SONY

High Definition Video System

Digital HDVS®

HDCAM™

Sony Digital Camcorder

HDW-750
HDW-750P
HDW-730

1/2-Inch Platform Advances to Greater Heights

Since introducing its first models, Sony has continually enhanced the BETACAM™ Series of products, each offering the highest possible performance and always preserving a consistent half-inch platform. The excellence of the analog BETACAM™/BETACAM SP™ formats introduced an entirely new set of opportunities to ENG and EFP, while the use of digital processing in the Digital BETACAM™, BETACAM SX™, and MPEG IMX™ formats brought standardized 4:2:2 digital recording into both news gathering and field production. Today, each format is in service in a multiplicity of programming applications, offering the pinnacle of reliability and performance that only BETACAM technology provides.

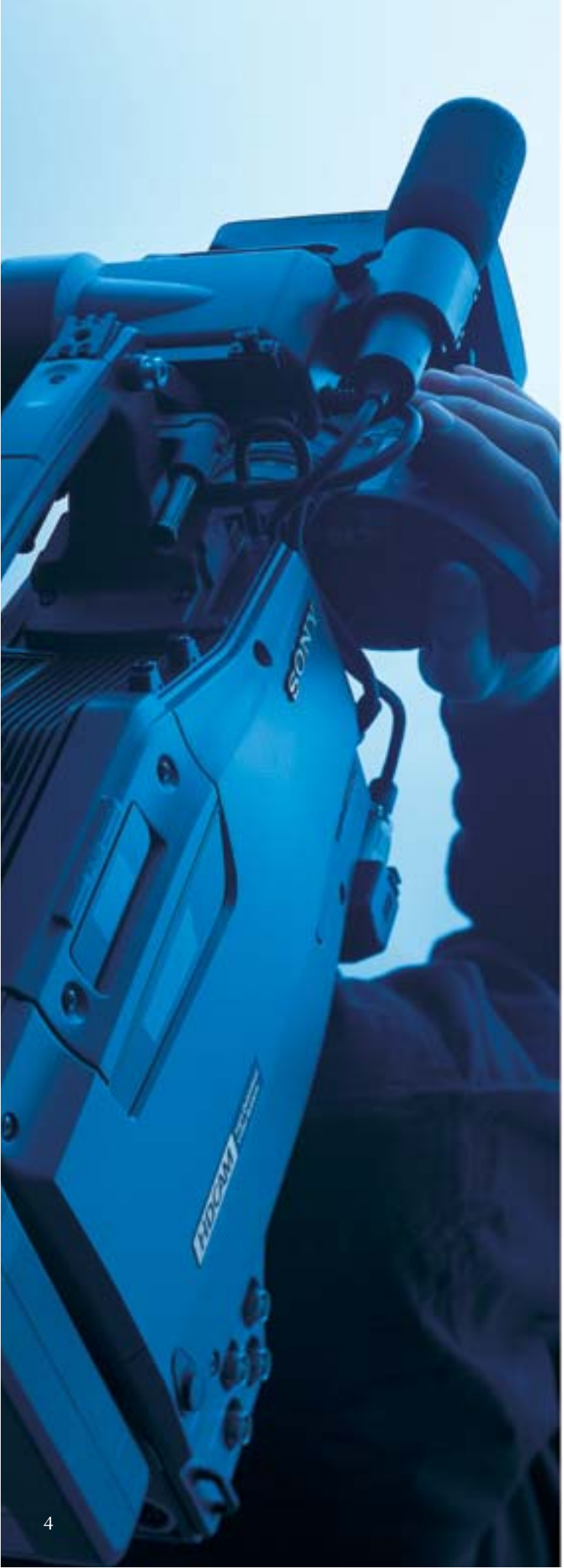
In 1997, Sony revolutionized HDTV program origination with the introduction of the HDW-700 camcorder based upon the 1/2-inch recording platform. This was soon followed by the HDW-700A camcorder, which operates according to the updated 1080/60i production standard. This camcorder, in association with its editing VTR the HDW-500, extended the BETACAM format tradition into the realm of mobile HD program creation. In 1999 the HDCAM™ format was dramatically broadened to include the new multi-frame rate camcorder the HDW-F900 and its companion VTR the HDW-F500 – both responding to the breakthrough new ITU 709 global standard for international HD program origination. The pivotal inclusion of the new 24-frame progressive format in this standard constituted a central design imperative for the HDW-F900/F500 system and introduced to the world the first 24-frame digital motion picture capture system.

With the HDW-F900/HDW-F500 Series squarely addressing the needs of movie-making and high-end prime time television program and commercial production, Sony returned to the central agenda of a mainstream High Definition production system in support of the emerging broader DTV broadcasting agendas around the world. This is based upon the SMPTE 274 HD production standard. The new generation HDCAM camcorders have been developed for feature-enhanced operations specifically to streamline the worldwide migration to DTV at affordable price levels. The spearhead to this new HD acquisition family was the introduction of the HDW-750 camcorder operating exclusively in the 1080/60i format and intended to service the active DTV agendas in the 60 Hz regions of the world. Today Sony's HD acquisition product line has been broadened with the two frame rate switchable camcorders, the HDW-730 (1080/60i and 1080/50i) and the HDW-750P (1080/50i and 1080/25P) to support many 1080-based DTV services and international co-productions for 50 Hz regions. A central design strategy was to more firmly incorporate this new HDCAM system into the totality of Sony's 1/2-inch editing platform. Accordingly, this HD system's studio VTRs -- the HDW-2000 Series -- offers not only full HDCAM recording and editing functionality, but also includes both the all-important legacy playback of all standard definition Betacam formats (analog and digital) and internal up-conversion of that playback to the 1920 x 1080 digital sampling format for play out in this HDTV format.

The HDW-750*/730 camcorders have been designed to provide optimum system and economical balance with the HDW-2000 series of studio VTRs. They offer the choice of 1080/60i, 1080/50i, or 1080/25P HDCAM recording capability. Their extremely compact, lightweight and robust designs are direct results of Sony's charter of maintaining compatibility with the Betacam format legacy.

Meta-data handling capability and unique accessories have been added to the product line to meet the ever-changing requirements in the field. These additions contribute to further enhancing the high performance but economically well-balanced solutions that HDCAM equipment will provide for next generation ENG and EFP programming.

*Hereafter, the HDW-750 refers to both the HDW-750 and the HDW-750P.



Technical Innovations – Enhance Shooting in the Field

The compact and stylish body of the HDW-750/730 contains many technological innovations. They are brought together to enable the creation of some of the most versatile and outstanding in-the-field visual experiences of the new century, while ensuring durability and ease of use for the challenging conditions of field shooting.

HAD Sensor Technology

The well-established innovations of CCD technology already incorporated in Sony's HDC-900 Series cameras and HDW-F900 camcorders are also used in the HDW-750 camcorder. Inheriting Sony HAD sensor technology and on-chip lens structure of the latest Power HAD™ sensors, this imaging device is based on the 1920 x 1080 CIF (Common Image Format). With its light collecting capability dramatically improved, this 2/3-inch type, 2.2-million-pixel FIT CCD, boosts the sensitivity to an industry-leading f10 at 2,000 Lux, thus enabling image capture in extremely low light conditions. The signal-to-noise ratio is 54 dB and vertical smear is less than –135 dB*. The cost effective 2/3-inch type 2.2 million-pixel IT CCD used in the HDW-730 provides equivalent performance as the FIT version CCD excluding the vertical smear level which is provided at –125 dB*.

*Typical numbers.

10-bit A/D and Advanced Digital Signal Processor

The HDW-750/730 uses the 10-bit A/D converter and Advanced Digital Signal Processing (ADSP) proven in their predecessor, HDW-700A. They ensure low-power operation and superb picture quality. A 600 % wide dynamic range and excellent tonal reproduction, combine with creative manipulation of picture parameters for "in-camera effects", which were pioneered by Sony and are now widely accepted among Digital Cinematographers. The well known **Memory Stick™** setup system allows various setup parameters to be stored and recalled as required. These include all factors relating to colorimetry and tonal reproduction adjustment, so that at any time (such as a scene re-shoot) these settings can always be readily accessible.
To help maximize the camera image-making capabilities, special attention has been paid to the careful design of the camera menus so that access to certain image parameters is user-friendly and intuitive.

New Ergonomics

Sony has been continually improving camcorder body design over many years, always trying to make them more user friendly and practical as well as stylish and appealing. Another important factor, especially for the challenging conditions of ENG shooting, is the attention to physical robustness as well as maintaining a compact and lightweight camcorder. To meet these conditions, the body design of the HDW-750/730 is totally new, but all switches, meters and indicators are in the most logical places and are positioned for optimum functionality and ease of use. This has been achieved through meticulous consideration of the human physiology and the application of fundamental ergonomic principles. The operation of every single switch and button reflects our thorough understanding of the operator's needs and working practices. Sony has been making professional cameras for over 20 years, and during that time we have listened very carefully to suggestions that users have contributed to ongoing refinements to camera body design. The superb weight distribution and balance combined with a low optical axis make the HDW-750/730 particularly suitable for hand-held shots. It also sits comfortably on the shoulder and can be easily carried with minimum fatigue. Even with the viewfinder, battery, cassette, microphone, the total weight is only 5.4 kilograms (less than 12 pounds). This astonishingly compact and lightweight camera opens new possibilities for handheld creative camera work while delivering uncompromising picture quality. This new, compact and stylish body of the HDW-750/730 houses some very highly innovative technologies.

Dual Optical Filter Wheels

For the optical picture treatment, two independent filter wheels, one is for Neutral Density (ND) and the other is Color Correction (CC), are installed. An optional servo filter drive unit, the BKDW-701, can also be fitted allowing filter settings to be changed with the RM-B750/150 Remote Control Unit.

Two Assignable Buttons

You can assign two required functions to these switches, functions which are frequently used in the field, for instance to be operated with a single action of touching a button, such as Viewfinder Return, Record etc.

Dual Earphone Output

The HDW-750/730 is equipped with two earphone outputs, one is output from the front side of the camcorder body, and the other is from rear side. These two outputs can be used simultaneously.

Turbo Gain

The inherent sensitivity of the HDW-750/730 is high enough to capture images under various low light conditions, but in some situations it is necessary to image in unusually low light conditions. The Turbo Gain function immediately boosts up the gain level to an incredible +42 dB at the touch of the button. Thanks to this function, it is possible to capture critical scenes down to around 0.3 lux of incident scene illumination – somewhat exceeding the color sight capability of the human eye.

Slot-in Wireless Microphone Receiver (Built-in UHF Synthesizer Receiver Unit)

The optional WRR-855A/855B Wireless Microphone Receiver can be fitted directly to the HDW-750/730 camcorder using a slot-in mechanism that gives a cable less interface between the camcorder and the receiver. This system increases mobility by maintaining compact overall dimensions even when the receiver is attached to the camcorder.

*WRR-855A/855B is an option.

LCD Status Panel and Diagnostic System

All the main operational controls and switches are located on the left-hand side of the camcorder. The LCD panel is on the same side, and shows a wide range of status and diagnostic displays such as Tape Remaining, Battery Level, Audio Levels, etc.

Tally Lamp

Newly added is the Bottom Tally light located in the connector panel section of the rear of the camcorder body.

Stereo Audio Output

A stereo audio line output is available from the 5-pin XLR connector on the rear of the camcorder. This provides two analog audio output channels, which can be selected to be either Channel-1/2 or Channel-3/4.

HD SDI Output for Field Monitoring

The HDW-750/730 directly provides an HD-SDI output with four channels of embedded digital audio. You can monitor all image capture in the field as high quality HD images without any adapter.

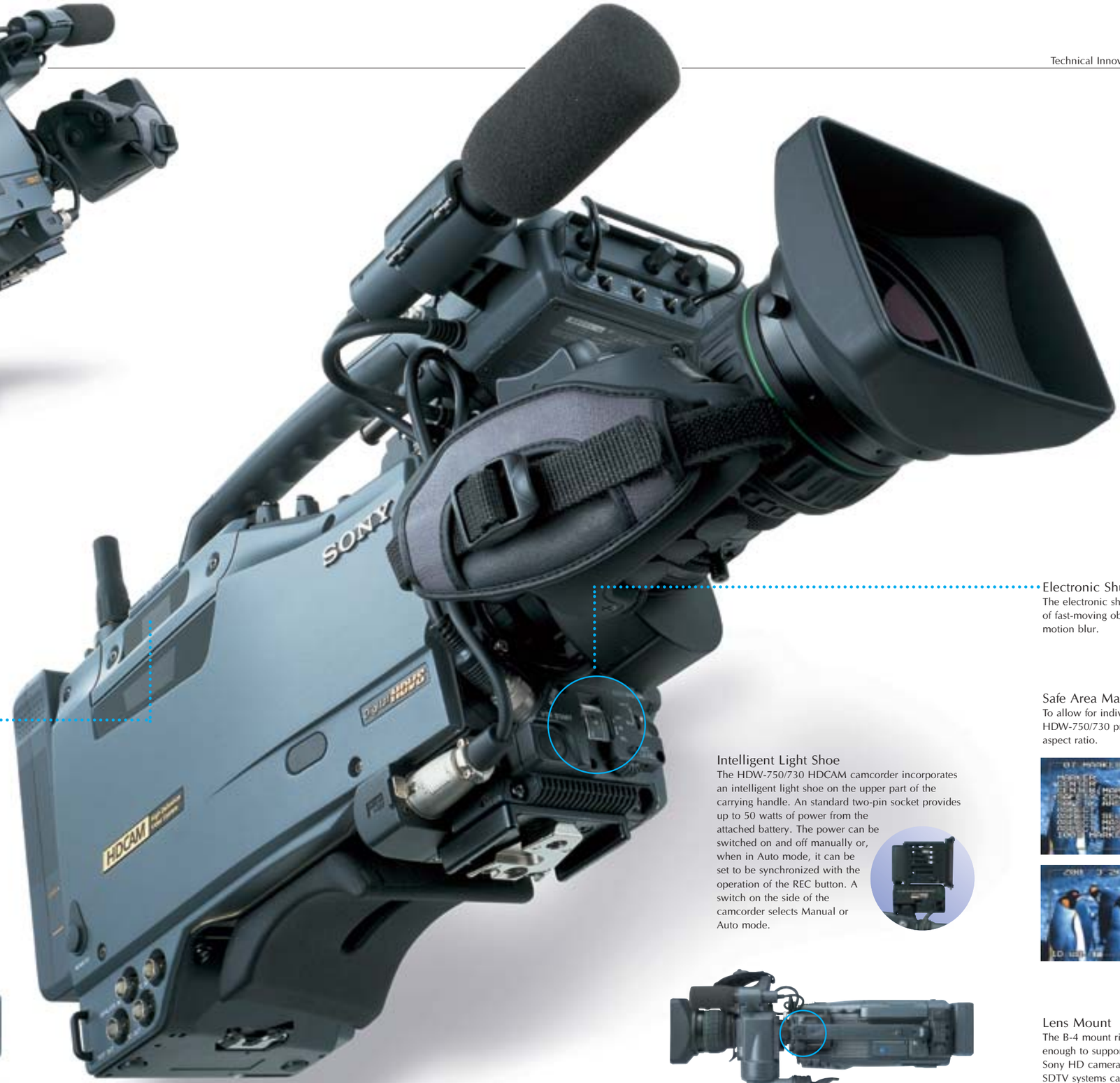
Extended Clear Scan

The Extended Clear Scan function is particularly useful when shooting scenes that contain computer or TV screens as it minimizes the horizontal bars that can appear. The ECS shutter speed is continuously variable.

Cassette Loading

The cassette loading is fast, simple and reliable. It takes less than 5 seconds* for a cassette change. This ease of change and long recording runs (40 minutes: HDW-750, 48 minutes: HDW-750CE, 40 minutes at 60i format or 48 minutes at 50i format: HDW-730) offer new levels of efficiency on location. The loading mechanism is robust and designed to be dust and drip proof. The vertical cassette loading helps to minimize the risk of anything unwanted getting into the tape mechanism. It also reduces the unwanted sound of a fast rotating VTR drum to be captured via an on-board microphone of the camcorder.

*Sony measurement.



Electronic Shutter

The electronic shutter helps in capturing clear images of fast-moving objects by selectively minimizing motion blur.

Safe Area Markers

To allow for individual production requirements, the HDW-750/730 provides safe-area markers for any aspect ratio.

Intelligent Light Shoe

The HDW-750/730 HDCAM camcorder incorporates an intelligent light shoe on the upper part of the carrying handle. An standard two-pin socket provides up to 50 watts of power from the attached battery. The power can be switched on and off manually or, when in Auto mode, it can be set to be synchronized with the operation of the REC button. A switch on the side of the camcorder selects Manual or Auto mode.

Lens Mount

The B-4 mount ring of the HDW-750/730 is strong enough to support the heaviest of lenses. Same as other Sony HD cameras/camcorders, conventional lenses for SDTV systems can also be attached to these camcorders.

Processing Innovations – Enhance Creative Image Capture

Menu-driven set up that enables creative image making in the studio or field has been widely accepted. To help this creative process, we have made it very easy to customize the settings of many image parameters, and then digitally save these settings. A simple and intuitive menu driven set up has freed camera adjustments from being a purely engineering exercise into a uniquely creative process. Various setup parameters can be stored and then transferred between camcorders via the Memory Stick storage medium. This capability represents a major advance in operational and creative versatility. The design of the menu "page layout" for the HDW-750/730 is inherited from the HDW-F900 multi-format HD camcorder*, – an easy and intuitive camcorder set up system. "Page customization" is also inherited to speed up the operation by allowing relevant parameters to be grouped together to allow operators fast access to the adjustment required for a given production. Some of the most important operational adjustments are described below.

*Set up data is not compatible between HDW-F900 and HDW-750/730.

Colorimetry

The HDW-750/730 produces pictures with astonishing color reproduction capability and offers controls that offer further creative color manipulation.

Multi Matrix

Multi Matrix offers unique possibilities for creative control by allowing selective color enhancement or alteration. It allows a particular color to be selected and its hue changed over a range of approximately 22.5 degrees. The level of saturation can also be modified. This control allows very interesting "in camera" effects – similar to the secondary color correction normally reserved for post production special effects work – and is performed at the full bit depth.

Multi Matrix ON

Color Balance

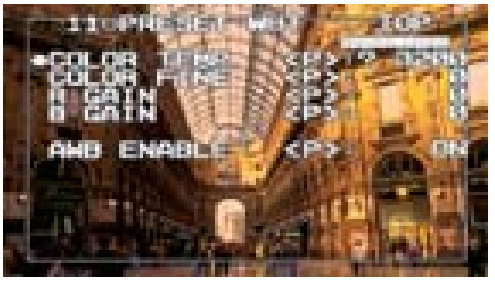
Consistent scene-by-scene color balance is widely accepted as one of the key settings during production. There are a number of ways of setting this when working with an HDW-750/730 camcorder. By using Auto White (and Black) balance, the HDW-750/730 gives an accurate overall color balance. A Menu "Paint" functions allow color levels to be adjusted on-set according to creative needs. For this operation, the RM-B750/150 paint controller can be connected and paint parameters can be remotely adjusted.

Auto Tracing White Balance

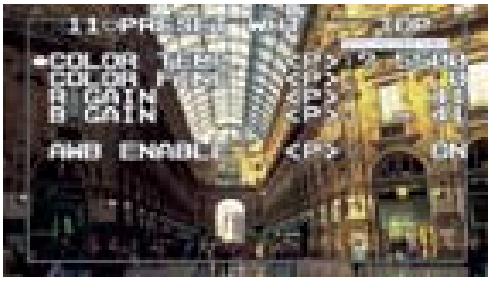
This function allows automatic tracing of white balance in situations where overall color temperature of the lighting fluctuates. This is particularly useful for continuous shooting that requires a subject to be followed from outside to inside (i.e. from daylight to tungsten lighting) with no opportunity to re-set the color balance of the camera.

Color Temperature Control

Digital Color Temperature Control makes it possible to dial in the required color temperature of the camera. In addition, this function can be used creatively. The overall color balance of the picture can be changed to make it 'warmer' or 'colder'. On the other hand, for Optical Color Temperature treatment, four types of color filters are equipped as standard. The BKDW-701 optional Servo Filter Drive Unit can also be attached to the camera, allowing CC filters to be remotely controlled.



3,200K



5,500K

8,024K

Contrast Range

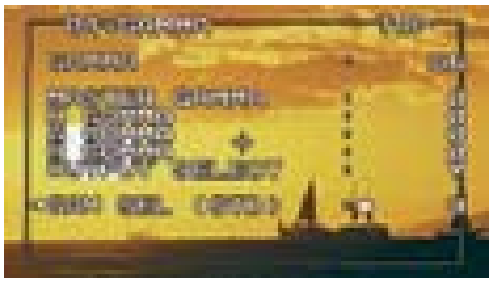
The HDW-750/730 can handle a very wide contrast range. A number of useful features are readily available to aid the operator to more precisely reproduce any given scene. Creative possibilities are offered by modifying “gamma settings”, offering a great advantage to achieving a desired ‘look’.

Selectable Gamma Curves

A vital factor in achieving an appropriate contrast range is the gamma curve. Gamma determines the transfer characteristic of a normal exposed scene. For Sony’s digital camcorders, gamma curves are readily adjustable on location. The overall (Master) gamma curve of the HDW-750/730 offers a very natural overall tonal reproduction because of the 10-bit A/D converter and ADSP (Advanced Digital Signal Processing) providing multiple gamma points. While the master gamma can be changed between two calculating patterns, several fixed master gamma curves are available per each pattern. These are all accessible and interchangeable via the set-up menus.

Gamma Calculating Pattern A
- No.1: SMPTE 240M (Initial Gain 4.0)
- No.2: ITU-R.BT709 (Initial Gain 4.5)
- No.3: BBC Gamma setting (Initial gain 5.0)

Gamma Calculating Pattern B
- No.1: Sensitivity is equivalent to 50 ISO
- No.2: Sensitivity is equivalent to 100 ISO
- No.3: Sensitivity is equivalent to 200 ISO



Normal

Red Channel Enhancement

RGB Gamma Balance

By changing the RGB gamma balance it is possible to change the color balance of the mid-tones without affecting black or white balance.

Variable Black Gamma Range

Variable Black Gamma Range function allows fine adjustment of tonal reproduction in the shadow area. This feature can help to bring out details from the dark parts of the picture without affecting mid-tones while maintaining absolute black level. The variable range is LOW, MID and HIGH.

Normal

Variable Black Gamma Range Function ON

Black Stretch

When Variable Black Gamma Range function is performed, it can be limited to picture luminance without affecting any other factors of the video signal. It is particularly helpful for dark scenes when the black has to stay black, but there is a requirement to pull out more detail.

Highlight Handling

Sony Advanced TruEye™ processing allows much improved highlight handling, with faithful color reproduction.

Adaptive Highlight Control (Auto Knee mode)

The Sony ADSP system intelligently monitors the brightness of all areas of the picture and automatically adapts the knee point/slope for optimum reproduction within given areas of the scene area. A typical example is the ability to shoot an interior scene which includes a sunlit exterior seen through a window.

Normal

Knee Saturation Function ON
(Adaptive Highlight Control)

Knee Saturation Function

The Sony TruEye processor is one of the most innovative features of Sony's ADSP development, makes it possible to reproduce very natural colors in a high contrast scene content. Without TruEye, when only knee correction is applied to the RGB channels, a color distortion in highlight areas will occur. A typical example is human skin tones which tend to take on a yellow tone in highlights. Knee Saturation processing automatically retains accurate color in highlight areas and maintains color saturation in picture areas compensated by the TruEye processor.

Conventional Video Equipment

TruEye

Definition – Picture Sharpness

The new HDW camcorder produces rich pictures having natural sharpness with fine details. Each RGB 2.2-million pixel CCD in combination with wideband digital recording on the 1080-line HD format ensures faithful image capture. The HDW-750/730 facilitates very precise control of picture texture and image enhancement.

Triple Skin Tone Detail control

Skin Tone Detail allows control of image enhancement within user specified color tones. The HDW-750/730 camcorder allows enhancement to be set independently for up to three distinct color/or hue ranges.
The conventional use of Skin Tone Detail correction is to reduce the image enhancement in areas of skin tone. With the HDW-750/730, correction is not restricted to areas of skin tones and can be set to apply to any three color areas. Image enhancement within those three areas can be increased or decreased relative to the overall image enhancement of a given scenes.

Normal

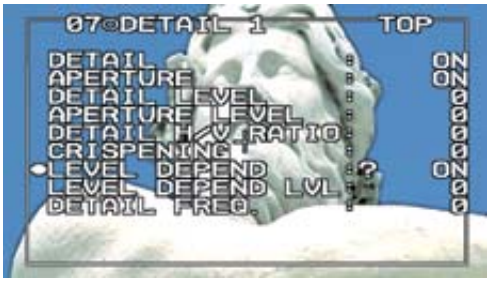

Ch 1 ON (Green)


Ch 2 ON (Blue)


Ch 3 ON (Red)

Level Dependent Detail

This function provides natural detail enhancement in extreme highlights by automatically limiting the amplitude of edge signals in high contrast area. Detail aliasing in these areas is virtually eliminated.



Normal


Level Dependent Detail Control ON

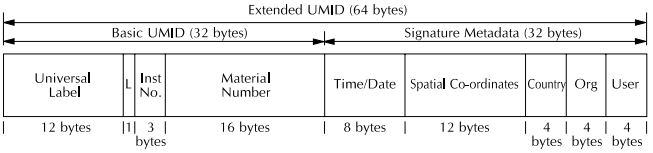
Meta-data Handling

Since the early days of film and television, meta-data such as shot number, slate information and other production notes has been used increasingly during the production process. While much of this data has been generated and stored on paper, the use of computers for storage and management of meta-data has grown significantly. However the lack of a unique identifier for each segment of material recorded on the filed tape has made it difficult to link this meta-data to the actual material. The HDW-750/730 camcorder now solves this problem by providing the capability to generate and record a globally unique identifier relating directly with the video material. This process is made possible by recording UMID (Unique Material Identifier) information.

UMID* recording

The UMID is a unique identifier for picture, audio and data material that is created and globally unique. The HDW-750/730 automatically generates and records UMID on tape at every scene change. By adding UMID information during the acquisition process, future benefit such as easy search of material during editing, and archive will be realized. Sony supports UMID as well as Extended UMID** for further operational convenience.

*UMID is standardized as SMPTE 330M
**Extended UMID adds Signature Meta-data, time, positioning, and user information to the Basic UMID.



GPS Unit — HKDW-704 (Optional)

Utilizing the Meta-data capability of the HDW-750/730 camcorder, the HKDW-704 GPS unit has been introduced to enhance the ability to store Global Position information in association with the field recorded material. The HKDW-704 offers real-time recording of global positioning information on tape as well as the Memory Stick storage medium. When the camcorder playbacks a tape that has recorded GPS information, the positioning information of the shooting site can be indicated on a PC running map illustration software*. The position data is also recorded as Extended UMID on the tape keeping the link between video/audio and positioning data.

*Output format from the REMOTE connector is NMEA.

Tele-File™ System

The Sony Tele-File system stores and recalls various types of production data, such as shot data and shot marks, onto and from an optional cassette label with a built-in memory IC. The camcorder is equipped as standard with a Tele-File reader/writer module, allowing this information to be managed electronically. Use of the Tele-File system can significantly raise efficiency in the subsequent editing process and management of archives.

HDW-750/730 Menu

HDW-2000 Series time code list

HDW-2000 Series VTR

Shot Mark and Shot Data Handling

The HDW-750/730 is capable of recording shot marks (time codes for 'good' shots) and shot data (data, shot ID, cassette number etc.) to the tape. When a tape containing shot marks is played back on an HDW-2000 series VTR, the shot mark positions are automatically detected and list of all marks is generated for display on a video monitor. This allows operators to easily select and cue-up to the scene of interest. The shot marks and shot data can be utilized for a wide range of applications to provide more efficiency in the production chain.

For More Conveniences

Remote Control Unit – RM-B750 (Optional)

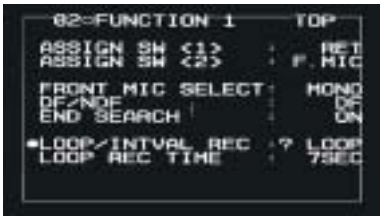
The RM-B750 Remote Control Unit has been designed to establish a highly mobile and fully controllable camera system in the field by integrating control capability equivalent to a Master Set-up Unit into a compact unit powered from the device to be controlled.

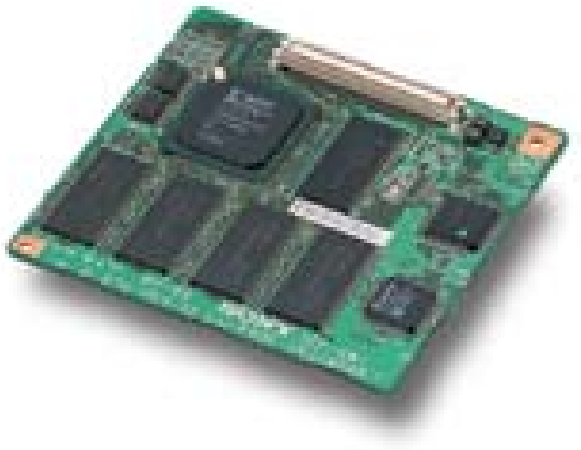
The RM-B750 can be connected directly to the HDW-750/730. Combination of an LCD touch-panel screen and direct push buttons enables full parameter adjustment of the camera to be controlled. When necessary, basic tape transport functions of the camcorder can be controlled. For further operational convenience, the RM-B750 has a Memory Stick media card slot so that various setup parameters can be stored and transferred between camcorders.

*VTR REC START/STOP can be assigned to assignable switch.

Picture Cache Board (Optional)

The optional HKDW-703 Picture Cache Board provides up to seven seconds (HDW-750)/eight seconds (HDW-750CE) of loop recording using solid state memory. Thus, when the REC start button is pressed, everything that happened up to seven seconds before that moment can be recorded to tape. Just imagine – if something unexpected happens in front of your camera, the operator will still have up to seven seconds of that event stored in RAM before being able to hit the record button. There is a choice of recording for 0, 1, 2, 3, 4, 5, 6, or 7 seconds for 60i format (HDW-750/HDW-730)/0, 1, 2, 3, 4, 5, 6, or 8 seconds for 50i format (HDW-750CE/HDW-730).





Down Converter Board (Optional)

The optional Down Converter Board HKDW-702 enables Standard Definition output with four channel audio embedded. SD-SDI or analog composite can be selected via camcorder's set up menu.

HD-SDI Camera Adapter (Optional)

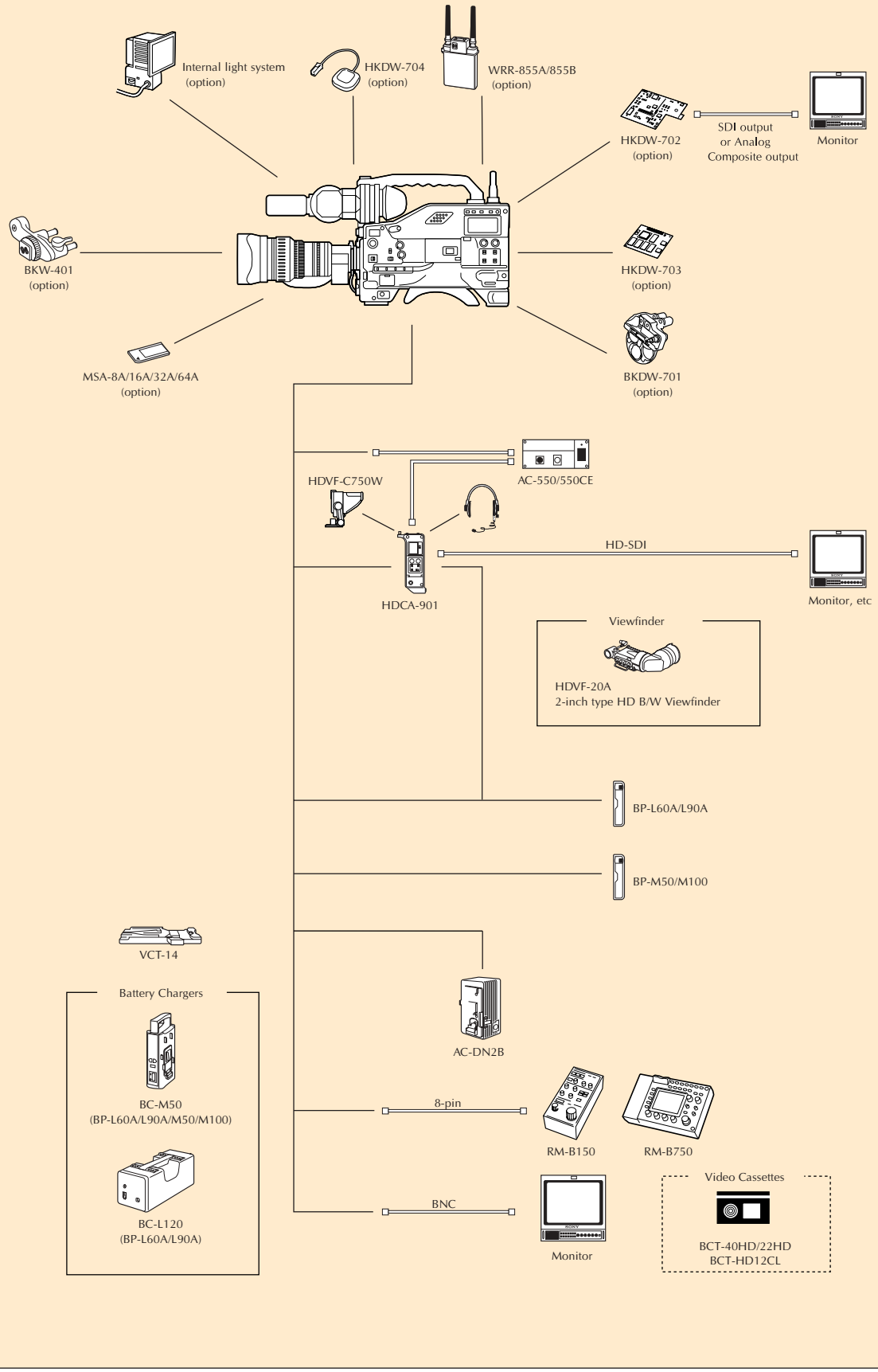
The HDCA-901 Camera Adapter provides an additional two HD-SDI outputs and also enables access to all four audio tracks provided by the HDCAM format. Tracks 1 and 2 are accessed via the AUDIO IN Ch-1/Ch-2 connectors on the camcorder, and tracks 3 and 4 are accessed via the AUDIO IN Ch-3/Ch-4 connectors on the HDCA-901. A 5-pin stereo XLR connector and a headphones output connector (stereo phone jack) are also incorporated. The HDCA-901 can be used to select the monitoring signal to be either from Ch-1/Ch-2 connectors on the HDW-750/730 or the Ch-3/Ch-4 connectors on the HDCA-901.

Color Viewfinder (Optional)

A 6-inch type LCD color viewfinder, the HDVF-750W, is available.

*The liquid crystal display fitted to this unit is manufactured with high precision technology, giving a functioning pixel ratio of at least 99.99%. Thus a very small proportion of pixels (at most 0.01%) may be "stuck", constantly on or constantly off. In addition, over a long period of use, because of the physical characteristics of the liquid crystal display, such "stuck" pixels may appear spontaneously. These problems have been kept to absolute minimum, but are an unavoidable characteristic of liquid crystal technology.

System Configuration



HDW-750/750P/730 Specifications

General	HDW-750	HDW-750P	HDW-730
Mass	Approx. 3.7 kg (8 lb 3 oz): Main Body Approx. 5.4 kg (11 lb 14 oz) (with MIC, VF, BCT-40HD, BP-L60A)		
Dimensions (WxHxD)	127 x 206 x 308 mm (5 x 8 1/8 x 12 1/4 inch)		
Power requirement	DC 12V + 5.0 V/-1.0 V		
Power consumption	34 W (with 12 V power supply, REC mode, without VF)		33 W (with 12 V power supply, REC mode, without VF)
Operating temperature	0 °C to +40 °C (+32 °F to +104 °F)		
Storage temperature	-20 °C to +60 °C (-4 °F to +140 °F)		
Operating humidity	25% to 80% (Relative humidity)		
Continuous operating time	Approx. 110 min with BP-L60A, Approx. 130 min with BP-L90A		
Inputs/outputs connectors			
Genlock video input	BNC type x 1, 1.0 Vp-p, 75 Ω		
Time code input	BNC type x 1, 0.5 V to 18 Vp-p, 10 kΩ		
Audio CH1/CH2 input	XLR-3-pin type x 2 (Female), -60 dBu/+4 dBu selectable, high impedance, balanced (0 dBu = 0.775 Vrms)		
Mic input (Stereo)	XLR-5-pin type x 1 (Female), -60 dBu		
Test output	BNC type x 1, 1.0 Vp-p, 75 Ω, unbalanced		
VBS/SDI output(option: HKDW-702)	BNC type x 1, 75 Ω/VBS out: 1.0 Vp-p/SDI out: 0.8 Vp-p		
HD-SDI output	BNC type x 1, 0.8 Vp-p, 75 Ω, unbalanced		
Audio output	XLR-5-pin type x 1 (Male), 0 dBm		
Time code output	BNC type x 1, 1.0 Vp-p, 75 Ω		
Earphone	Mini-jack (x 2), 8 Ω, -∞ to –18 dBs variable		
Lens	12-pin		
Remote	8-pin		
Light	2-pin, DC 12 V, max. 50 W		
DC input	XLR-4-pin type (Male), DC 11 V to 17 V		
DC output	4-pin (for wireless microphone receiver), DC 11 V to 17 V, maximum current 0.1 A		
VTR section			
Recording format	HDCAM		
Tape speed	Approx. 96.7 mm/s (for 59.94i format)	Approx.80.6 mm/s (at 50i/25P format)	Approx. 96.7 mm/s (at 59.94i format) Approx. 80.6 mm/s (at 50i format)
Playback/Recording time	Max. 40 min with BCT-40HD	Max. 48 min. with BCT-40HD	Max. 40 min. with BCT-40HD (at 59.94i format) Max. 48 min. with BCT-40HD (at 50i format)
Fast forward/rewind time	Approx. 5 min. with BCT-40HD		
Recommended tape	Sony HDCAM cassette BCT-22HD, BCT-40HD		
Digital video performance			
Sampling frequency	Y: 74.25 MHz, PB/PR: 37.125 MHz		
Quantization	10 bits/sample (8 bits/sample for compression processing)		
Channel coding	S-NRZI PR-IV		
Compression	Coefficient recording system		
Error correction	Reed-Solomon code		
Error concealment	Adaptive three dimensional		
Audio performance (Playback with standard HDW-500/F500/M2000/M2100)			
Frequency response	20 Hz to 20 kHz, + 0.5 dB/-1.0 dB		
Dynamic range	More than 85 dB (emphasis ON)		
Distortion(at 1kHz, emphasis ON, reference level)	Less than 0.08%		
Cross talk(at 1kHz, reference level)	Less than -70 dB		
Wow & flutter	Below measurable limit		
Camera section (Performance)			
Pickup device	3-chip 2/3-inch type FIT CCD		3-chip 2/3-inch type IT CCD
Effective Picture elements	1920 (H) x 1080 (V)		
Optical system	F1.4 prism (Equipped with Quarz Filter)		
Lens mount	Special bayonet mount		
Built-in filters	ND 1: Clear, 2: 1/4ND, 3: 1/16ND, 4: 1/64ND CC A: CROSS, B: 3200K, C: 4300K, D: 6300K		
Sensitivity (2000 lx, 89.9% reflectance)	F10.0 (typical) Equivalent to ISO 600 or more		
Minimum illumination	Approx. 0.3 lx (F1.4 lens, +42 dB turbo gain)		
Smear level	-135 dB		-125 dB
S/N ratio	54 dB (typical)		
Modulation depth at 5MHz	45% +/-5%		
Horizontal resolution	1000 TV lines		
Shutter speed	1/100, 1/125, 1/250, 1/500, 1/1000, 1/2000 (s)	1/60, 1/125, 1/250, 1/500, 1/1000, 1/2000 (s) (at 50i format) 1/33, 1/50, 1/60, 1/100, 1/125, 1/250, 1/500, 1/1000, 1/2000 (s) (at 25P format)	1/100, 1/125, 1/250, 1/500, 1/1000, 1/2000 (s) (at 59.94i format) 1/60, 1/125, 1/250, 1/500, 1/1000, 1/2000 (s) (at 50i format)
Clear Scan	30.0 Hz to 4300 Hz	25 Hz to 4700 Hz	60 Hz to 4300 Hz (at 59.94i format) 50Hz to 4700 Hz (at 50i format)
Programable Gain	-3, 0, 3, 6, 9, 12, 18, 24, 30, 36, 42 dB (select in camera setup menu for L/M/H/TURBO)		
View finder			
CRT	2.0-inch monochrome		
Controls	BRIGHT, CONTRAST, PEAKING controls TALLY, ZEBRA, DISPLAY/ASPECT switches		
Horizontal resolution	500 TV lines (16:9, at center)		
Microphone	Ultra-directional stereo microphone (Detachable)		
Supplied accessories	HDVF-20A, HD Electric viewfinder (1)/ Stereo microphone, Super cardioid directional, external power supply type (1)/ Operation manual (1)/Lens cap (1)/Shoulder strap (1)/XLR cap (4)		
Optional accessories	HKDW-702, HD-SD Down Converter Board HKDW-703, Picture Cache Board HKDW-704, GPS Unit VCT-14, Tripod Adapter HDCA-901, Camcorder Adapter BKW-401, Viewfinder Rotation Unit BKDW-701, Servo Filter Unit RM-B150, Remote Control Unit RM-B750, Remote Control Panel HDVF-C750W, HD LCD Color Viewfinder BP-L60A/L90A, Lithium-ion Battery BP-M50/M100, Ni-MH Battery BC-L120, Battery Charger BC-M50, Battery Charger AC-550/550CE, AC Adapter	AC-DN2B, AC Adapter MSA-8A/16A/32A/64A, Memory Stick WRR-855A/855B, UHF Synthesized Tuner Unit WRR-810A/860A/862A/862B, UHF Synthesized Tuner Unit (A-8278-057-A, WRR mounting bracket required) ECM-MS5, Stereo Microphone C-74, Microphone CAC-12, Microphone Holder CRS-3P, Cradle Suspension CCXA-53, Audio Cable MLB-1M-100, Memory Label BCT-22HD/40HD, HDCAM tape cassette BCT-HD12CL, Cleaning Cassette LC-DS300SFT, Soft Carrying Case	

Optional Accessories

Sony VCT-14,
Tripod Adapter

Sony BVM-D9H5U,
Color Video Monitor

Sony VF-508,
Monitor ENG kit for Sony 9-type monitors

Sony Memory Stick,
MSA-8A/16A/32A/64A

Sony AC-DN2B,
AC Adapter

Sony BP-L60A/L90A,
Lithium-ion Battery

Sony BP-M50/M100,
Ni-MH Battery

Sony BC-L120,
Battery Charger

Sony BC-M50,
Battery Charger

Sony BKDW-701,
Servo Filter Unit

Sony BKW-401,
Viewfinder Rotation Bracket

Sony RM-B150,
Remote Control Unit for HDW-750

Sony WRR-855A/855B,
Wireless Microphone Receiver

Sony WRR-862A/862B,
Dual Diversity Microphone Receiver
(Adapter required)

BCT-40HD/22HD,
HDCAM Video Cassettes

CCXA-53,
Audio Cable

1-547-341-12, Fog-proof filter
A-8262-537-A, Viewfinder Eye-piece (High magnification)
A-8262-538-A, Viewfinder Eye-piece (Low magnification)
A-8267-737-A, Viewfinder Eye-piece (Standard magnification with special compensation for aberrations)
A-8314-798-A, Viewfinder Eye-piece (High performance, x3)
X-3608-271-1, Standard viewfinder lens
A-8278-057-A, Mounting bracket for WRR-862A/862B

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