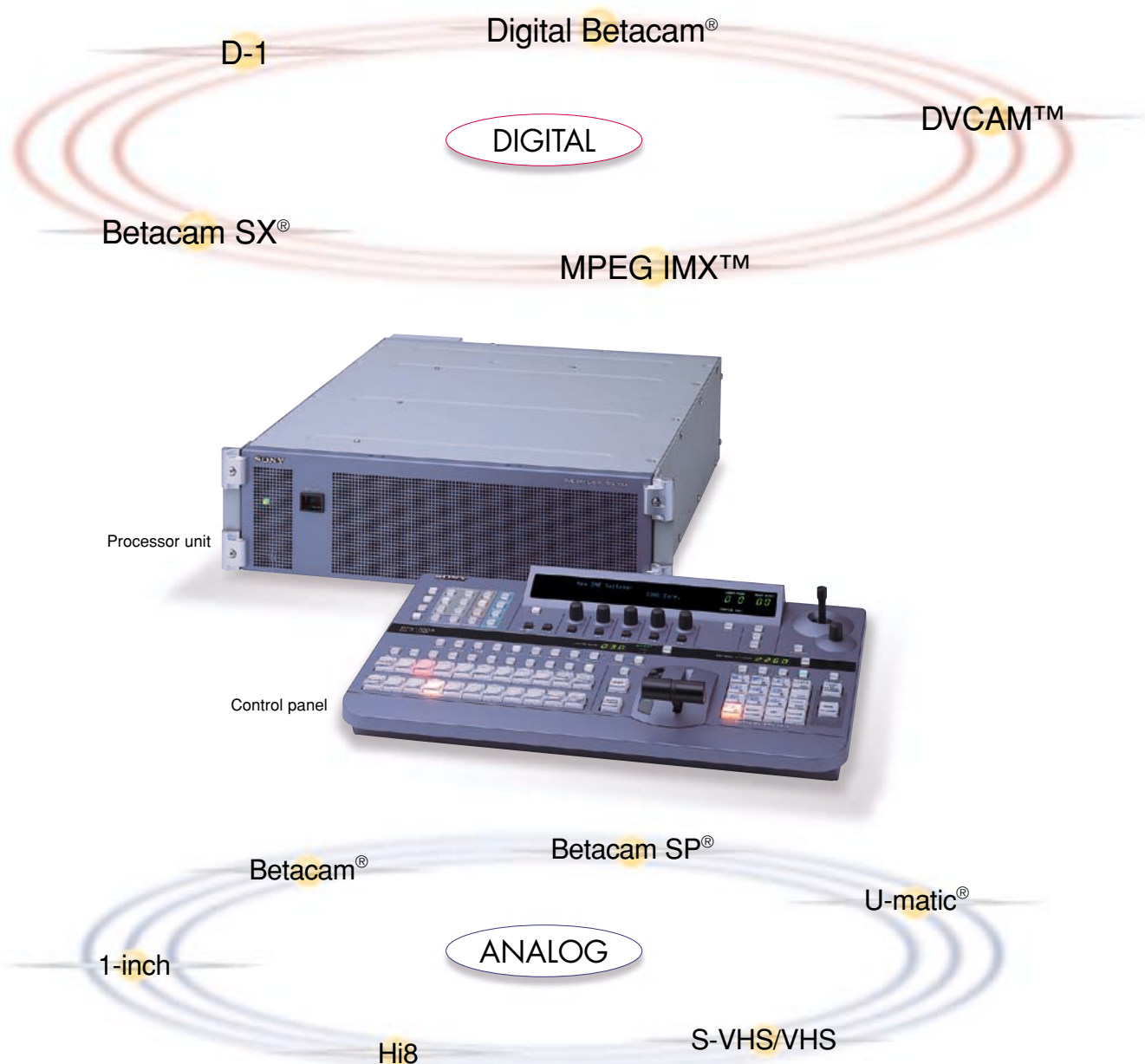# SONY

DME Switcher

DFS-700A/700AP

Powerful Digital Performance at Your Fingertips!

What happens when you put superb digital effects and an advanced digital switcher together in a perfectly compact package? You get the Sony DFS-700A*— an ideally proportioned, easy-to-operate switcher incorporating the latest digital multi effects. Offering the precision of full component digital processing, all the creativity of hundreds of preset special effects, and the flexibility of 16:9 or 4:3 operation, the DFS-700A is your promise of top-flight productivity. Cost-effective yet extremely versatile, Sony's DFS-700A will open up new horizons in digital television performance.

*The DFS-700A refers to two models: the DFS-700A (NTSC model) and the DFS-700AP (PAL model).

D-1   Digital Betacam®   DVCAM™

DIGITAL

Betacam SX®   MPEG IMX™

Processor unit

Control panel

Betacam®   Betacam SP®   U-matic®

ANALOG

1-inch

Hi8   S-VHS/VHS

Be CREATIVE

Spectacular special effects

The DFS-700A draws on Sony's expertise in high-end non-linear image processing. In standard configuration, this affordable system incorporates the groundbreaking effects and capabilities of Sony's landmark video editing products.

Preprogrammed and ready-to-use effects include Fanta Trail and several features from Digital SPARKLE™ (such as ripple and swirl effects).

Optional effects

For even more creativity, add optional boards, and now you've got over 800 effects to choose from. Over 400 additional effects including Crystal Wipe, Multi Pillars and Polygon V-studio are available with the following optional boards installed.

■ 2nd channel DME board

Adding the optional second channel video board will add a professional touch with two-channel special effects, such as push-in, push-out, Duality™ effect (two-channel picture in picture), combined operations (two-channel intersect) and brick-like effect.

■ 3D video mapping effects board

Three-dimensional special effects can be impressive but they can also be extremely difficult to use. The DFS-700A makes things easy. The optional 3D Mapping Board delivers 3D effects in a simple, ready-to-use format.
Without wasting significant time on programming, you have easy access to 3D effects such as 3D cubes, 3D explosion, 3D vase, and 3D frames. Your productions become more exciting. And most importantly, you become more creative.

The simplicity of pre-programmed effects

Some special effects systems require complex, tedious programming. Not the DFS-700A. With pre-programmed effect patterns, anyone can create artistic, impressive, amusing, or stunning visuals. You can concentrate on expressing your creativity — and let the DFS-700A work on the effects. Or if you like, you can execute partial modifications to the preset effect pattern and add your own, personal touch.

Flexible DSK function

The DFS-700A allows downstream keys to be set up exactly as desired. The DSKs can be placed anywhere within the screen regardless of the original DSK key source position. The transition rates are set up in numbers of frames, and different rates can be selected for the DSK On and Off transitions. Stunning DSK effects such as 'DSK blink', 'Border blink' and 'Hue rotation' are also available.
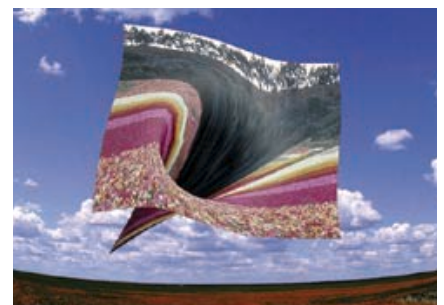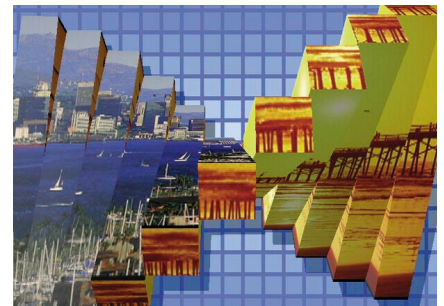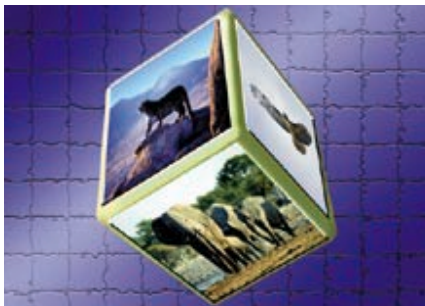
SPEED is Power

Fast response for more productivity

If you've ever been held back by the "rendering" and "processing time" of non-linear editing systems, you'll come to appreciate the performance of DFS-700A. This is a real-time system, capable of delivering true 3D, page turns and effects in an instant. So there's no drumming your fingers, no looking at your watch, no running for coffee. Operation is also very easy. Addition of optional boards and software gives you over 800 pre-programmed special effects that you can recall with the numeric keypad. Power-packed yet extremely user-friendly, that's what the DFS-700A is all about.

Ergonomic control panel

From simple switching to complex effects, the ergonomic control panel makes everything easy. The layout is straightforward and streamlined for maximum efficiency.

As a result, the DFS-700A is a perfect tool for EFP and remote live broadcasting, where split-second timing and instant response are absolute necessities.

Systematic PERFORMANCE

Switcher function

You can integrate the DFS-700A into an existing switcher system, as a powerful digital effects enhancement. But special effects are only part of the story. The integrated switcher functions of the DFS-700A include chroma keyer, Y/U/V color correction, down stream keyer, fade-to-black, and frame memory.

Editing interface

The DFS-700A also provides comprehensive interface with Sony editing controllers. For example, you can use the DFS-700A with Sony BVE-2000/P and PVE-500/P editors via the serial interface. As a post-production tool, the DFS-700A is an editor's dream.

Live operation

The DFS-700A cross-point buttons offer broadcast-grade "feel" for extra durability in the most extreme applications.

For live operation, the DFS-700A also offers Preview and Tally outputs.

DME-LINK™

The powerful effects of the DFS-700A are easy to integrate into a high-end DVS switcher system. DFS-700A snapshots can be controlled from the DVS-2000C and DVS-7000 Series switchers.

*Only user program DME-LINK is supported *An Rx/Tx cross cable is required

Perfect for any application

The DFS-700A is an amazingly powerful integrated switcher with digital multi effects — perfectly suited for newsrooms, postproduction, field editing, small studios and outside broadcasting systems. It's the single, simple solution for today's demanding digital requirements.

QUALITY by Digitization

Digital signal processing

The world is moving into digital broadcasting. And if you're using the DFS-700A, it's a great start as it will prepare you for any requirement. Digital broadcasting depends on digital component signals which is why the DFS-700A is built around full digital component processing from input to output at 4:2:2:4 (video and key). In this way, the DFS-700A delivers the quality you'll need for digital television broadcasting, digital satellite, DVD, a variety of video contents creation. The built-in chroma keyer and downstream keyer offer full digital signal processing to satisfy the most demanding production needs.

BRIDGE to Digital

Wide range of inputs and outputs including SDI

Whether analog or digital, the DFS-700A accommodates a wide range of signal input/ output requirements. The system comes with eight standard inputs — four SDI[*1] and four analog component. With the optional BKDF-701 or BKDF-702[*2] boards, you can add eight or four inputs, making the total number of inputs 16 or 12 respectively, any eight of which can be freely assigned to the control panel. Four SDI and four analog component inputs are added with the BKDF-701, and four composite inputs (composite or Y/C) are added with the BKDF-702. The system also includes a complete range of outputs: two SDI, two analog component, two analog composite, and two Y/C. This means you can configure the DFS-700A to match existing equipment and anticipate your future needs!

*1 SDI (Serial Digital Interface): serial component digital signal (270 Mb/s)
*2 The BKDF-702 refers to two models: the BKDF-702 (NTSC model) and the BKDF-702P (PAL model).

No need for external A/D converters

Some digital equipment require expensive and cumbersome external analog-to-digital/digital-to-analog converters. But that's something you never have to worry about with the DFS-700A. Just take out your analog switcher and drop in the DFS-700A. It's the simple, easy, cost-effective upgrade that transforms a tired, old analog system into a creative, digital powerhouse.

The perfect companion for Sony digital VTRs and servers

Maybe you're considering digital production system with DVCAM, Betacam SX, MPEG IMX or Digital Betacam recorders or the Sony MAV-555A Multi-Access Video Disk Recorder. And whichever format you choose, the DFS-700A will complement it perfectly. With this unit, you get full compatibility with analog machines, plus superb component digital performance to maintain digital VTR picture quality. Starting with the DFS-700A is a cost-effective first step. You can then gradually add Sony digital video cameras, VTRs and servers at your own pace to build an all-powerful, all-digital system!
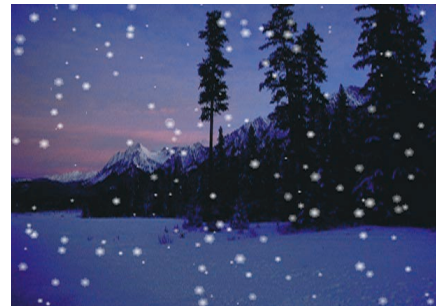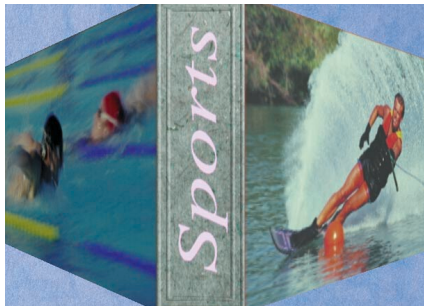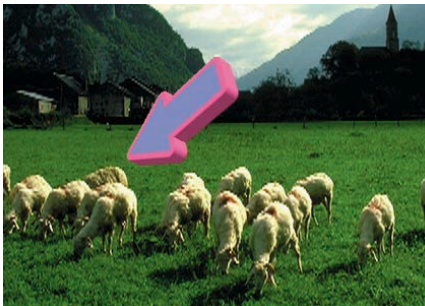
Specifications

General

Model	DFS-700A (NTSC)/DFS-700AP (PAL)
Power requirements	AC 100/120 V, 50/60 Hz (DFS-700A)
	AC 220/240 V, 50/60 Hz (DFS-700AP)
Operating voltage	AC 90 to 130 V, 47 to 63 Hz (DFS-700A)
	AC 180 to 260 V, 47 to 63 Hz (DFS-700AP)
Power consumption	200 W
Operating temperature	0 to 40 °C (32 to 104 °F)
Dimensions	Control panel: 440 x 121 x 287 mm
(W x H x D)	17 $1/4$ x 4 $3/4$ x 11 $1/4$ inches
	Processor unit: 440 x 132 x 520 mm
	17 $1/4$ x 5 $1/4$ x 20 $1/2$ inches
Mass	Control panel: 3 kg, 6 lb 10 oz
	Processor unit: 14 kg, 30 lb 14 oz

Input Signals

VIDEO INPUTS

SDI	BNC type x 4
	270 Mb/s
Component	BNC type x 4 (Y/R-Y/B-Y)
	Y: 1.0 Vp-p, 75 Ω, Sync negative
	R-Y/B-Y: 0.7 Vp-p, 75 Ω (DFS-700A)
	R-Y/B-Y: 0.525 Vp-p, 75 Ω (DFS-700AP)
DSK KEY IN	BNC type x 2, Loop-through, 1.0 Vp-p, 75 Ω
REF VIDEO	BNC type x 2, Loop-through connection
	Sync: 0.286 Vp-p (DFS-700A)
	Sync: 0.3 Vp-p (DFS-700AP)
	Burst: 0.286 Vp-p (DFS-700A)
	Burst: 0.3 Vp-p (DFS-700AP)

Output Signals

PGM OUT

SDI	BNC type x 2
	270 Mb/s
Component	BNC type x 2 (Y/R-Y/B-Y)
	Y: 1.0 Vp-p, 75 Ω, Sync negative
	R-Y/B-Y: 0.7 Vp-p, 75 Ω (DFS-700A)
	R-Y/B-Y: 0.525 Vp-p, 75 Ω (DFS-700AP)
Composite	BNC type x 2
	Video: 1.0 Vp-p, 75 Ω, Sync negative
S-Video	DIN type x 2 (Y/C)
	Y: 1.0 Vp-p, 75 Ω, Sync negative
	C: 0.286 Vp-p at burst, 75 Ω (DFS-700A)
	C: 0.3 Vp-p at burst, 75 Ω (DFS-700AP)
CLEAN OUT	BNC type x 1
	SDI: 270 Mb/s
PREVIEW OUT	BNC type x 1, Composite
	Video: 1.0 Vp-p, 75 Ω, Sync negative
BLACK BURST OUT	BNC type x 3
	Sync: 0.286 Vp-p, 75 Ω (DFS-700A)
	Sync: 0.3 Vp-p, 75 Ω (DFS-700AP)
	Burst: 0.286 Vp-p, 75 Ω (DFS-700A)
	Burst: 0.3 Vp-p, 75 Ω (DFS-700AP)

Signal Processing

Sampling rate	Y: 13.5 MHz
	R-Y/B-Y: 6.75 MHz
Quantization	Y/R-Y/B-Y: 8 bits
Linearity (Composite output)	DG: Less than 3.5% (composite input)
	Less than 2% (component, S-Video input)
	DP: Less than 2.5° (composite input)
	Less than 1° (component, S-Video input)
Frequency response	0 to 5 MHz +0.5 dB/-1 dB
S/N	More than 50 dB (composite)
	More than 55 dB (component, S-Video)
Y/C delay	Less than 20 ns (component)
	Less than 50 ns (composite, S-Video)

Control Signals

Editor	D-sub 9 pin x 1, RS-422A
GPI/T	BNC type x 2, TTL Level
Panel	D-sub 25-pin x 1
Tally	D-sub 25-pin x 1, Relay contact outputs x 8
Terminal	USB B-type

Processor Unit: Rear Panel
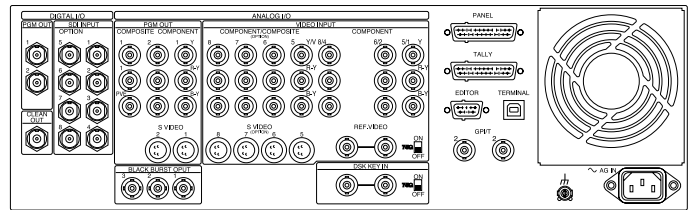
Optional Accessories

BKDF-701	Digital/Analog Input Board for NTSC/PAL
BKDF-702	Analog Composite Input Board for NTSC
BKDF-702P	Analog Composite Input Board for PAL
BKDF-711	2nd Channel DME Board
BKDF-712	3D Video Mapping Effects Board

■ BKDF-701

With the BKDF-701, the following 8 inputs can be added to the standard 8 inputs of the DFS-700A/700AP, making the total number of inputs 16. During use, any 8 of the 16 inputs can be assigned to the control panel.

Input Signals

SDI	BNC type x 4
	270 Mb/s
Component	BNC type x 4 (Y/R-Y/B-Y)
	Y: 1.0 Vp-p, 75 Ω, Sync negative
	R-Y/B-Y: 0.7 Vp-p, 75 Ω (with DFS-700A)
	R-Y/B-Y: 0.525 Vp-p, 75 Ω (with DFS-700AP)

■ BKDF-702/P

With the BKDF-702/P, the following 4 inputs (composite or S-Video) can be added to the standard 8 inputs of the DFS-700A/700AP, making the total number of inputs 12. During use, any 8 of the 12 inputs can be assigned to the control panel.

Input Signals

Composite	BNC type x 4
	Video: 1.0 Vp-p, 75 Ω, Sync negative
S-Video	DIN type x 4 (Y/C)
	Y: 1.0 Vp-p, 75 Ω, Sync negative
	C: 0.286 Vp-p at burst, 75 Ω (BKDF-702)
	C: 0.3 Vp-p at burst, 75 Ω (BKDF-702P)

■ BKDF-711

The BKDF-711 adds a second Title Key.

Product Configuration

Processor unit, Control panel, D-sub 25-pin control cable (10 m), AC cord, Instruction manual

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