

# SONY®

Videocassette Recorder

# UVW-1400A

(NTSC)

**BETACAM SP™**



**RGB**



# Betacam SP<sup>®</sup>

## The Universal Choice

Since its introduction in 1982, the excellent performance of the Betacam SP format has led to its universal acceptance as a high quality, flexible recording standard throughout the broadcast and post production industries. In 1993, to bring the superior component recording quality of Betacam SP to a wider range of video professionals, Sony launched the UVW Series of VTRs.

Now the UVW-1400A Videocassette Recorder joins the family. Building upon the outstanding features of the UVW-1400 such as an RS-232C interface capability, built-in Time Base Stabilizer and a TC generator/reader, the

UVW-1400A adds a foot switch operated REC Trigger function as well as separate sync connectors for the RGB inputs to ensure enhanced system versatility. Furthermore, it has a trigger out for Sony color video printers. With these new functions, the UVW-1400A is ideally suited to a wide range of applications such as large-screen, high-quality video presentations, scientific research and computer workstation environments.

The UVW-1400A, the latest addition to the UVW Series, will surely upgrade your visual communication systems, by combining the powerful advantages of the Betacam SP format with its own superb range of features.





**SUPERIOR AUDIO/  
VIDEO QUALITY**

**Superior Picture Quality of the Betacam SP  
Component Recording Format**

The UVW Series is based on the Betacam SP format, a format widely acknowledged for the superior picture quality of its component recording scheme in which brightness (Y) information is recorded on one track while color information (R-Y/B-Y) is recorded on a second. This is accomplished by using the Sony CTDM (Compressed Time Division Multiplex) system. The use of component recording provides pictures with detailed chrominance and luminance information and at the same time, eliminates the cross color and cross luminance effects inherent in composite recording. This recording scheme also results in the Betacam SP format's superb multi-generation picture performance.

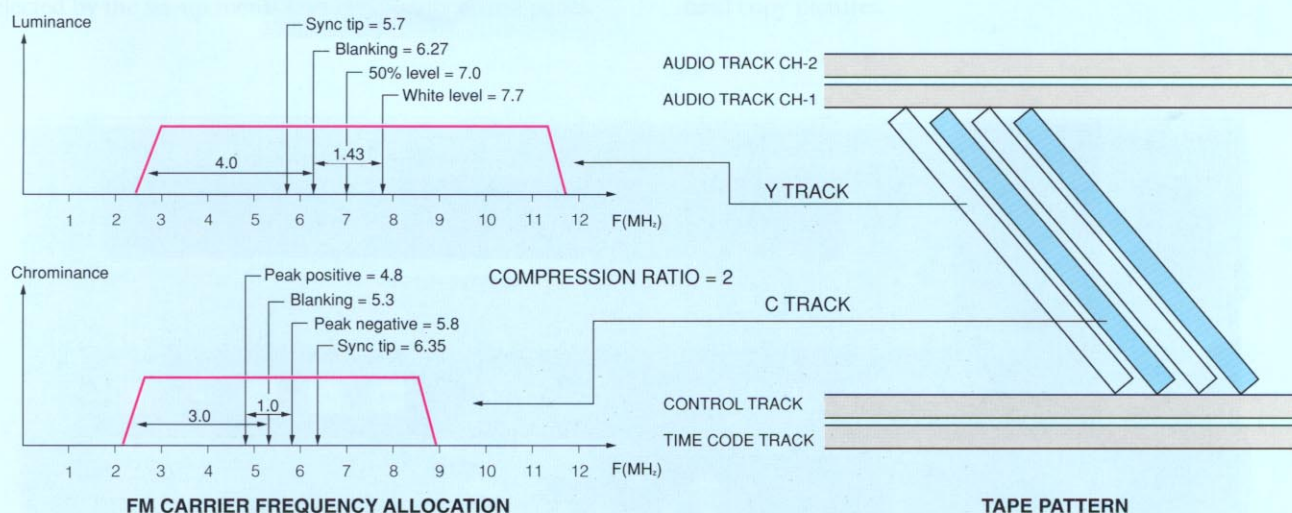
**Long  
Operating Time**

The UVW-1400A accepts both L-size and S-size cassettes, with operating times of over 90 minutes and 30 minutes respectively. The new Sony UVWT Series Betacam SP video tape was specially designed to complement the performance of UVW Series VTRs.

**High-Quality  
Audio**

The UVW-1400A provides two longitudinal audio channels. Compared with some other formats, the comparatively high tape speed (118.6 mm/s) of Betacam SP and the adoption of the proven Dolby™ C-type Noise Reduction System provide high-quality audio with a wide dynamic range, even at high frequencies, minimum distortion and an excellent signal-to-noise ratio.

**CTDM System of Betacam SP Format**





## USER FRIENDLY OPERATION

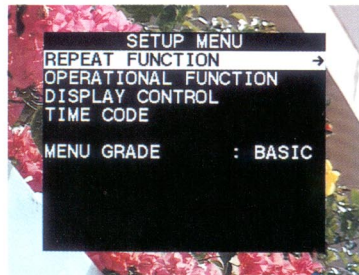
### Character Superimposition

The UVW-1400A has a built-in character generator which superimposes characters on the output signal from the Video Output (Super). This allows time code data (LTC, U-bit), CTL and VTR function status to be shown on a monitor. With this character generator, menu items can be viewed on-screen for system set-up. Warning and error indications can also be displayed.



### Initial Set-up Menu for Convenient Operation

The UVW-1400A incorporates an initial set-up menu system. This set-up menu is programmed in the form of a layer structure and, by simply stepping through the menu via the subcontrol panel, users can easily initialize the VTR. This set-up menu allows many detailed operational parameters to be preset. Once the menu is



set, the UVW-1400A memorizes the options and retains them in memory even after the power is turned off.

## High-Speed Picture Search

The UVW-1400A has a high-speed picture search mode which provides recognizable pictures over a range of up to five times normal speed in color and up to 16 times normal speed in monochrome, both in forward and reverse. In JOG mode, the tape movement matches the rotation of the search dial in both directions. The optional SVRM-100A Remote Control Unit is required to access both of these functions.

### Auto Repeat Function

The auto repeat function enables either an entire tape or a specific portion of a tape to be replayed repeatedly. By simply selecting A and B points or presetting the time codes on the setup menu, the VTR plays back the selected segment indefinitely.

### Back Space Editing Capability

The UVW-1400A provides a back space editing function for smooth transitions between recorded scenes. Either an optional SVRM-100A Remote Control Unit or commands through the remote interface complying with RS-232C are required to initiate this function.

### Optional Remote Control Unit

With the optional SVRM-100A Remote Control Unit, basic functions such as jog, shuttle, playback, record, pause, fast forward and rewind can be controlled. (The INDEX, ERASE, and MARK functions of the SVRM-100A are not available with the UVW-1400A.)





## Warning Indication



A warning is displayed when a misconnection or misoperation occurs.

## VERSATILE SYSTEM FUNCTIONS

### Built-in

#### Time Base Stabilizer

The UVW-1400A is equipped with a built-in TBS (Time Base Stabilizer), providing stable pictures without any additional equipment. Advanced, high-quality digital dropout compensation also ensures consistent picture performance. The TBS locks the sync and SC to those of the external reference signal. \*

\* Control of sync and SC is not available.

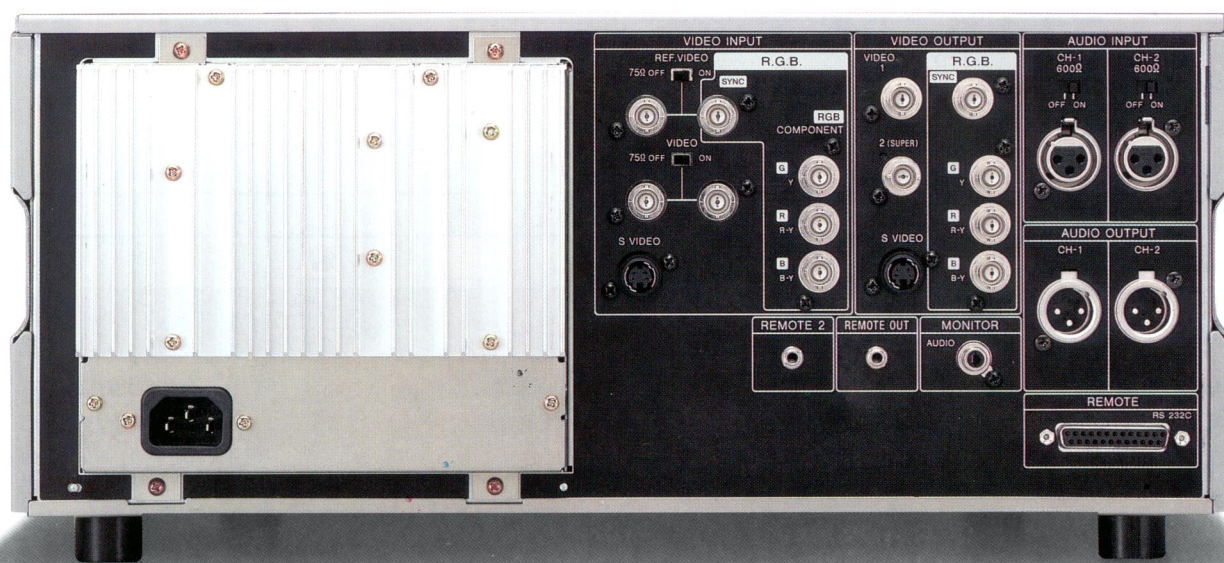
### Built-in

#### 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 use. The time code generator/reader built into the UVW-1400A conforms to the SMPTE 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. Functions such as FREE-RUN/REC-RUN can be easily selected by the set-up menu keys on the subcontrol panel.

## VERSATILE SYSTEM INTERFACE

- **Serial 25-pin Remote Control Interface Complied with RS-232C**  
For versatile system integration, the UVW-1400A is equipped with a remote interface complying with RS-232C which allows time code based control from computers. The baud rate can be selected between 1,200 to 38,400bps on the set-up menu.
- **RGB and Y/R-Y/B-Y Component Video Signal Input/Output**  
The UVW-1400A is ideally suited for an RGB environment. This is because RGB signals can be converted into Y/R-Y/B-Y component signals and vice versa with minimum picture degradation.  
With the RGB/Component Out switch set to RGB, the UVW-1400A will accept RGB signals as well as supplying high-quality RGB signals to presentation systems. Equipped with both separate sync connectors and a Sync on Green Channel connector which are switchable on the menu screen, the UVW-1400A is suitable for a wide range of applications.
- **Composite Video Signal Inputs/Outputs**  
In addition to the component connectors, the UVW-1400A 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-1400A.
- **Foot Switch Control Capability**  
With the optional FS-20 Foot Switch connected on the rear panel, the record function of the UVW-1400A can be remotely controlled. This facilitates convenient operation in applications such as scientific research.
- **Trigger Function for Sony Color Video Printers**  
With the optional SVRM-100A connected via a stereo mini jack on the front panel, the UVW-1400A can send a trigger signal to Sony video printers to obtain the required, high quality hard copy pictures.





## EASY SERVICING & MAINTENANCE

The UVW-1400A has built-in self-diagnostics for ease of servicing and maintenance. This information can be displayed on both a monitor and the VTR's character display.

- **Self-Diagnostics**

If an error is detected, an error message is displayed identifying the problem area. In this way, down-time can be minimized.

- **Hours Meter**

An hours meter is also provided to indicate the elapsed time of time-critical operations such as accumulated drum rotation time. It can be easily displayed via the Video Output (Super) at the touch of a button.

## COMPACT, LIGHTWEIGHT AND ENERGY EFFICIENT

The UVW-1400A has a compact, lightweight design and is engineered for low power consumption. The unit weighs approximately 19kg (4 lb 14 oz), is four units high (19-inch rack mountable with optional RMM-130) and consumes only 85W.



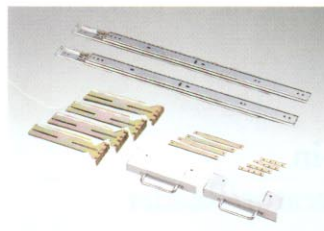
## OPTIONAL ACCESSORIES



Component Color Corrector  
BVX-10



Remote Control Unit  
SVRM-100A



Rack Mount Unit  
RMM-130



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



Color Video Printer  
UP-7200



Color Video Printer  
UP-5500



Frame Memory Unit  
MPU-F100



Foot Switch  
FS-20

## UVW SERIES FAMILY



Editing Recorder/Player  
UVW-1800



CG Frame Recorder  
UVW-1700G

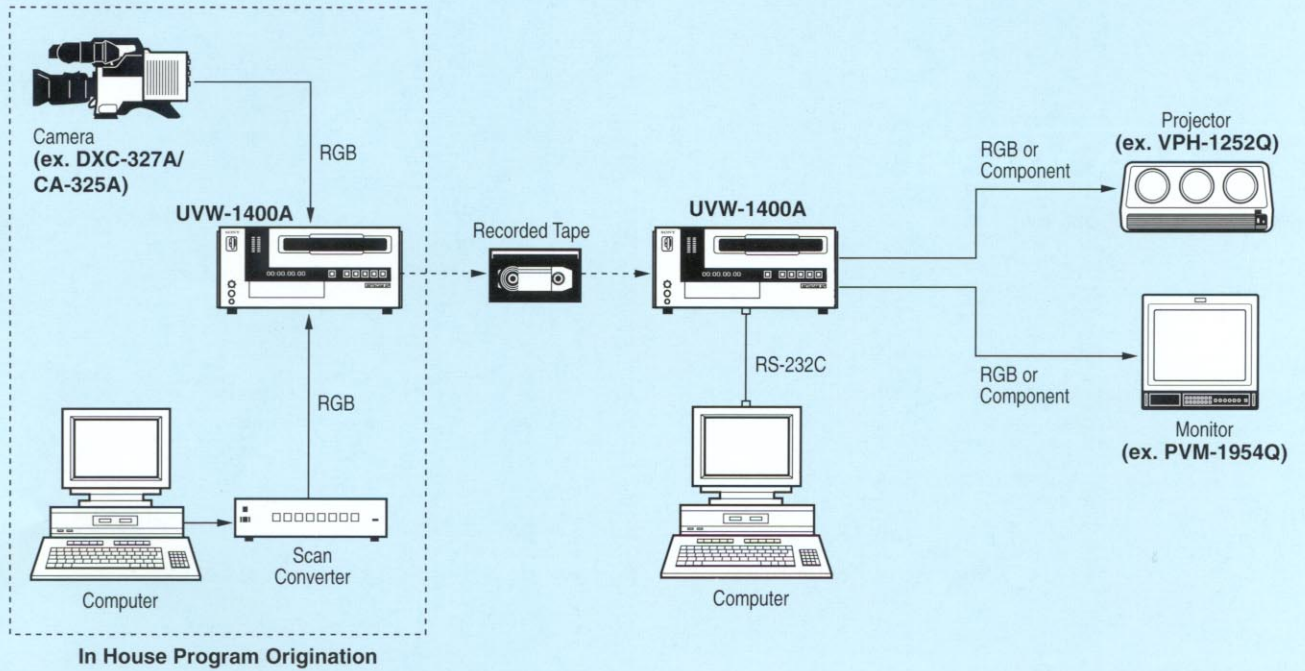


Editing Player  
UVW-1600

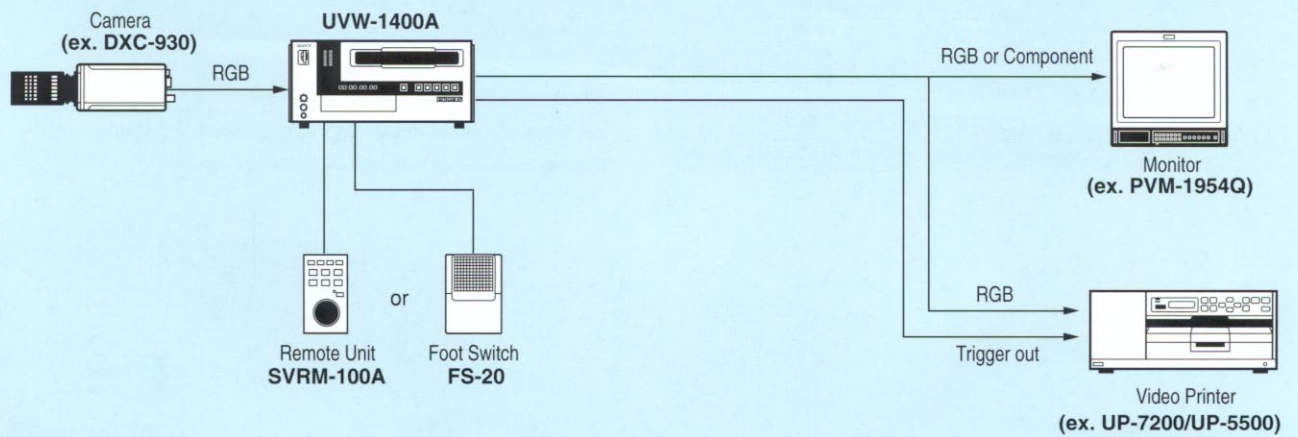


Player  
UVW-1200

### High Quality Presentation System



### Analysis System



• The sync of the RGB interface of the UVW-1400A is on Green Channel or separate sync (selectable).



# SPECIFICATIONS

General	
Power requirements:	AC 90 to 132V, 48 to 64Hz
Power consumption:	85W
Operating temperature:	5°C to 40°C (41°C to 104°C)
Storage temperature:	-20°C to 60°C (-4°C to 140°C)
Humidity:	Less than 80% (relative humidity)
Mass:	Approx. 19kg (41 lb 14 oz)
Tape speed:	118.6mm/s
Recording/playback time:	More than 90 min with UVWT-90MLA More than 30 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-100A)*1:	
SHUTTLE:	15 steps, still to 16 times normal speed, forward and reverse
JOG:	Frame by frame $\pm$ x2, forward and reverse

## Video performance (Metal Particle Tape)

Bandwidth:	
Luminance (50% modulation):	30Hz to 4.0MHz, $^{+1.0}_{-4.0}$ dB
Color difference (50% modulation):	30Hz to 1.5MHz, $^{+1.0}_{-4.0}$ dB
S/N ratio:	
Luminance (component IN/OUT):	More than 49dB
Chrominance: (composite)	
AM:	More than 52dB (1.0MHz LPF)
PM:	More than 52dB (1.0MHz LPF)
K-factor (2T pulse):	Less than 3%
Y/C delay:	Less than 30ns

## Audio performance (Metal Particle Tape)

Frequency response (20dB below peak level)*1:	50Hz to 15kHz $^{+2.0}_{-3.0}$ dB
S/N ratio (at 3% distortion level)*2:	More than 70dB
Distortion T.H.D (at 1kHz reference level):	Less than 1.5%
Wow and flutter (DIN 45507):	Less than 0.15% rms

## Signal inputs

REF VIDEO IN (BNC x2)/RGB SYNC IN:	1.0Vp-p, $\pm$ 0.3V, 75 $\Omega$ , sync negative, (286mV) (at REF VIDEO) 0.2 -5Vp-p, 75 $\Omega$ (at RGB composite sync)
VIDEO IN (BNC x2):	Composite video, 1.0Vp-p, 75 $\Omega$ , sync negative
RGB/Component IN (BNC x3):	
Y/Sync on G:	1.0Vp-p, 75 $\Omega$ , sync negative
R-Y/R:	0.7Vp-p, 75 $\Omega$
B-Y/B:	0.7Vp-p, 75 $\Omega$
S-VIDEO IN (DIN 4-pin x1):	Y: 1.0Vp-p, 75 $\Omega$ C: 0.28Vp-p (burst), 75 $\Omega$
AUDIO IN CH1/2 (XLR 3-pin female):	+4dBu*3, 600 $\Omega$ /10k $\Omega$ selectable, balanced

## Signal outputs

VIDEO OUT 1 (BNC x1):	Composite video, 1.0Vp-p, 75 $\Omega$ , sync negative
VIDEO OUT 2 (BNC x1):	Composite video, 1.0Vp-p, 75 $\Omega$ , sync negative, with or without character insertion
RGB/Component OUT (BNC x3):	
Y/Sync on G:	1.0Vp-p, 75 $\Omega$ , sync negative
G:	0.7 Vp-p, 75 $\Omega$
R-Y/R:	0.7Vp-p, 75 $\Omega$
B-Y/B:	0.7Vp-p, 75 $\Omega$
Sync OUT (BNC x1):	Composite Sync (no burst), 2.0Vp-p, 75 $\Omega$ , negative
AUDIO LINE OUT (XLR 3-pin male x2)	
CH1/2:	+4dBu, 600 $\Omega$ , low impedance, balanced
AUDIO MONITOR OUT (Phono x1)	
CH1/2:	-6dBu
S-VIDEO OUT (DIN 4-pin x1):	Y: 1.0Vp-p, 75 $\Omega$ C: 0.28Vp-p (burst), 75 $\Omega$

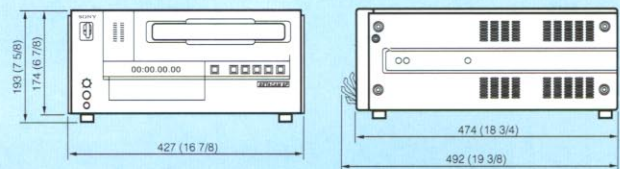
## Others

REMOTE:	25-pin female complying with RS-232C
REMOTE OUT:	Stereo mini jack
REMOTE 2:	Stereo mini jack
CONTROL-S:	Stereo mini jack
HEADPHONES:	JM-60 headphone stereo jack

## Supplied accessories

AC power cord (1)    RS-232C protocol manual (1)  
Operation manual (1)

## Dimensions



Unit: mm (inches)

\*1 Without SVRM-100A attached, search speed is 16 times forward and reverse with "REW/FFWD" button continuously depressed.

\*2 Peak level = +8dB above operational level

\*3 0dBu = 0.775 Vrms

Design and specifications subject to change without notice.

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