

Introduction

Sony proudly introduces the DFS-500, which combines a video switcher with a powerful DME (Digital Multi Effects).

Within its DME capability, 2D, 3D linear and non-linear effects are standard and easily programmed and memorized. Dropshadow, trails and lighting effects can be easily created using an optional board. In addition to these manually available effects, over 300 attractive patterns are factory preset in the DFS-500. They are very easily accessed and searched using the numeric keypads or up/down keys. As a switcher, the DFS-500 has four primary inputs, a fader lever and title keyer. Cut, mix and various wipes are included in the preset patterns, and an optional DSK (Down Stream Keyer) board can be added.

The DFS-500 provides superb system flexibility, covering a wide range of applications from simple editing to complex image creation. All internal signals are processed in the digital component domain, so the DFS-500 is ideal to complement Sony Betacam SP VTRs for high quality picture editing. In addition, the DFS-500 can be used with or without an external switcher.

The DFS-500 from Sony, a superb combination of video switcher and digital multi effects – providing powerful edit suite performance and flexible system integration.



DME Functions

2D, 3D, Linear and Non-linear Effects

2D, 3D linear effects such as, compression, location, rotation and perspective are easily achieved by use of the positioner and associated controls. Non-linear effects such as page turn, roll and sphere are also controlled manually.

User Program

Simple effects, including 3D linear and some of the non-linear effects, can be created by just storing the pictures at several spatial points. The programming function of the DFS-500 automatically calculates the intermediate values between the stored pictures and interpolates the trajectory. This interpolated trajectory path can be controlled and modified manually. The created effects (up to 40) are stored as user programs for recall whenever required. An editing capability for the created effects is also provided.

Preset Patterns

For instant access, over 300 factory-preset effects are stored in the DFS-500. These include mirror, ripple, flag, melt down, burst, accordion, twist, page turn, sphere, picture in picture, etc. They can be easily recalled by entering the effect number with the numeric keypad, or searched with the up and down keys.

Effect Modifier

Effects modifying is available for certain effects such as, mosaic, posterization, solarization, flag, wave, ripple, ripple wipe, multi-picture, strobe, soft luminance, frosted glass, cinema mode, etc. Their various parameters such as, size, density and amplitude can be modified manually.

Trail and Lighting Effects, Option

The optional trail and lighting board BKDF-501 can be easily installed to provide advanced and powerful effects such as, drop shadow, trail and lighting effects.

A Range of Digital Multi Effects

- | | |
|---------------|----------------------|
| Flip | Stream |
| Tumble | Mosaic |
| Page turn | Mirror |
| Page roll | Posterization |
| Sphere | Solarization |
| Twist | Negative |
| Flag | Sepia color |
| Melt down | Spit slide |
| Ripple | Multi-picture |
| Burst | Picture in picture |
| Frosted glass | Lighting |
| Ripple wipe | Trail |
| Door | Dropshadow and more! |



Ripple Wipe with Dropshadow



Page Roll with Lighting Effects



Solarization

Switcher Functions

Primary Busses

The primary busses are composed of two busses, Foreground and Background bus. Four primary inputs are provided in the three different signals, composite, S-VIDEO and component (Y/R-Y/B-Y). For the user's convenience, the DFS-500 provides in its primary busses an internal video generator which generates a color bar, grid pattern, color background and 15 variations of embossed background patterns.

Cut, Mix and Wipe

Frequently used wipes are available from the preset patterns, being directly accessed with a press of the keypad. Mix, Wipe as well as digital effects transitions are all executed with the fader lever. In addition to this manual transition, auto transition can be activated with a transition time from 0 to 999 frames.

Title Keyer

A FRGD source such as, a title, caption or figure can be self-keyed over a BKGD source, rotated, compressed and located in 3D space. Any of the preset effects can be applied to the keyed picture. An external key input is also provided to accept a key source signal. A box mask is provided for masking unnecessary portion of the FRGD picture. Inverting mask is also possible.

Optional Down Stream Keyer

The optional DSK (Down Stream Key) board BKDF-502 is available to introduce captions, characters, etc. after mix/effects processing. An external key input and an external video fill (composite, RGB, Y/R-Y/B-Y) are also provided. The positions and type of the DSK border are selectable. A box mask is provided for masking unnecessary portion of the FRGD picture. Inverting mask is also possible.

Snapshot Function

The DFS-500 provides a snapshot function which can store the panel status for subsequent recall. Every parameter, for example background color hue, border width, shadow density, lighting type, key clip level, etc. can be stored and recalled. When interfaced with the BVE-2000 Editing Controller, these data can be stored in the EDL of the editor.

Five Matte Generators

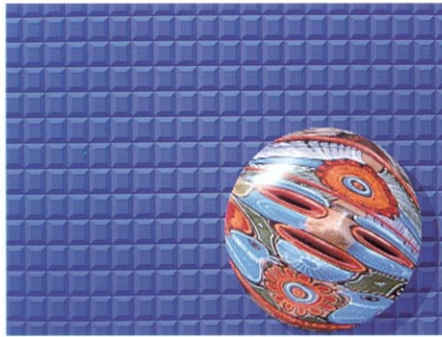
The DFS-500 provides five matte generators, color background, border matte, shadow matte, DSK matte and DSK border matte. The can be adjusted independently in luminance, saturation and hue parameters. Matte copy function is also provided.

Genlock Capability

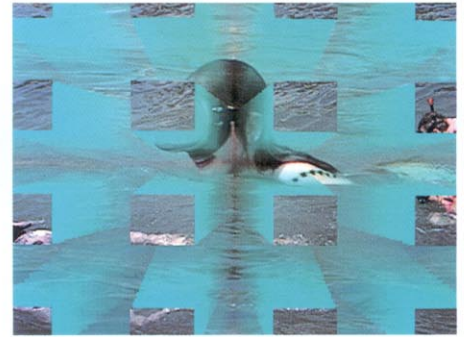
Four black burst outputs are provided to distribute an internally generated signal for locking external equipment such as editor or VTRs. Of course, genlock capability is also provided to lock the DFS-500 to an external reference signal.



Picture in Picture (Heart)



Sphere with Dropshadow



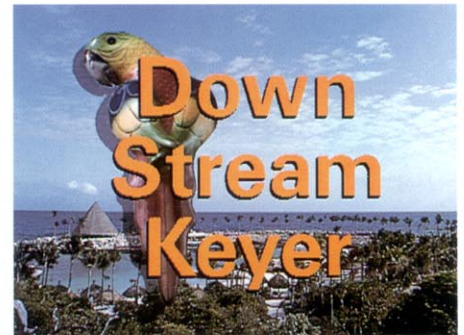
Multiple Split with Trail



Melt Down with Trail



Split Slide



Title Key and DSK

Easy System Integration

Multi Format Inputs

The DFS-500 accepts input signals in composite, component (Y, R-Y, B-Y) and S-VIDEO formats. The four primary inputs allow any combination of these signal formats to be used within the DME system.

Digital Component Process

The DFS-500 processes all its input signals in the digital component domain. This means the DFS-500 is particularly suitable for interfacing with the Sony Betacam SP series VTRs, providing editing facilities with superb picture quality.

Two Frame Synchronizers

The DFS-500 features two frame synchronizers which allow video input signals to be synchronized. System connection is quite simple and even a VTR without a TBC can be used.

Two-Machine Editing with Effects

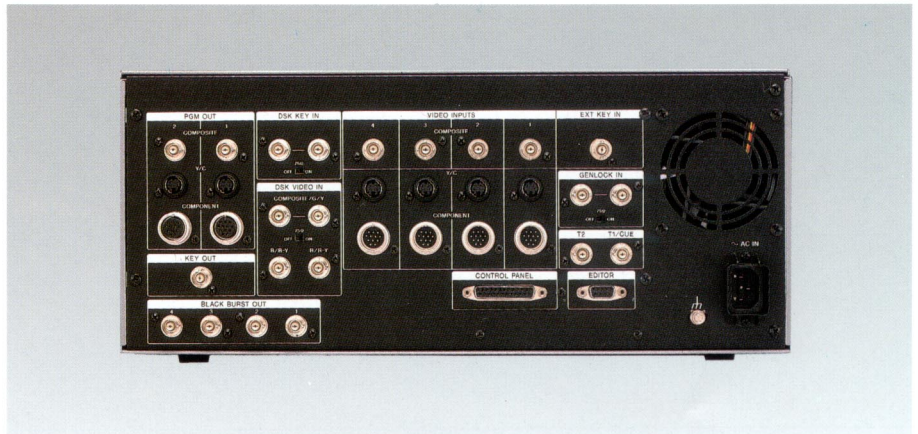
When used with the RM-450 Editing Controller, the DFS-500 allows two-machine editing with effects. During a transition, the FRGD picture is frozen.

BVE-2000/BVS-3000 series Interface

The DFS-500 provides interface capability with the Sony BVE-2000 Editing Control Unit and the BVS-3000 series Video Switcher. When used with the BVE-2000 Editing Control Unit, crosspoints assignment, effects recall,

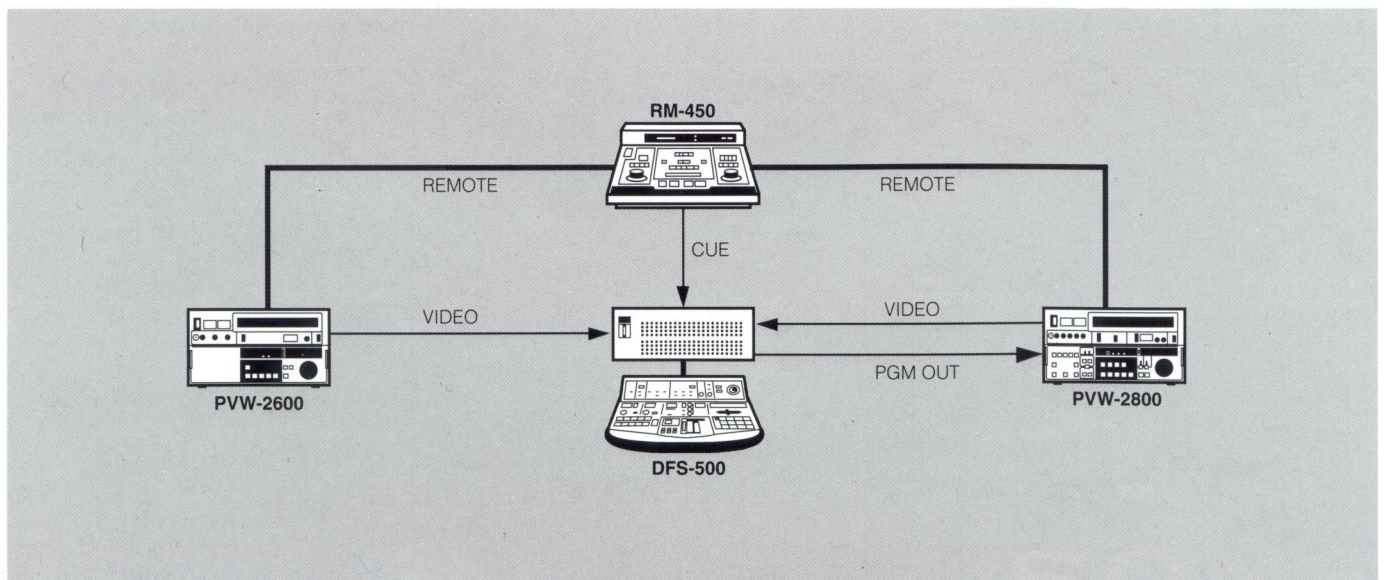
transition time settings, etc. can be controlled from the BVE-2000.

Furthermore, the snapshot data and the user program data can be stored in the EDL of the BVE-2000, so that they can be dumped onto a floppy disk and loaded onto the editor to retrieve the same data. With the BVS-3000 series Video Switcher, the DFS-500 works as a powerful external DME, allowing the BVS-3000 series to control various functions of the DFS-500.

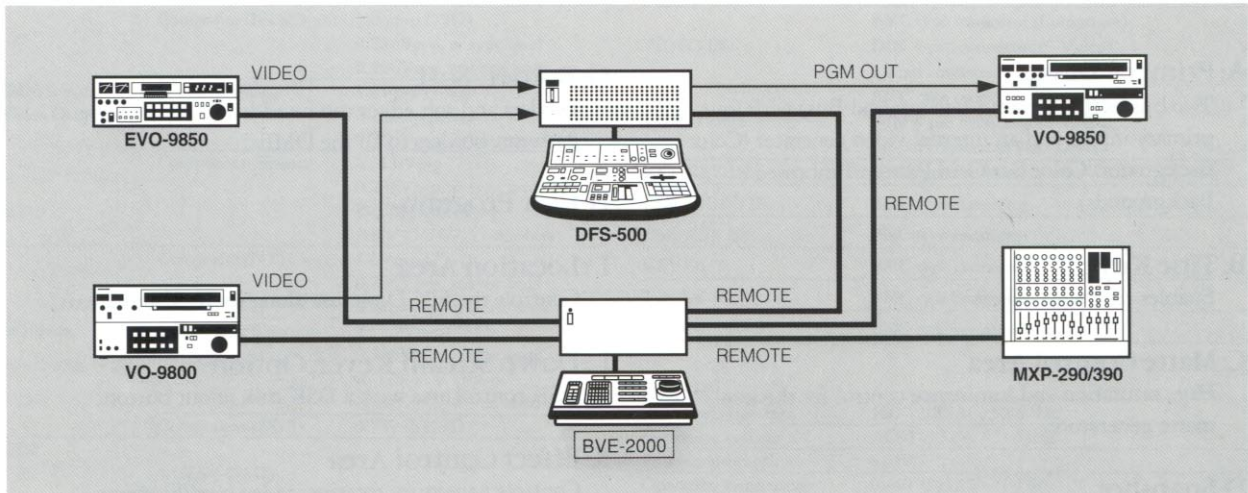


System Connections

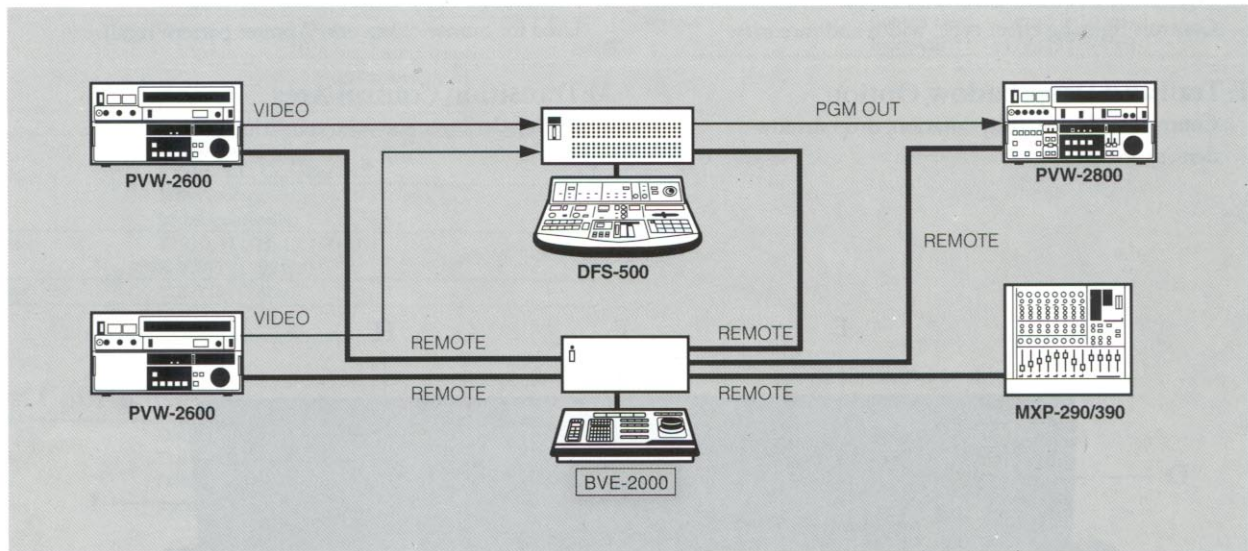
1. Two-machine Editing System with Effects



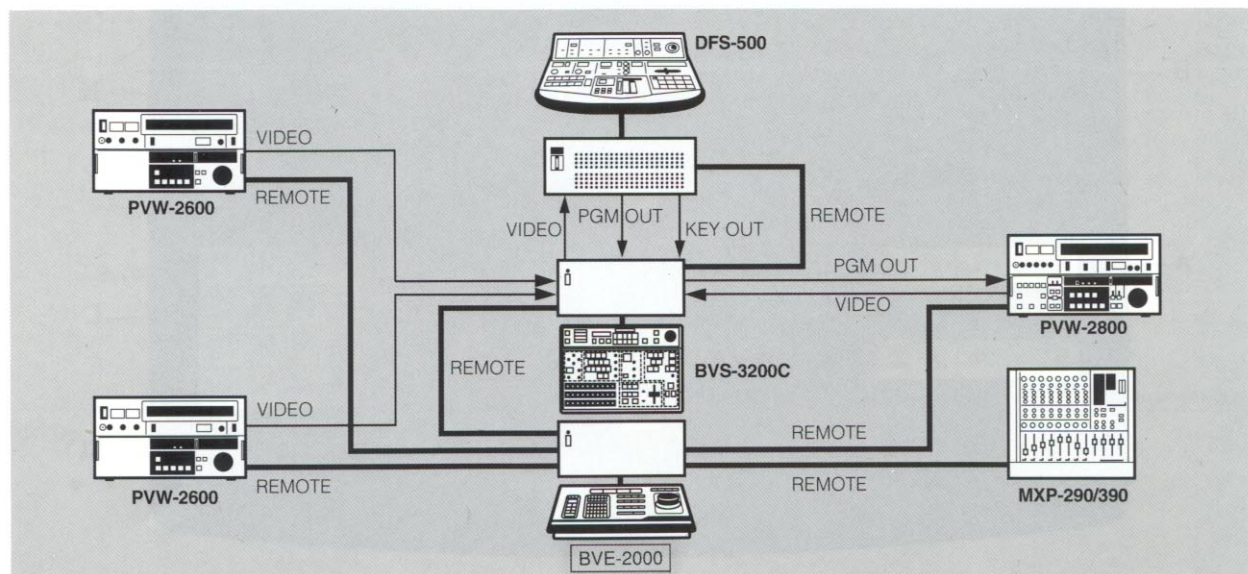
2. Multi-format A/B Roll Editing System



3. Component A/B Roll Editing System



4. Component A/B Roll Editing System with the BVS-3200C



Control Panel View

A: Primary Busses

Two busses (Foreground/Background Bus) with four primary inputs and an internal video generator (Color Background/Color Bar/Grid Pattern/Embossed Backgrounds).

B: Title Keyer

Enables title with effects

C: Matte Control Area

Hue, saturation and luminance control for the five matte generators.

D: Snapshot

Panel status storage and recall

E: Lighting Effects Control Area

Controls lighting effect type, width and intensity.

F: Trail and Dropshadow, Option

Controls trail type, fills, duration, drop shadow density and width.

G: Border/Soft

Borders and soft edges can be added to all the wipe patterns, borders to all the DMEs.

H: User Program

I: Location Area

Controls the FRGD picture along its X, Y and Z axis.

J: Down Stream Keyer, Option

DSK control area with a DSK mix in/out button.

K: Effect Control Area

Controls page turn, rotation, video modify effects and box mask.

L: Numeric Key Pad Area

Used for numeric data entry, preset pattern recall.

M: Transition Control Area

With fader lever and auto transition button.



Specifications

Signals

Primary Video Inputs/ Program Video Outputs	Composite (NTSC)	1.0V _{p-p} (75Ω) 0.286V _{p-p} , at sync level 0.286V _{p-p} , at burst level
	S-Video (Y/C)	1.0V _{p-p} (75Ω) 0.286V _{p-p} , at sync level 0.286V _{p-p} , at burst level
	Component (Betacam)	Y: 1.0V _{p-p} (75Ω) 0.286V _{p-p} , at sync level R-Y/B-Y: 0.7V _{p-p} (100/7.5/77/7.5 color bars)
DSK Video Inputs	Composite (NTSC)	1.0V _{p-p} (75Ω) 0.286V _{p-p} , at sync level 0.286V _{p-p} , at burst level
	Component (Betacam)	Y: 1.0V _{p-p} (75Ω) 0.286V _{p-p} , at sync level R-Y/B-Y: 0.7V _{p-p} (100/7.5/77/7.5 color bars)
	Component (RGB)	0.7V _{p-p} (75Ω)
EXT KEY IN		1.0V _{p-p} (75Ω)
DSK KEY IN		
KEY OUT		
T1/CUE IN T2 IN		TTL level
REF OUT	Black Burst	0.286V _{p-p} (75Ω), at sync level 0.286V _{p-p} (75Ω), at burst level
Frequency response		0~5MHz (Ref. 1MHz) +0.5dB, -1dB
Linearity	DG	≤3.5% (composite input) ≤2% (component/S input)
	DP	≤2.5% (composite input) ≤1% (component/S input)
Crosstalk		≤-50dB
S/N		≥51dB (Composite)
		≥55dB (Y/C, Component)
Y/C delay		≤20ns (component)
		≥50ns (composite)
Sampling rate		Y: 910fH (fH: 15.734kHz)
		R-Y/B-Y: 1/4(910fH)
Quantization		Y/R-Y/B-Y: 8bit

Connectors

VIDEO IN	BNC type connector (Composite)	× 4
	DIN 4-pin connector (S-Video)	× 4
	12-pin connector (Y/R-Y/B-Y)	× 4
VIDEO OUT	BNC type connector (Composite)	× 2
	DIN 4-pin connector (S-Video)	× 2
	12-pin connector (Y/R-Y/B-Y)	× 2
EXT KEY IN	BNC type connector	
DSK VIDEO IN	BNC type connector	
DSK KEY IN	BNC type connector	
KEY OUT	BNC type connector	
T1/CUE IN	BNC type connector	
T2 IN	BNC type connector	

General

Power requirements	100/120V AC, 50/60Hz
Operating voltage	AC85~132V, 47~63Hz
Power consumption	140W
Operating temperature	0~40°C (32°F~104°F)
Dimensions	Control Panel: 424(W) × 116(H) × 344(D)mm (16 3/4 × 4 5/8 × 13 3/8 inches)
	Processor: 424(W) × 177(H) × 450(D)mm (16 3/4 × 7 × 17 3/4 inches)
Weight	Control panel: 3kg (6 lb 10 oz)
	Processor: 17kg (35 lb 4 oz)

System Configuration

DFS-500	DME Switcher
BKDF-501	Trail and Lighting Board
BKDF-502	DSK Board
BKDF-503	Rack Mount Kit

* Design and specifications subject to change without notice.

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