SONY

PAL

BETACAM SP™

Editing Recorder/Player

UVW-1800P

Betacam SP®
The Universal Choice

Soon after its introduction, the Betacam SP format quickly established itself as the preferred format for analogue component recording in the broadcast and production industry. The wide spread acceptance of this format has been proven by the tremendous amount of Betacam® VTRs used for ENG (Electronic News Gathering), post production and on-air transmission around the world.

Today the demand for component recording quality has greatly increased in both the industrial and professional video markets. In response, Sony successfully launched the PVW series VTRs in 1991 introducing the benefits of the Betacam SP format to these markets.

Now, to offer the superiority of this format to an even wider range of users, Sony introduces the UVW-1800P and its companion models which form the UVW series VTRs.

The UVW-1800P is an editing recorder/player equipped with a 9-pin (RS-422A) port through which the VTR can be controlled from editing controllers for insert and assemble editing.

A built-in TBC and TC generator/reader are incorporated for sophisticated editing. A variety of inputs/outputs including Y/R-Y/B-Y component, Y/C as well as composite are available.

When controlled from editing controllers such as Sony's PVE-500 or BVE-2000, the UVW-1800P forms an excellent editing system.

The UVW-1800P offers an easy and economical way to enter the Betacam SP format, offering superior performance, versatility and reliability.

SUPERIOR AUDIO/ VIDEO QUALITY

Superior Picture Quality of the Betacam SP Component Recording Format

The UVW series adopts the Betacam SP format, well-known for its superior picture quality thanks to the use of a component recording scheme in which information on brightness (Y) is recorded on one track while information on colour (R-Y/B-Y) is recorded on another track. This is accomplished by using the Sony CTDM (Compressed Time Division Multiplex) system. The use of these two separate tracks enables the Betacam SP component format to reproduce pictures with detailed chrominance and luminance information. This also eliminates the cross colour and cross luminance effects inherent in composite recording. This recording scheme also results in the Betacam SP format's superb multi-generation picture performance.

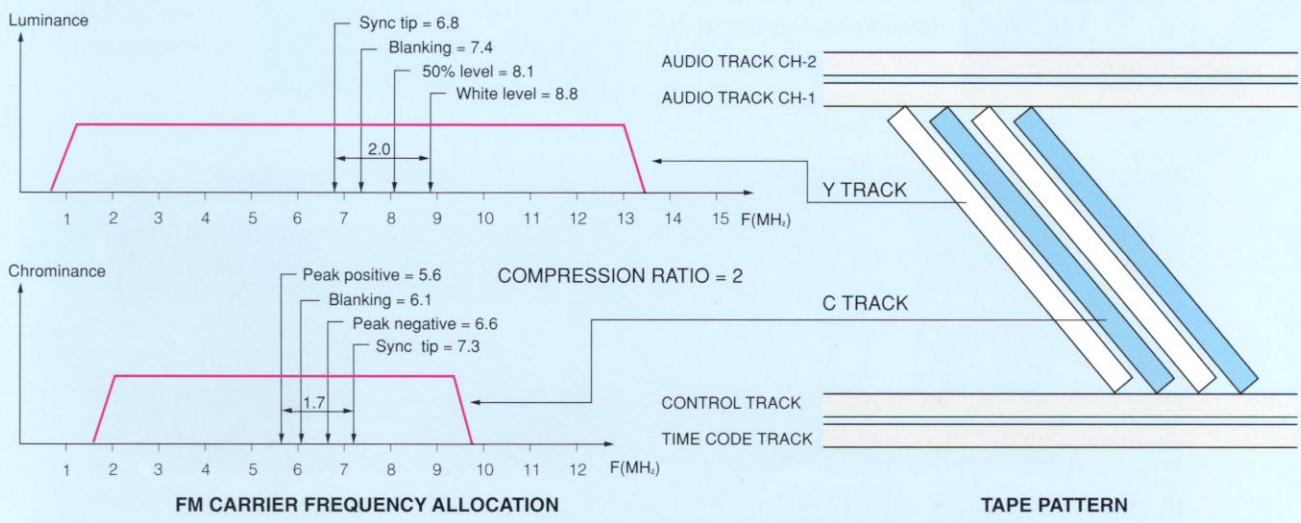
Long Record/Playback Time

The UVW-1800P accepts both L-size and S-size cassettes, offering record/playback times of over 100 minutes and 35 minutes respectively. Sony UVWT series Betacam SP video cassettes are the new recommended metal tapes for use with the UVW series VTR.

High Quality Audio

The UVW-1800P provides two longitudinal audio channels. Thanks to the high tape speed (101.5 mm/s) of the format and the adoption of the proven Dolby™ C-type Noise Reduction System, the UVW-1800P offers high quality audio with a wide dynamic range, high frequency response, minimum distortion and an excellent signal-to-noise ratio.

◆ CTDM System of Betacam SP Format



FM CARRIER FREQUENCY ALLOCATION

TAPE PATTERN

FULL EDITING FUNCTION

When connected to RS-422A equipped editing controllers such as the PVE-500, the UVW-1800P functions as an editing recorder for assemble or insert editing. Frame accurate editing is assured in both modes, thanks to the sophisticated servo control and built-in time code generator/reader.
In the insert mode, video, audio CH-1, audio CH-2 and time code can be inserted independently or in any combination.
In the assemble mode, all of the prerecorded signals (video, audio, CTL, time code) are erased and replaced with new signals.

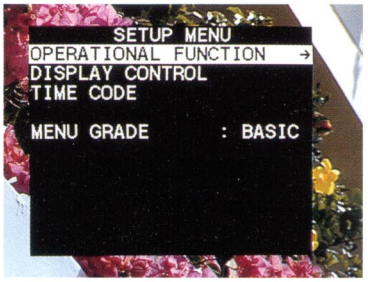
USER FRIENDLY OPERATION

Character Superimposition

The UVW-1800P is provided with a built-in character generator which superimposes characters on the output signal obtained at the Video Output (Super). This allows time code data (LTC, U-bit), CTL and VTR function status to be shown on a monitor. Menu items can also be put on a display for system setup. In addition, warning and error indications can also be displayed.

Initial Setup Menu for Convenient Operation

The UVW-1800P is provided with an initial setup menu system. The setup menu is programmed in the form of a layer structure. By simply going through the menu using the subcontrol panel, users can easily initialize the VTR. This setup menu allows many detailed operational parameters to be preset. Once the menu is set, the UVW-1800P will memorize the options and retain them in memory even after the power is turned off.



High Speed Picture Search

The UVW-1800P offers high speed picture search which provides a recognizable picture over a range of up to 5 times normal speed in colour and up to 16 times normal speed in monochrome in both forward and reverse. In JOG mode, the tape movement precisely matches the rotation of the search dial in both directions. These functions are available using the optional SVRM-100 Remote Control Unit or with an editing controller equipped with RS-422A capability.

Optional Remote Control Unit

With the optional SVRM-100 Remote Control Unit, fundamental controls such as JOG, SHUTTLE, playback, record, fast forward and rewind can be controlled. (FREEZE, INDEX, ERASE and MARK functions of the SVRM-100 are not available for the UVW-1800P.)

Warning Indication

A warning indicator is displayed if a mis-connection or misoperation occurs.

VERSATILE SYSTEM FUNCTIONS

Built-in Time Base Corrector

The UVW-1800P is equipped with a built-in TBC (Time Base Corrector), providing stable pictures without any additional equipment. Advanced, high quality digital dropout compensation also ensures consistent picture performance.

TBC Remote Control

Video parameters of the UVW-1800P's output signal can be remotely controlled with Sony's optional BVR-50P TBC Remote Controller connected to the rear panel via a 15-pin cable.

Built-in Time Code Generator/Reader

The Betacam SP format has an independent time code track so that a longitudinal audio track does not have to be sacrificed for time code. A time code generator and reader is built into the UVW-1800P. The time code conforms to the EBU standard in which LTC (Longitudinal Time Code) and User-bits are provided. LTC is used to identify the absolute address of a frame, while User-bits are reserved for the operator's use. Frame accurate A/B roll editing is possible using the LTC. The time code generator can also be externally locked. Functions such as FREE-RUN /REC-RUN, can be easily selected by the setup menu keys on the subcontrol panel.

VERSATILE SYSTEM INTERFACE

Remote Interface

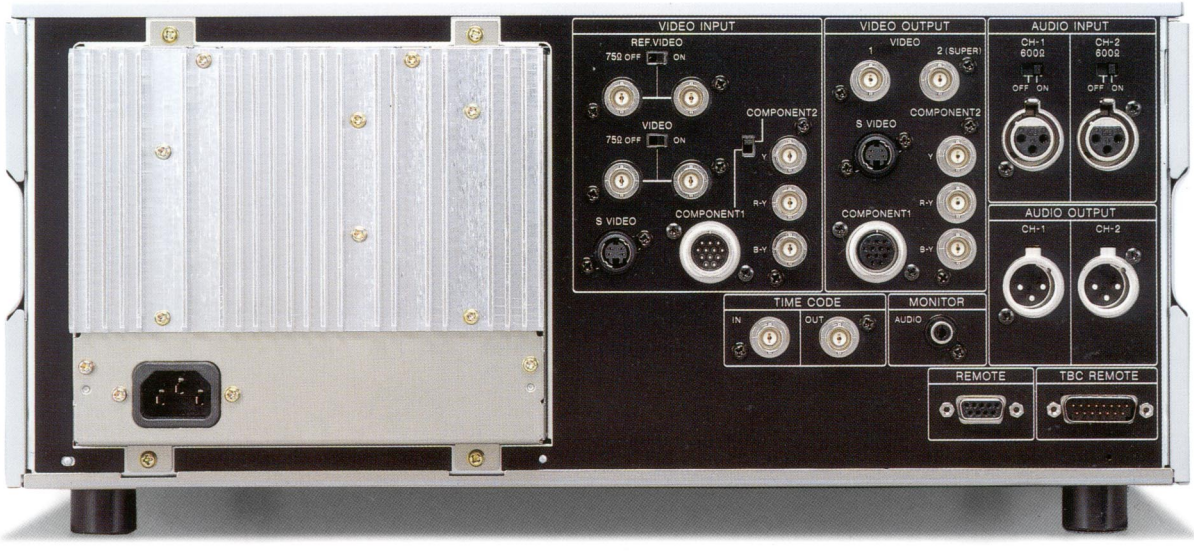
• **RS-422A serial interface (9-pin)**
An RS-422A serial interface is provided for versatile editing system expansion and sophisticated system control.
The UVW-1800P interfaces with other RS-422A equipped Sony machines such as the PVE-500 Editing Controller, PVW-2800P Betacam SP 2000 PRO™ Series VTR and the BVU-950P U-matic SP VTR.

Analogue Interface

• **Y/R-Y/B-Y Component Video Signal Input/Output**
The UVW-1800P provides Y/R-Y/B-Y component signal input and output through BNC connectors and a 12-pin DUB connector. Using this component signal interface takes full advantage of the superb performance of the Betacam SP format.

• **Composite Video Signal Inputs/Outputs**
In addition to the component connectors, the UVW-1800P is equipped with composite video signal inputs/outputs.

• **S-video Signal Input/Output**
S-video input/output connectors are also provided so that other equipment with S-video connectors can easily interface with the UVW-1800P.



EASY SERVICING & MAINTENANCE

The UVW-1800P has built-in self-diagnostics for ease of servicing and maintenance, plus, this information can be displayed on both the monitor and the VTR's character display.

◆ **Self-Diagnostics**

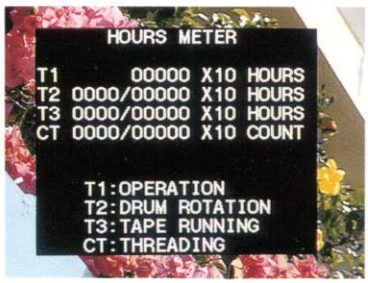
Should an error be detected, an error message will be displayed which will identify the problem area. This way down time will be minimized.

◆ **Hours Meter**

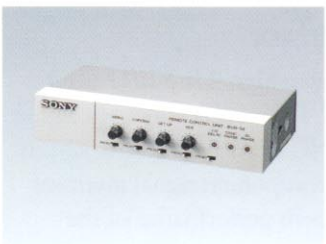
An hours meter is also provided to indicate elapsed time on time critical operations such as accumulated drum rotation time. It can be easily displayed with the push of a button.

COMPACT, LIGHTWEIGHT AND LOW POWER CONSUMPTION

The UVW-1800P has a compact, lightweight design and is engineered for low power consumption. The unit weighs approximately 19 kg (41 lb 14 oz), is 4 units high (19-inch rack mountable with optional RMM-130) and consumes only 85 W.



OPTIONAL ACCESSORIES



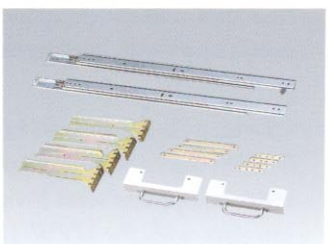
TBC Remote Controller
BVR-50P

Component Colour Corrector
BVX-10P

Remote Control Cable
(5 m) (10 m) (30 m)
RCC-5G/10G/30G

12-pin Dubbing Cable
VDC-C5 (5 m)

Remote Control Unit
SVRM-100



Rack Mount Unit
RMM-130

Metal Particle Videocassette Tapes
(Small Cassettes)
UVWT-10MA/20MA/30MA
(Large Cassettes)
UVWT-60MLA/90MLA

UVW SERIES FAMILY

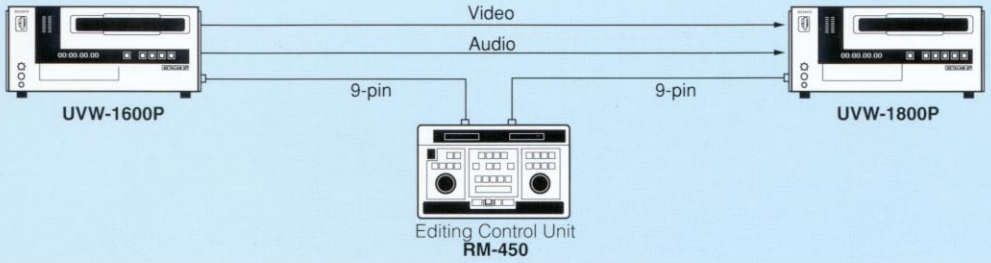
Editing Player
UVW-1600P

Recorder/Player
UVW-1400P

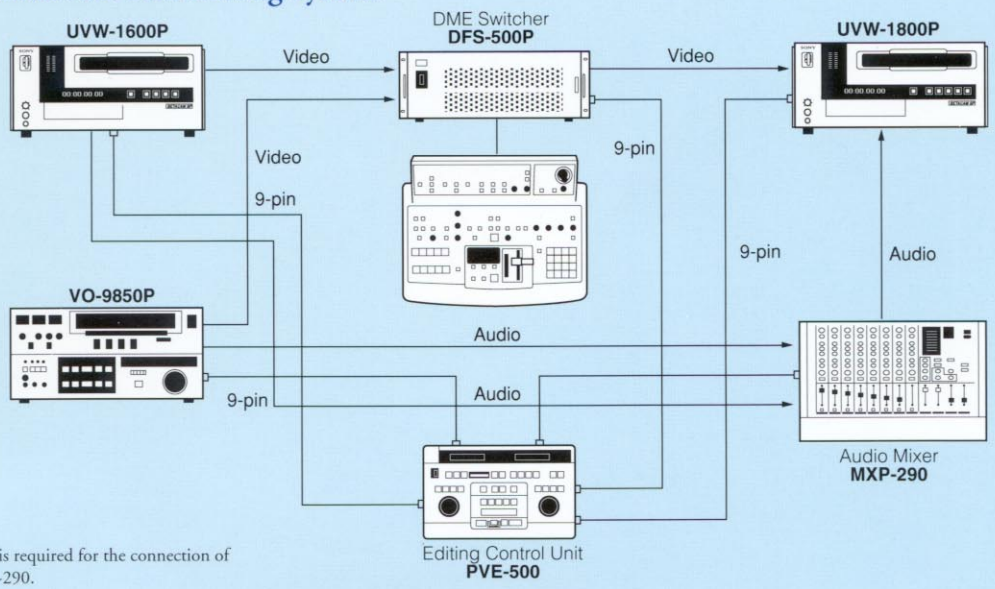
Player
UVW-1200P

SYSTEM CONNECTIONS

Cuts Only System

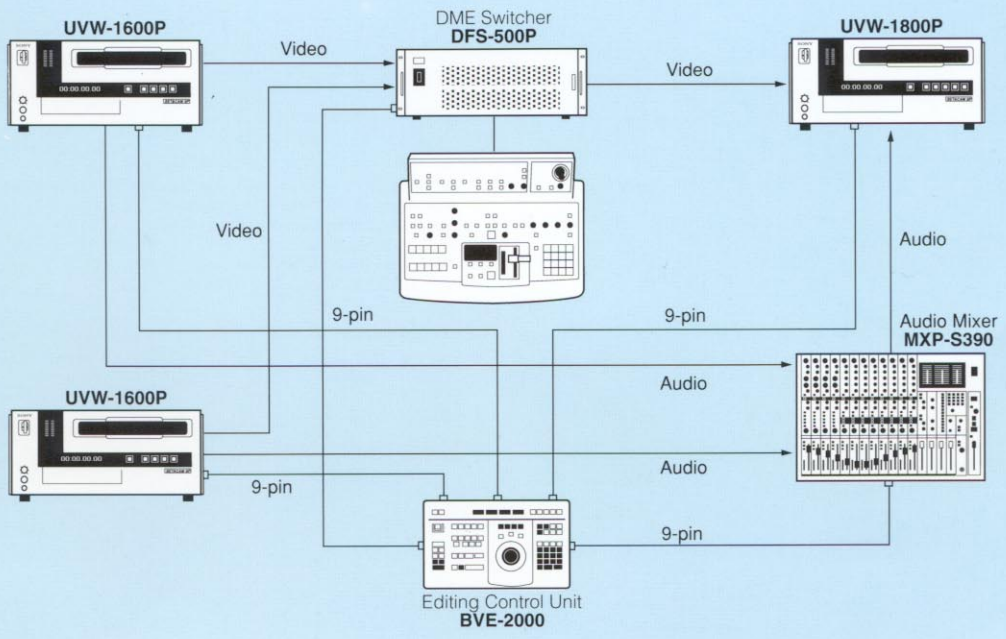


Mixed Format A/B-Roll Editing System



9-pin–15-pin cable is required for the connection of PVE-500 and MXP-290.

Component A/B-Roll Editing System



SPECIFICATIONS

General

Power requirements	AC 198 to 264 V, 48 to 64 Hz
Power consumption	85 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	Less than 80% (relative humidity)
Weight	Approx. 19 kg (41 lb 14 oz)
Tape speed	101.5 mm/s
Recording/playback time	More than 100 min with UVWT-90MLA More than 35 min with UVWT-30MA
Fast forward time	Less than 3 min with UVWT-90MLA
Rewind time	Less than 3 min with UVWT-90MLA
Search speed (with optional SVRM-100)*1	
SHUTTLE	15 steps, still to 16 times normal speed, forward and reverse
JOG	Frame by frame, forward and reverse

Video performance (Metal Particle Tape)

Bandwidth	
Luminance (50% modulation)	25 Hz to 5.0 MHz $^{+1.0}_{-4.0}$ dB
Colour difference (50% modulation)	25 Hz to 1.5 MHz $^{+1.0}_{-4.0}$ dB
S/N ratio	
Luminance (Component IN/OUT)	More than 46 dB
Chrominance	
AM	More than 48 dB (1.0 MHz LPF)
PM	More than 48 dB (1.0 MHz LPF)
K-factor (2T pulse)	Less than 3%
Y/C delay	Less than 30 ns

Audio performance (Metal Particle Tape)

Frequency response (20 dB below peak level)*2	50 Hz to 12.5 kHz $^{+2.0}_{-3.0}$ dB
S/N ratio (at peak level weighed CCIR 468-3)*2	More than 66 dB
Distortion (at 1 kHz) at operational level (+4 dBu)	Less than 1.5%
Wow and flutter (DIN 45507)	Less than 0.18% rms

Signal inputs

REF VIDEO IN (BNC)	1.0 Vp-p, 75 Ω
VIDEO IN (BNC)	Composite video, 1.0 Vp-p, 75 Ω, sync negative
COMPONENT IN 1 (12-pin male)*3	
Luminance	1.0 Vp-p, 75 Ω, sync negative
Colour difference	R-Y: 0.7 Vp-p, 75 Ω, B-Y: 0.7 Vp-p, 75 Ω
COMPONENT IN 2 (BNC x 3)*3	
Luminance	1.0 Vp-p, 75 Ω, sync negative
Colour difference	R-Y: 0.7 Vp-p, 75 Ω, B-Y: 0.7 Vp-p, 75 Ω
S-VIDEO IN	Y: 1.0 Vp-p, 75 Ω C: 0.3 Vp-p (burst), 75 Ω
AUDIO IN CH-1/2 (XLR 3-pin female)	+4 dBu*4, 600 Ω/10 kΩ selectable, balanced
TIME CODE IN (BNC)	0.5 Vp-p to 18 Vp-p, 600 Ω

Signal outputs

VIDEO OUT 1 (BNC)	Composite video, 1.0 Vp-p, 75 Ω, sync negative
VIDEO OUT 2 (BNC)	Composite video, 1.0 Vp-p, 75 Ω, sync negative, with or without character insertion
COMPONENT OUT 1 (12-pin female) *3	
Luminance	1.0 Vp-p, 75 Ω, sync negative
Colour difference	R-Y: 0.7 Vp-p, 75 Ω, B-Y: 0.7 Vp-p, 75 Ω
COMPONENT OUT 2 (BNC x 3) *3	
Luminance	1.0 Vp-p, 75 Ω, sync negative
Colour difference	R-Y: 0.7 Vp-p, 75 Ω, B-Y: 0.7 Vp-p, 75 Ω
AUDIO LINE OUT (XLR 3-pin male) CH1/2	+4 dBu*4, 600 Ω, balanced
AUDIO MONITOR OUT (Phono) CH1/2	-6 dBu
S-VIDEO OUT	Y: 1.0 Vp-p, 75 Ω C: 0.3 Vp-p (burst), 75 Ω
TIME CODE OUT (BNC)	2.2 Vp-p, 600 Ω

Others

REMOTE IN/OUT	9-pin, female
TBC REMOTE	15-pin, male
CONTROL/S	Mini jack
HEADPHONES	JM-60 headphone stereo jack

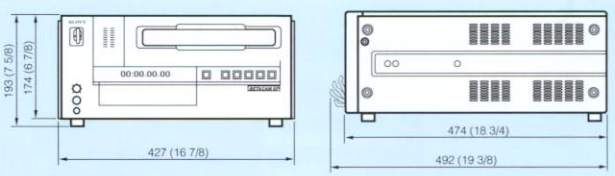
Processor adjustment range (with Optional BVR-50P)

Video level	±3 dB
Chroma level	±3 dB
Black level	0 to +100 mV
System SC phase	360° p-p*5
System sync phase	-1 to +3 µs*6
Y/C delay	±100 ns

Supplied accessories

AC power cord (1), Remote control cable RCC-5G (9-pin) (1), Operational manual (1)

Dimensions



Unit: mm (inches)

*1 Without SVRM-100 attached, search speed is 16 times forward and reverse.
*2 Peak level=+8 dB above operational level.
*3 Video amplitude 100/0/100/0 colour bars.
*4 0 dBu = 0.775 Vrms
*5 With or without BVR-50P attached.
*6 Without BVR-50P attached: ±300 ns

Design and specifications subject to change without notice.

"Betacam", "Betacam SP", "Betacam SP 2000 PRO" and UVW are trademarks of Sony Corporation.
"Dolby" is a trademark of the Dolby Laboratories Licensing Corporation.

BETACAM SP UVW™ The Universal Choice

Sony Corporation

Printed in Japan © SONY

MK2701KYP9507P10-002