

NTSC

Digital BETACAM™
DVW-700

Digital BETACAM One-piece Camcorder



Digital 1000

Lens is optional.

SONY®

FEATURES

GENERAL FEATURES

Superb Picture and Sound Quality with Full Digital Operation

By using digital signal processing in the camera section and the Digital BETACAM recording format in the VTR section, the DVW-700 achieves full digital video acquisition. Both video and audio signals are digitally processed thereby staying in the digital domain from image and sound acquisition to recording. In combination with the Digital BETACAM studio VTRs and Sony's wide range of digital video equipment, the DVW-700 provides the great advantage of preserving the original picture and sound quality without degradation throughout the process from acquisition through editing to program distribution.

Compact and Lightweight

The development of a compact Digital BETACAM transport and the use of high density application-specific Large Scale Integrated circuits (LSIs) for digital signal processing has made it possible to pack many new and outstanding features into the compact body of the DVW-700. Almost the same size as the current Sony analog Betacam camcorders, the DVW-700 weighs only 7kg (15lb 7oz) including a viewfinder, battery, cassette, microphone and lens. The extensive use of LSIs also contributes to a low overall power consumption.

High Power Lithium-ion Battery

A new lithium-ion battery was developed to complement the DVW-700. By using a V-shoe attachment and a direct power connection interface, the BP-L60 battery can be directly attached to the DVW-700, allowing a quick and easy change of batteries. In comparison to conventional NiCd batteries, the lithium-ion batteries have a higher charge capacity in a smaller and lighter weight package. As a result, the BP-L60 provides continuous camcorder operation for approximately 120 minutes. Since the lithium-ion batteries do not suffer from a "memory effect", they can be efficiently charged without the need of a full discharge before charge. In addition the BP-L60

incorporates four LEDs as simple capacity indicators, for a quick check of the remaining charge in the battery. Of course conventional BP-90A and NP-1B NiCd batteries can also be used with the DVW-700 with optional battery cases.



Refined Ergonomic Design

The excellent balance low center of gravity and low profile of the DVW-700 provide great operational flexibility, providing good peripheral vision for the operator when used on the shoulder. In order to accommodate the varying weight distribution of different lenses and battery systems, the position of the shoulder pad is adjustable. The body of the DVW-700 is made of rugged lightweight diecast magnesium and is rain and dust resistant. This allows the DVW-700 to be used under the harshest of field conditions.

VTR FEATURES

Digital BETACAM Recording

The DVW-700 uses the Digital BETACAM component digital recording format which provides superb picture quality and multi-generation capability with virtually no dropouts to overcome the limitations of analog recording. The development of a compact transport and a very efficient data handling system has made it possible to record these component digital signals within a Betacam size camcorder and tape cassette.

High Quality Digital Audio

The DVW-700 can record two channel 16-bit digital audio signals to offer high quality sound for field recording. To ensure a very wide dynamic range for the audio signals, linear A/D converters are incorporated. Each of the two audio channels is recorded on two digital audio tracks available in the recording format.

Long Recording Time

To achieve maximum performance and recording time for this high density digital recording, metal particle tapes are used exclusively in the Digital BETACAM VTRs. The use of a highly efficient data handling protocol achieves a maximum recording time of 40 minutes, which is superior to that of the current analog Betacam formats. To prevent the accidental use of conventional Betacam cassette tapes, a special guide rail is used to distinguish them from standard Betacam cassettes.



Robust Cassette Compartment and Dust Protection Systems

The DVW-700 uses a new robust cassette compartment that is stationary. The cassette compartment does not pop up to eject the cassette as in the current Betacam transports. This prevents accidental damage of the cassette compartment during eject to further increase reliability. Since the Digital BETACAM cassette is inserted from the top via its narrow side, the entrance of the cassette compartment is much narrower than the current analog Betacam transports. This minimizes dust particles entering the tape transport. A front lid seals the cassette entrance to shut out the flow of air into the tape transport. In addition the DVW-700 incorporates cleaners for both the rotary and the stationary (CTL and TC/CUE) heads to maintain stable recording and reproduction of the video and audio signals.



Low Acoustic Noise

In order to protect the operator and sensitive microphones from the noise generated by the high speed rotating drum, the DVW-700 is designed to lower the acoustic noise to a minimum. An exclusive noise barrier is built in, enclosing the tape transport to retain the scanner noise within the unit.

Field Playback Capability and Viewfinder Playback

Field playback of full color video and two audio channels is provided without a playback adaptor. Two full color composite analog video signals are available on two output ports, in addition one or the other audio channels

or a mix of two channels can be selected at the audio monitor output. Inclusion of full color playback capability is made possible by the use of application-specific LSIs which permits extensive digital signal processing with very low power consumption. Field playback is a great advantage for field verification of the recording and permits direct microwave transmission. Field verification is also possible using the viewfinder. The luminance signal can be reviewed in the viewfinder while audio playback is available via an earphone or the built-in loudspeaker.

VTR Function Control

The VTR function control buttons are located on the top of the VTR, including Play, Fast Forward, Rewind and Stop. In addition to these basic functions, a high speed Search mode provides recognizable color pictures at speeds ± 5 times normal playback.

The DVW-700 also incorporates a Record Review function which automatically plays back the last recorded segment when the VTR Standby mode is activated. The transport rewinds the tape for a few seconds, plays back the last recorded segment and precisely stops at the previous position.

Built-in Time Code Generator, Reader and Regenerator

The DVW-700 provides a built-in time code generator/reader. Either real time or preset time code is recorded both as longitudinal time code and vertical interval time code. The VITC insert position can be selected through the menu operation. A time code regenerator is also provided which allows continuous time code to be recorded in the rec-run mode, after exiting the stand-by mode or even when a new recording is started in the middle of previously recorded material. The DVW-700 also provides frame accurate back-space editing.



Comprehensive LCD Display

A extensive LCD display provides critical information of VTR operation. Along with time data including Time Code, CTL and User Bit data, tape remaining and battery capacity is displayed via a bargraph meter. A digital audio peak meter allows precise adjustment of the audio recording level. The time data and the audio level for channel-1 is also displayed in the viewfinder.



Audio Tone Generator

An audio tone generator is provided which allows a 1kHz audio tone to be recorded along with color bars as a reference signal for precise playback of the recordings.

Optional WRR-860A Wireless Microphone Receiver

An optional WRR-860A UHF Wireless Microphone Receiver can be attached to the DVW-700. With its compact size and light weight, the WRR-860A provides high quality sound and a wide service area for maximum flexibility in field acquisition. The WRR-860A can be powered directly from the DVW-700.



External Microphone Power Supply

The XLR microphone input connectors for the two audio channels can supply (+48V) external microphone power.



This function allows external condenser microphones to be used without the need for an external power supply.

CAMERA FEATURES

10-bit/36MHz Full Digital Signal Processing

The DVW-700 incorporates full digital signal processing for the camera circuit which provides not only superb picture quality, but also great advantages for setup of the camera at a level unattainable with conventional analog signal processing.

Superb Picture Quality

The DVW-700 uses 10-bit A/D converters for the R, G, B output signals of the CCDs to obtain a wide dynamic range and superior picture quality. In order to maintain this picture quality, the subsequent signal processing is done at more than 10-bits with a maximum of 14-bits and at a 36MHz sampling frequency, which is twice the horizontal clock frequency of the Hyper HAD 1000™ CCD. This also allows very precise and flexible settings for various setup parameters meeting the severe demands of non-linear signal processing required for gamma and knee compensations.

Easy Setup

Potentiometers are virtually eliminated by the adoption of the digital processing, which simplifies the setup of the camera.

High Reliability and Stability

The digital camera circuits also provide high reliability and stability for picture reproduction, since the setup parameters can not be changed by physical factors such as temperature and the passage of time.



Faithful Reproduction

Handling a wide variety of setup parameters with numerical values allows these values to be memorized on a Setup Card. This Setup Card can be moved from camera to camera drastically reducing variations among cameras in multiple camera operation.

Outstanding Flexibility

In order to maximize the flexibility of the digital processing, the camera processor LSIs are specifically designed to provide a variety of setup parameters and flexible parameter settings required for high quality EFP operation.

Compactness

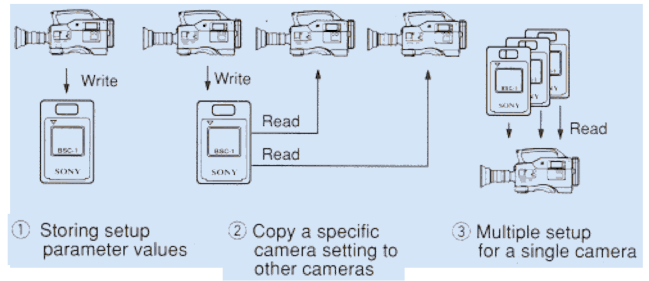
With the adoption of digital signal processing and the high density LSIs, Sony is able to pack a variety of functions in a compact unit.

Setup Card

A large number of setup parameters can be stored in a newly developed Setup Card, which provides great advantages to the camera operator. It is now possible to instantly set up a camera to the specific conditions preset in the Setup Card. This convenient function also allows a specific camera setup to be stored in the card and to instantly reproduce the same setup condition on any camcorder with this feature.



It also allows setup of multiple cameras to a uniform condition. The Setup Card adds great flexibility and dramatically improves operating efficiency.



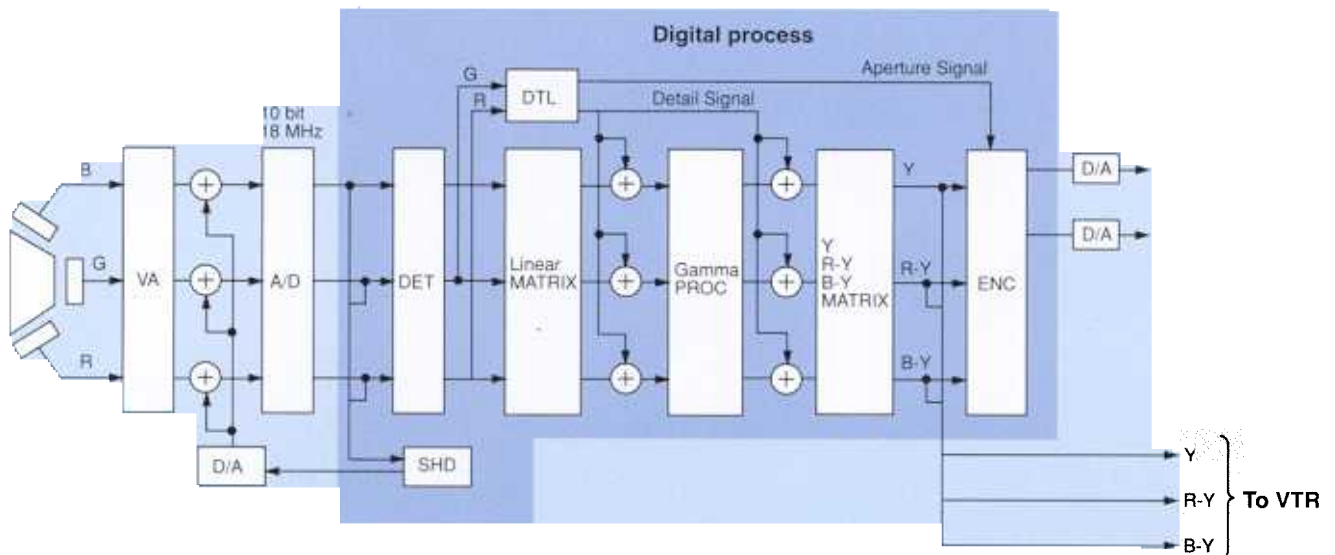
Selectable Gamma Correction Curve

The DVW-700 has two preset memories for gamma correction. With the adoption of digital signal processing, the precise shape of the gamma curve can be approximated with much more precision than the straight line approximation of analog processing.

Variable Linear Matrix

The DVW-700 employs a linear matrix circuit which electrically adjusts the basic R, G, B color, taking characteristics of the camera, for optimum colorimetry. The linear matrix coefficients can be varied to reproduce a desired color tone or to provide a color match among dissimilar cameras. Two sets of matrix coefficients can be stored in memory, they can be instantly recalled at the user's discretion.

Block diagram of Digital Camera Processing



Variable Detail Frequency

For flexibility in adjustment of detail enhancement, the horizontal detail frequency can be varied over the range of 2.0MHz to 6.5MHz. This function allows the frequency of the detail enhancement to be matched to the content of the scene or to the bandwidth of the VTR or other output device that is used.

Skin Tone Detail

The DVW-700 incorporates a Skin Tone Detail function which reduces the level of the detail signal for skin tone objects in the picture. This feature provides a pleasing reproduction of the skin of the actors while maintaining full crispness in all other portions of the picture. Hence, detail enhancement can be freely applied without worrying about accentuating normal imperfections in the complexion of the performers.

Detail Clip

In order to prevent the creation of an excessive detail signal in an area of the picture with extreme highlights or stepping lines along slanted picture edges, the detail clip level can be varied for both horizontal and vertical detail enhancement.

Level Dependence and Crispening

The Level Dependence circuit restricts detail enhancement for video signals near black to eliminate unnecessary correction in this area of the picture. In addition, Crispening is used to inhibit the creation of a detail signal for small transition in the picture providing effective detail enhancement without amplifying low level noise.

Knee Correction Control and Dynamic Contrast Control

In order to capture highly contrasted objects as clearly as possible, the DVW-700 employs knee correction circuitry to retain picture detail even in very bright areas. Both the knee point and knee slope are variable with fine adjustments to match differing shooting conditions. With this knee correction capability, the dynamic range of the camera can be extended up to 600%. Furthermore, adjustment of the knee correction can be automated by the use of the Dynamic Contrast Control (DCC) circuitry that can automatically adjust knee parameters according to the intensity of the scene content. The degree of the DCC action can be set via the menu system to meet various requirements.

Black/White Shading Compensations

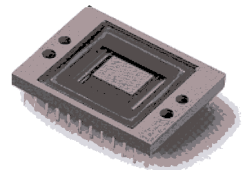
For easy camera setup, automatic black and white shading compensations are built into the DVW-700. Automatic black shading is used to correct for uneven dark sensitivity caused by thermal characteristics of the processing circuitry, while automatic white shading compensates for irregularities in white reproduction caused by optical devices such as lenses and prisms. By adjusting relevant parameters in the digital domain, these corrections are completed within a short time, eliminating the time consuming manual adjustments which are necessary with analog processing cameras.

Cross Color Suppression

When shooting diagonal stripes, cross color artifacts can appear on the composite output from interference between the subcarrier and luminance elements of the composite video signal. In order to minimize these artifacts, the DVW-700 is equipped with a cross color suppression function which limits the level of the luminance signal within the frequency bands onto which the subcarrier signal is to be added. With this function, stripes and lattice patterns can be clearly reproduced without reducing the horizontal resolution of the camera.

Hyper HAD 1000 CCD

The DVW-700 incorporates the Hyper HAD 1000 sensor whose outstanding performance has been well-proven in the Sony BVP Series of studio and portable cameras. A total of 520,000 picture elements (480,000 effective picture elements) are packed into this CCD sensor. This high packing density, combined with Sony's sub-micron manufacturing techniques provides highly accurate spatial offset of the three imagers to achieve an outstanding horizontal resolution of more than 850 TV lines.



High Sensitivity

Despite the high packing density of the Hyper HAD 1000 CCD sensor, the DVW-700 provides the incredibly high sensitivity of F 8.0 at 2000 lx by the use of an OCL (On-Chip-Lens) layer which effectively converges incoming light onto each photo sensitive element.

Reduced Vertical Smear

Taking full advantage of the Frame Interline Transfer method, coupled with the HAD sensor™ structure and OCL (On-Chip-Lens) layer the vertical smear level has been reduced to a level where it is imperceptible.

Minimum Aliasing and Improved Frequency Response

The increased number of picture elements of the Hyper HAD 1000 sensor in combination with an exclusive wide band optical low pass filter design drastically reduces aliasing and significantly improves frequency response of the Red, Green and Blue baseband signals. As a result, a very high depth of modulation has been achieved.

Super Enhanced Vertical Definition System (Super EVS)

In order to take advantage of both the high vertical resolution of the frame integration mode and the superior motion blur reduction of the field integration mode, the Super Enhanced Vertical Definition System is featured in the DVW-700. In this system, the electron charges accumulated in the imager are read out every 1/60 second in the same manner as in the field integration mode, however, the charges in pairs of adjacent lines are not simply added as in the conventional field integration mode. Instead a small amount of the charges accumulated in one of the adjacent lines is added to the total charges accumulated in the current line being read out, establishing a mechanism similar to the frame integration mode. The result is an enhanced vertical resolution of 450 TV lines without motion blur or line flicker often seen in the normal frame integration mode.

Dual Optical Filter

The DVW-700 incorporates two separate optical filter wheels, one wheel is dedicated exclusively for ND (Neutral Density) filters and the other for CC (Color Conversion) filters to balance the camera under a wide range of color temperatures, while using the lens at its optimal f-stop. Four types of filters are built in each wheel; ND (Clear, 1/4, 1/16, 1/64), CC (Cross, 3200K, 4300K, 6300K). Various combinations of these filters also expand creativity.

Variable Speed Electronic Shutter

In order to capture clear images of high speed moving objects without motion blur, various electronic shutter speeds are available; 1/100, 1/125, 1/250, 1/500, 1/1000, 1/2000. The increased sensitivity of the Hyper HAD™ sensor makes it more practical to use even these extremely fast shutter speeds.

Clear Scan™ and Extended Clear Scan

When shooting computer displays with conventional cameras, a horizontal band appears across the display screen. This phenomenon is caused by the difference in the scanning frequency between the camera and the

computer display. The DVW-700 has both Clear Scan and Extended Clear Scan mode to eliminate this banding effect, by matching the shutter speed of the camera to the computer scanning frequency over the range from 30.4 to 7000Hz (508 steps). Extended Clear Scan adopts a special technique to enable shutter speed below the NTSC field rate, from 30.4Hz to 58.3Hz.

Programmable Master Gain-up Mode

To capture subjects in a dark environment with a maximum signal to noise ratio, the DVW-700 provides a wide-range of gain-up values; -3, 0, 3, 6, 9, 12, 18, 24, 30dB. Any three of these values can be assigned to the three position LOW/MEDIUM/HIGH gain switch prior to the actual shooting, making the camera ready for the planned shooting situation.

Automatic Function

Automatic Iris Control

Automatic Iris Control is provided to keep an optimum aperture even if the brightness in the shooting area is changed, allowing the user to concentrate on framing and focusing. A sophisticated electronic feedback system ensures quick response. Furthermore, Iris Override can also be used to vary the nominal set point of the automatic iris control over the range of -0.5 to +0.5 F-stop, in increments of 0.25 F-stops.

Automatic Black and White Balance

Automatic black balance adjusts the black level of each of the R/G/B signals to maintain black balance of these three signals at any gain-up level. Automatic white balance adjusts the gain of the R, G, B channels to ensure faithful color reproduction under any color temperature. Two white balance settings can be memorized for each of four CC filters to instantly change the balance when it is necessary to continuously shoot a subject as the subject transitions from one color temperature illumination to another.

Comprehensive Menu Control

All setup parameters are well organized in a two layer menu, categorized as User and Engineer menus. While the Engineer menu provides access to all of the camera parameters, only selected parameters can be accessed in the User menu to prevent accidental changes to the

* LEVEL 1/9	
DETAIL LEVEL	-15
U DTL LEVEL	-4
H DTL FREQ.	00
U DTL BLK CLIP	00
DTL WHT CLIP	85
DTL BLK CLIP	50
CRISPENING	00
LEVEL DEPEND.	00
KNEE APERTURE	00

settings. Furthermore, the user can eliminate rarely used parameters from the User menu and leave only the frequently used menu pages to appear so that setup can be efficiently completed without seeing full menu pages. Menu

pages are provided both in the viewfinder and through the video outputs, allowing convenient and comprehensive setup. The setup menu system is controlled by a combination of two switches and UP/DOWN buttons.

New View Finder

A new 1.5-inch monochrome viewfinder is provided with the DVW-700, which offers a 600 TV lines of horizontal resolution with virtually no flare. The dual peaking circuitry provides very crisp images to enable precise focusing. The CRT provides the following character indications to the operator advising of the following camera conditions: Extender, Zoom position, Filter position for both ND and CC filters, Auto white balance memory, Master gain, Shutter speed including Clear Scan and Extended Clear Scan speed, Iris position, Tape remain time, Camera ID. These indications can be hidden at the user's discretion by setting the appropriate parameters in the menu control system.

Additionally, the exclamation mark indication can be used to warn of non-standard operation when any of the following functions Gain-up, Shutter, Preset white balance, Extender, Unusual filter positions and Iris override are activated.



A safety zone (80% or 90%), a center marker and a box cursor can also be displayed on the viewfinder frame according to the menu setting.

Two level zebra video indication is also provided which ensures optimum iris adjustment while in manual iris operating mode.

New Eyecup

A new eyecup is supplied with the DVW-700. It uses a soft sponge pad and bellows construction which provides freedom of movement while maintaining a light tight seal. In comparison to a conventional rubber eyecup, this new eyecup is much softer and keeps its softness even under cold temperatures. The new eyecup is easily detachable and the conventional eyecup can be readily substituted depending on the user's preference.

In addition, the complete eye-piece can be easily removed from the viewfinder allowing direct view of the CRT. Three optional eye-pieces are available for various requirements, including high magnification, low magnification and standard magnification with special compensation for aberrations.



Genlock Capability / Camera Return

Genlock capability is incorporated, allowing the DVW-700 to be integrated into a multi-camera system. Camera Return can be also accessed through the common connector.

Optional RM-P9 Remote Control Unit

Using the RM-P9 Remote Control Unit, basic functions and adjustments of the DVW-700 can be remotely controlled. The RM-P9 is interfaced with a 6-pin cable with a maximum length of 100 meters.



NOTE: The parameter settings which are controlled with the RM-P9 cannot be stored in the Setup card.

Test Output

The DVW-700 incorporates a test output port which provides composite video, red, green or blue signals for camera testing.

Camera ID

For easy confirmation of which camcorder was used for an individual recording, a camera ID can be superimposed on color bars. The camera ID can be set as part of the system control menu.

Easy Maintenance

The DVW-700 incorporates a sophisticated diagnostic system which detects malfunctions within the camcorder. The adoption of digital signal processing has improved the ability to specify the precise location and nature of a fault. Warning indications are provided through the camera viewfinder for faults in the camera section and on the LCD display for faults in the VTR section.



In addition, plug-in boards are used for almost all the circuitry in the DVW-700, this allows quick and easy maintenance.

OPTIONAL ACCESSORIES



Setup card
BSC-1



Rechargeable Lithium-ion Battery
BP-L60



Battery Case for an optional BP-90A NiCd Battery
DC-L90



Battery Case for an optional NP-1B NiCd Battery
DC-L1



Battery Charger for four BP-L60's
BC-L100



Battery Charger for four BP-90A's and four NP-1B's
BC-410



Battery Charger for NP-1B
BC-1WD



AC Adaptor
AC-550



Wireless Microphone Receiver
WRR-860A



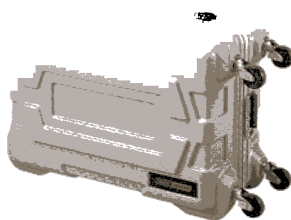
Remote Control Unit
RM-P9



Viewfinder Rotation Bracket
BKW-401



Viewfinder Eye-piece
(High magnification / Low magnification / Standard magnification with special compensation for aberrations)



Carrying Case
LC-777



Digital Video Cassette
BCT-D6/D12/D22/D32/D40

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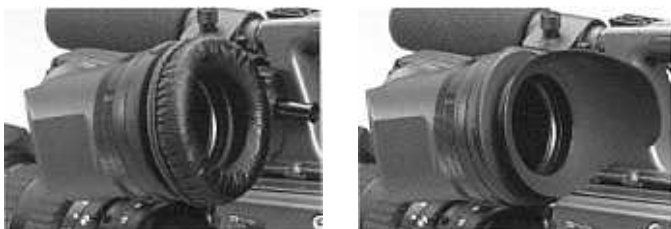
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SPECIFICATIONS

General

Weight	Approx. 5.0kg (11 lb)
Operating weight	Approx. 7kg
Power requirements	DC 12V +5.0/-1.0V
Power consumption	28W (rec mode)
Operating temperature	0°C to +40°C (+32°F to +104°F)
Storage temperature	-20°C to +60°C (-4°F to +140°F)
Humidity	25% to 85% (relative humidity)
Continuout operating time (with BP-L60)	Approx. 120 min

Signal inputs

Genlock video	BNC, 1.0Vp-p, 75Ω
Time code	BNC, 0.5 to 18Vp-p, 10kΩ
Audio CH-1/2	XLR 3-pin, -60dBm/+4dBm selectable, high impedance, balanced

Signal outputs

Video output	1.0Vp-p, 75Ω, sync negative, two outputs
Time code	BNC, 1.0Vp-p, 75Ω
Earphone	Mini jack

Others

Lens	12-pin
Remote	6-pin
DC input	XLR 4-pin (for the optional AC-550)
DC output	4-pin (for wireless microphone receiver), DC 12V, Max. 100mA

VTR SECTION

General

Recording format	Digital BETACAM
Tape speed	96.7mm/s
Playback/Recording time	Max. 40 min with BCT-D40 cassette
Fast forward time	Less than 6 min with BCT-D40
Rewind time	Less than 5 min with BCT-D40
Recommended tape	Sony BCT-D6/D12/D22/D32/D40
Sampling frequency	Y: 13.5MHz R-Y/B-Y: 6.75MHz
Quantization	10 bits/sample
Error correction	Reed-Solomon code
Error concealment	Adaptive three dimensional

Video performance

Bandwidth	Y: 5.75MHz ±0.5dB R-Y/B-Y: 2.75MHz ±0.5dB
S/N ratio	62dB or more
K-factor (2T pulse)	1% or less
Linearity	2% or less
Y/R-Y/B-Y delay	15ns or less

Digital audio performance

Sampling frequency	48kHz (synchronized with video)
	20 bits/sample
A/D and D/A quantization	16 bits/sample
Frequency response	20Hz to 20kHz +0.5dB/-0.8dB
Dynamic range (emphasis ON)	more than 85dB
Distortion (at 1kHz, emphasis ON, reference level)	Less than 0.08%
Cross talk (at 1kHz, reference level)	Less than -70dB
Wow & flutter	Below measurable limit
Head room	20dB
Emphasis (ON/OFF selectable)	T1=50 μs, T2=15 μs

Analog audio (Cue track) performance

Frequency response	100Hz to 12kHz ±3dB
S/N ratio (at 3% distortion level)	More than 50dB
Distortion (T.H.D at 1kHz reference level)	Less than 1.5%
Wow & flutter	Less than 0.2%

* Reference level: +4dBm

* The specifications given above were measured by playing back DVW-700 recorded materials on standard Digital BETACAM VTRs.

CAMERA SECTION

Camera

Pickup device	3-chip 2/3-inch Hyper HAD 1000 FIT CCD
Picture elements	Total: 1038(H) x 504(V) Effective: 980(H) x 494(V)
Optical system	F1.4 prism system
Built-in filters	A: CROSS B: 3200K C: 4300K D: 6300K 1: CLEAR 2: 1/4ND 3: 1/16ND 4: 1/64ND
Shutter speed	1/100, 1/125, 1/250, 1/500, 1/1000, 1/2000 (s)
Clear Scan	CLS: 60.1 to 7000 Hz (260 steps) ECS: 30.4 to 58.3 Hz (248 steps)
Lens mount	Special bayonet mount
Sensitivity	2000lx with F8.0, 89.9% reflective
Minimum illumination	Approx. 1.9 lx (F1.4 lens, +30dB gain)
Video S/N ratio (typical)	62dB
Horizontal resolution	More than 850 TV lines
Vertical resolution	(without Super EVS) 350 TV lines (with Super EVS) 450 TV lines
Registration	0.05% (all zones, without lens)
Geometric distortion	Below measurable level (without lens)
Warm-up time	2s

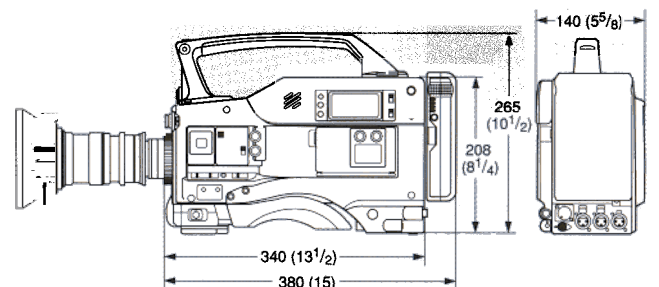
Viewfinder

CRT	1.5-inch monochrome
Controls	BRIGHT control, CONTRAST control PEAKING control TALLY, ZEBRA/MARKER and AUDIO indicator ON/OFF switches
Horizontal resolution	600 TV lines
Microphone	Sharp-directional (detachable)

Supplied accessories

Setup Card (BSC-1)	(1)
Microphone	(1)
Tripod Adaptor (VCT-14)	(1)
Attachment Adaptor for Wireless Microphone Receiver	(1)
Rain Cover	(1)
Shoulder Belt	(1)
Operation manual	(1)
Installation manual	(1)

Dimensions



Unit: mm (inch)

Design and specifications subject to change without notice.
"Betacam", "Betacam SP", "Digital BETACAM", "HAD Sensor",
"Hyper HAD 1000" and "Clear Scan" are trademarks of Sony Corporation.

SONY®