Wide Choice of Audio Options*1

The PDW-F800/700 is compatible with a variety of microphones. Three shotgun-type microphones, the ECM-680S, ECM-678, and ECM-674, are available as options. The ECM-680S can operate in either stereo or monaural (uni-directional) mode, allowing it to be used in both EFP and ENG applications. Stereo mode is ideal for capturing environmental sound with a natural quality, while monaural mode is ideal for capturing clear voice and sound from a distance. These modes can be selected from the switch on the microphone or from the PDW-F800/700 itself. The camcorder is also equipped with a slot to accommodate the DWR-S01D*2 digital wireless microphone receiver, which provides two-channel audio with stable and secure transmission that's tolerant to interference waves. The WRR-855 series microphone receiver can also be used within this slot.

*1: No microphone is supplied with the PDW-F800/700.
*2: The digital wireless microphone system is not available in some countries where prohibited by local radio law.

DWT-B01
Digital Wireless Transmitter

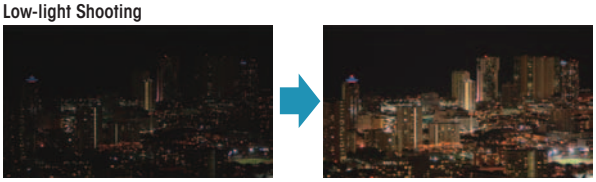
DWR-S01D
Digital Wireless Receiver

Slow Shutter

The shutter speed of the PDW-F800/700 is selectable down to a 16-frame period (in 2-, 3-, 4-, 5-, 6-, 7-, 8- and 16-frame periods*1). During such a long frame period, electrical charges accumulate on the CCDs, which dramatically increase sensitivity. This helps camera operators to shoot in extremely dark environments. The Slow Shutter function also allows operators to use shutter speeds longer than the frame rate and to intentionally blur images when shooting a moving object, for increased shooting creativity.

*1: Only even numbers of frame settings are available in 720 mode. Slow Shutter cannot function with the Digital Extender.

Low-light Shooting



Normal　　Slow Shutter

Creating an Intentional Blur Image

Normal　　Slow Shutter

Interval Recording

The PDW-F800/700 offers an Interval Recording function which intermittently records signals at pre-determined intervals. This is convenient for shooting over long periods of time, and also when creating pictures with special effects that include extremely quick motion.

Picture Cache Recording and Disc Exchange Cache

The PDW-F800/700 offers a Picture Cache Recording function that is especially useful in ENG applications. Up to 30 seconds of audio and video signals are buffered into the camcorder's internal memory before the Rec start button is even pressed (when in Standby mode). This means that everything that happened 30 seconds before the Rec start button was pressed will still be recorded on to the disc, helping to prevent the loss of any unexpected, yet important events. The caching period can be adjusted by a menu setting. This camcorder cache memory also allows users to exchange discs while recording. By removing a disc from the drive and inserting a new disc within 30 seconds, video, audio and time code can be recorded seamlessly onto the new disc.

Live & Play Function*1

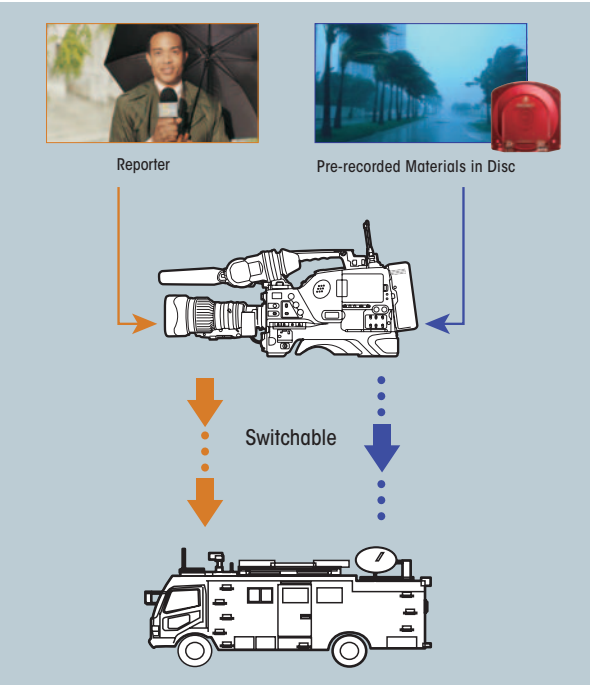
The PDW-F800/700 camcorder has a Live & Play function that allows users to check both playback signals (images already recorded) and incoming camera signals (images seen through the viewfinder) simultaneously, and sequentially output them without any switching noise. Both signals are fed to their respective output and viewfinder connectors independently, and can be viewed at the same time. This allows users to frame the next shot, adjust the exposure, and then focus the lens while the camcorder is playing back the pre-recordings from the disc. For instance, the camcorder can be used to perform the following three stages of a news broadcast:

1. The introduction to a news report (Output of incoming camera signals)
2. Pre-recorded clips (Output of playback signals)
3. The conclusion of the report (Output of incoming camera signals)

*1: Only one of the following functions can work at any one time:

1. Live & Play function
2. Focus Magnification
3. Letter Box mode in SD down-conversion
4. In-phase output between HD and SD.

Application Example at News Gathering



Affordable MPEG TS Option for Field and Satellite Transmission

The HDCA-702 MPEG TS Adaptor, which can be docked onto the PDW-F800/700 camcorder, transmits an MPEG Transport Stream (TS) of MPEG-2 MP@HL via DVB-ASI output. Transmission can be simultaneous with the PDW-F800/700 recording to disc. The bit rate is selectable from 15 Mbps to 43.25 Mbps in 10-kbps steps, which is suitable for material transmission via microwave and satellite modulators. The frame pixel size is 1440 x 1080 or 1280 x 720. When the bit rate is 35 Mbps or higher, 1920 x 1080 mode can be selected instead of 1440 x 1080. In addition, the HDCA-702 can output MPEG-2 MP@H-14 (HDV 1080) at a rate of 25 Mbps over the i.LINK connector.

PDW-700 with HDCA-702

Shockless Gain Control

A wide choice of gain and an easy-to-use control system are remarkable features of the PDW-700 camcorder. By setting gain to the gain selector or assignable switches, the user can easily access the desired gain.
And the transition to each gain value is extremely smooth thus eliminating undesirable abrupt changes to the overall image.

ND and CC Filters

■ Optical ND Filters and Optical CC Filters: PDW-F800
The PDW-F800 comes equipped with wheel-type optical ND (Neutral Density) and CC (Color Correction) filters.

■ Optical ND Filters and Electrical CC Filters: PDW-700
The PDW-700 camcorder comes equipped with optical ND filters and electrical CC filters. With electrical CC filters, users can easily select a color temperature - 3200K/4300K/5600K/6300K - by rotation using a camcorder-assignable switch. Users can also obtain the specific value with just a single click, which is useful when there's a sudden change in the shooting environment and a quick setting is required.

Auto Tracing White Balance

The Auto Tracing White Balance function of the PDW-F800/700 automatically adjusts the camera's color temperature according to changes in the lighting conditions. This function is useful when recording outside for long periods, and the lighting changes gradually over time. If required, the user can hold the auto tracing at a desirable color balance via an assignable switch.

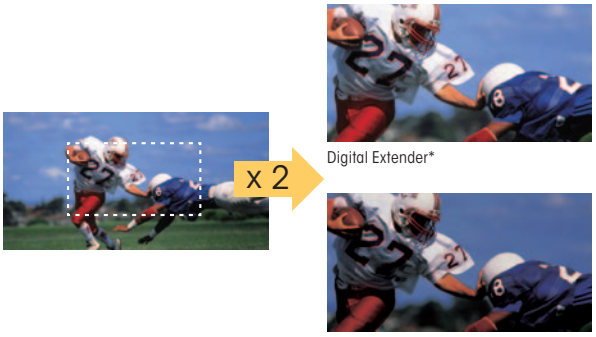
HyperGamma

HyperGamma is a powerful feature, which is inherited from Sony's CineAlta™ camcorders. The PDW-F800/700 provides four types of HyperGamma curve. Operators can select the best-suited preset gamma curve depending on the scene being shot and their desired 'look' for the image. All HyperGamma are quickly accessible via the set-up menu.

Digital Extender*1

The Digital Extender function of the PDW-F800/700 enables images to be digitally doubled in size. Unlike lens extenders, the Digital Extender function performs this capability without any loss of image sensitivity, which is often referred to as the F-drop phenomenon.

*1: Use of the Digital Extender function reduces image resolution by half. The Digital Extender function cannot operate with Slow Shutter.



Digital Extender*

Simulated Image

Lens Extender

Pool-feed Operation

For pool-feed operations, the optional CBK-HD01 and CBK-SC02 boards provide HD- and SD-SDI inputs, and SD composite input respectively.

Trigger REC Function

The PDW-F800/700 camcorder has a Trigger REC function that enables synchronized recording with PDW-F1600/HD1500/HR1/F75 XDCAM decks or HDCAM™ portable decks connected via the HD-SDI interface - a convenient feature for backup recording.

Planning Metadata Import via a Wi-Fi Adapter

With the optional CBK-WA01*1 Wi-Fi Adapter, users can import Planning Metadata via smartphones equipped with a wi-fi interface. Using metadata ensures a smooth workflow. Remote Live Logging operation is also possible with a smartphone or with PDZ-1 software on a PC.

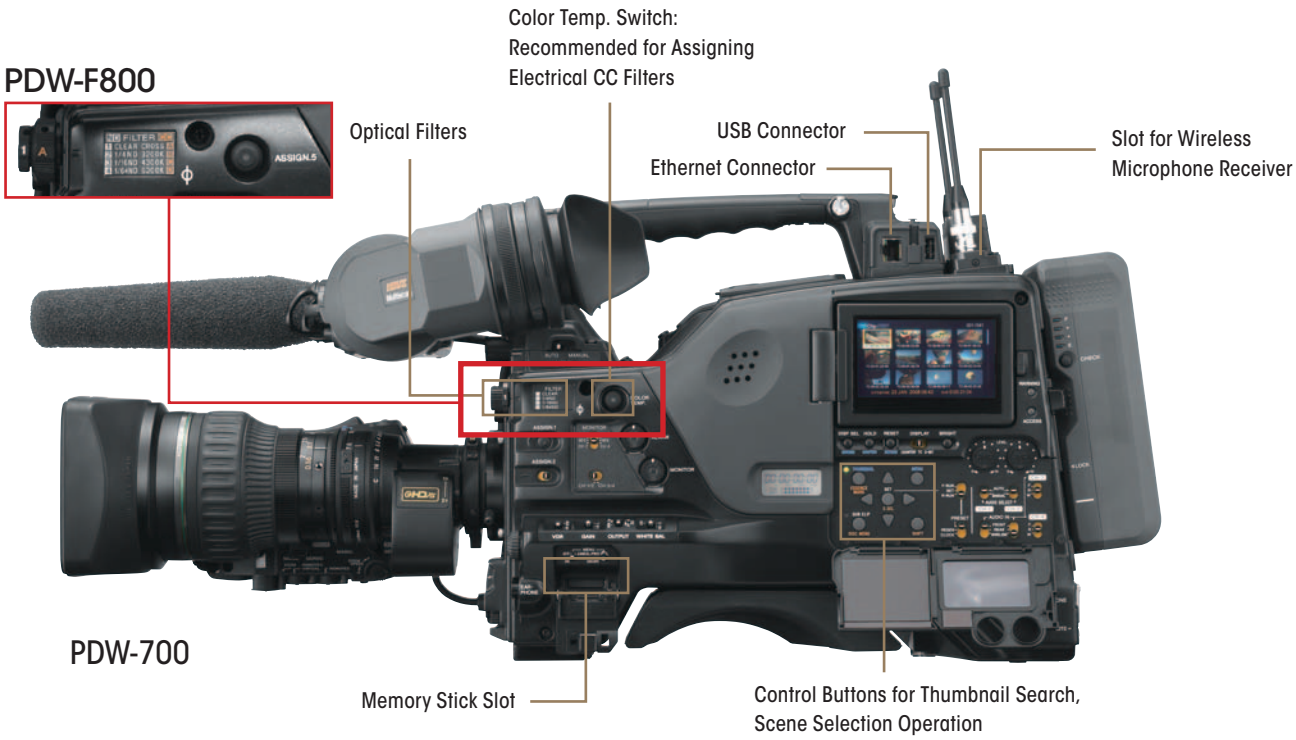
*1: An optional CBKZ-UPG01 key is required to operate the CBK-WA01 adapter.

Other Camcorder Features

- Compatible with a variety of remote control units*1: RM-B750/B150, MSU-1500/1000, and RCP-1530/1501/1500/1001/1000
- Two HD/SD-SDI outputs and a composite/HD-Y output
- Ethernet interface (100BASE-TX) and i.LINK (File Access Mode) interface
- Freeze Mix function: superimposes a previously recorded image on the viewfinder; this allows users to quickly and easily frame or reposition a subject when a shot must be taken from the same position or in the same framework as a previous take
- Focus Magnification function: magnifies the center of the screen on the viewfinder to twice its size, making it easier to confirm focus settings during manual focusing
- Single Clip Playback: allows users to play back just one selected clip
- Proxy Data recording on USB memory*2: provides two ways to record - in simultaneous recording mode with Professional Disc media, or (after clip selection) copy required clips from the recorded clips onto Professional Disc media
- Easy metadata input via a USB keyboard or software keyboard
- Direct FTP function: allows file transfer via Ethernet without a PC
- Customizable user menu: users can change the names of user menu files
- Six assignable buttons enable users to assign frequently used functions; there are two buttons on the camera handle, three on the inside panel (including a Color Temperature button) and an RET button on the lens
- Turbo Gain function: boosts camera gain up to +42 dB, which helps reproduce images in very low-light environments
- Memory Stick™, Memory Stick Pro™, and Memory Stick Pro Duo™ media (up to 4-GB) enable storage of camcorder setup files
- 3.5-inch*3-type color LCD to instantly review recorded footage
- Clip title indication on the viewfinder and LCD: allows users to see the clip file name when playing back and recording; users can also see the file name of the next shot while in standby
- Monochrome LCD: shows the time code and remaining recording time of the disc, even when power is off
- Extended Clear Scan (ECS)
- Intelligent light system synchronizes strobe on/off to the Rec start button
- Output markers such as SkinG, Safety, Aspect, and Center on HD-SDI OUTPUT
- CBKZ-UPG01 Software Upgrade Key
  - Live logging via Ethernet or Wi-Fi*4 connection: enables users, while recording, to register EssenceMark metadata with a real-time view of content
  - Planning Metadata upload via a Web browser
  - Enables CBK-WA01 Wi-Fi Adapter connection

*1: The operable distance (cable length) depends on cable characteristics. Please refer to the supplied operational manual.
*2: May not function properly with some USB flash memories, depending on their characteristics. Please refer to the supplied operation manual.
*3: Viewable area measured diagonally.
*4: The PDW-F800/700 requires an optional CBK-WA01 adapter.

Camcorder View



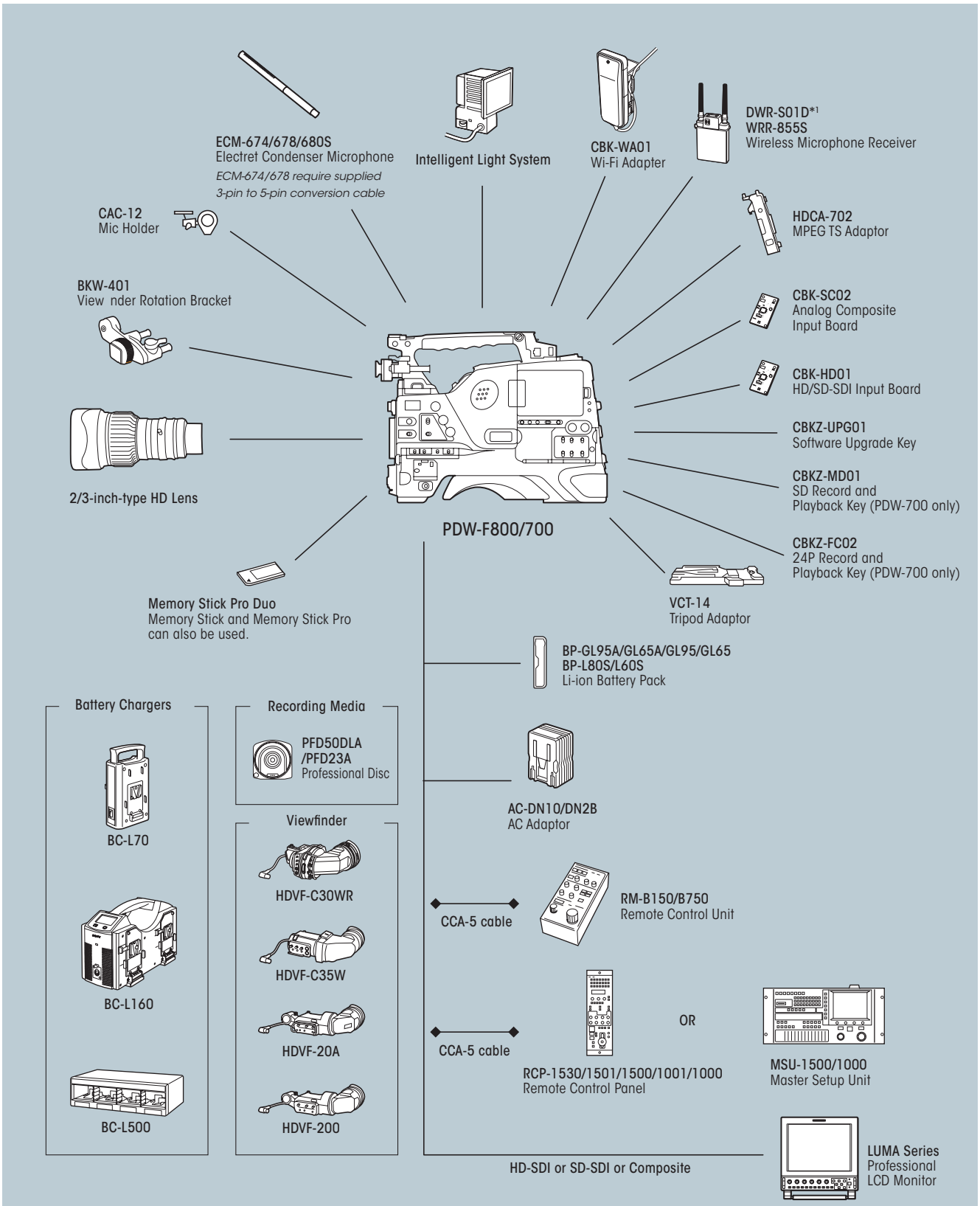
Top View

Connector Panel

Side

Rear

Camcorder System Diagrams



*1: The digital wireless microphone system is not available in some countries where prohibited by the radio law.

XDCAM HD422 Recording Deck

Full-HD/SD Standard
Compact Recorder
With Linear Editing Capability

PDW-F1600

Full-HD Standard
Compact Recorder

PDW-HD1500

PDW-F1600 Features

■ Linear Editing*1 using RS-422A control
- Assemble
- Audio/Video insert
- A/V split
- Pre-read edit
- Audio Punch IN/OUT

■ 1080/23.98p format recording and playback capability as standard CINEALTA

■ Supports SD (MPEG IMX/DVCAM) recording modes as standard

*1: Files generated by some NLE systems may not be edited.

PDW-F1600 and PDW-HD1500 Common Features

■ High-performance dual-optical head
■ Multi-format HD/SD recording/playback capability
- HD recording at up to 50 Mbps using MPEG HD422 (MPEG-2 4:2:2P@HL compression)
- Recording and playback in the MPEG HD format (MPEG-2 MP@HL compression)
- 1080i and 720p recording and playback
- Up/down-conversion and cross-conversion between 1080i and 720p
- Three types of picture output mode are supported for down-conversion: Edge Crop, Squeeze, and Letterbox (16:9/14:9/13:9)

■ High-quality eight-channel (HD-SDI) 24-bit audio recording
■ High-speed file transfer
- i.LINK File Access Mode (FAM)
- Gigabit Ethernet (1000BASE-T)

■ Direct FTP function: allows file transfer via Ethernet without a PC
■ RS-422A 9-pin remote control interface
■ A wide variety of video and audio inputs and outputs, including two HD-SDI outputs
■ Compatible with XDCAM carts: the PDJ-C1080 and PDJ-A640
■ Compact and lightweight: half-rack size and 6.5 kg (14 lb 5 oz)
■ AC, DC, or battery powered

- Built-in audio speaker
- Low power consumption: 65 W (DC powered) and 55 W (in power save mode, DC powered)
- Tilt-up front panel

Tilt-up

- A large easy-to-see 4.3-inch*1-type color LCD display
- Trigger REC function (synchronized recording with compatible camcorders*2)
- Video process control, by front panel operation or remote control panel via RS-422A
- Easy-to-use Jog/Shuttle dial
  - Jog: -1 to +1 times normal speed
  - Variable: -2 to +2 times normal speed
  - Shuttle: -20 to +20 times normal speed
  - Fast forward/rewind: -35/+35 times normal speed
  - A faster search mode can be used (approx. -50/50 times) in shuttle and fast forward/rewind
- Single Clip Playback for playout operation: allows users to play back just one selected clip
- Easy metadata input via USB keyboard*3 or software keyboard
- VANC (Vertical Ancillary) metadata recording and playback
  - Multiple VANC packets: handles nine packets per three lines (up to four packets in one line) and 18 packets per one frame
  - Closed-caption recording and playback via SDI input and output: SD (EIA-608), HD (EIA-708)
  - Closed-caption conversion recording: SD (EIA-608) closed-caption signals on SD-SDI input can be recorded as HD (EIA-708) closed captions
  - Optional PDBZ-UPG02 key expands functionality
- Disc Exchange Cache (up to 30 seconds)
- Clip Continuous REC function via RS-422A or HD-SDI using a Trigger REC function
- Optional accessories that enhance operational features:
  - PDBK-201 MPEG TS IN/OUT Board: allows users to input and output an HDV™ compatible stream in 1080i/720p format
  - PDBZ-UPG02 Software Upgrade Key
    - Expands functionality for closed-caption handling
    - User Bit Insert
  - PDBK-F1500*4 24P Record and Playback Key: includes an SD (MPEG IMX/DVCAM) recording/playback capability
  - PDBK-S1500*4 (MPEG IMX/DVCAM) Recording and Playback Key

*1: Viewable area measured diagonally.
*2: PDW-F800/700, HDW-650 Series, HDW-790, and HDW-F900R camcorders.
*3: Some keyboards cannot be used. Please refer to the supplied manual.
*4: For the PDW-HD1500 only. The PDW-F1600 has this capability as standard.

Inputs/Outputs

PDW-F1600/HD1500 Inputs/Outputs

		PDW-F1600/HD1500
Signal input	SDI (HD/SD switchable)	BNC x 1
	Reference	BNC x 1
	Reference/Through	BNC x 1
	Analog Audio (Line)	XLR x 2
	Digital Audio, AES/EBU	BNC x 2, 4 Ch (2 Ch each, 1/2 Ch and 3/4 Ch)
	Time Code	BNC x 1
Signal output	HD-SDI	BNC x 1
	HD-SDI	BNC x 1 (Character On/Off)
	SD-SDI	BNC x 1
	SD-SDI	BNC x 1 (Character On/Off)
	SD Composite	BNC x 1
	SD Composite	BNC x 1 (Character On/Off)
	Analog Audio Line	XLR x 2
	Analog Audio Monitor	XLR x 2
	Digital Audio, AES/EBU	BNC x 2, 4 Ch (2 Ch each, 1/2 Ch and 3/4 Ch)
	Time Code	BNC x 1
IT	i.LINK	6-pin x 1*1, File Access Mode or HDV*2 1080i/720P
	Ethernet	1000Base-T/100Base-TX/10Base-T x 1
Others	Phones	Stereophone-jack x 1
	Remote	D-sub 9-pin x 1, RS-422A
	Video Control	D-sub 9-pin x 1, EIA RS-423
	USB	x 2 (for maintenance)
Power	AC IN	x 1
	DC IN	XLR x 1
	DC OUT (12 V)	4-pin x 1

*1: An AV/C (DV) interface is NOT supported.
*2: Requires an optional PDBK-201 board.

PDW-F1600/HD1500 VANC Metadata (Closed Caption) Recording and Playback

Functions	Standard	PDBZ-UPG02
E to E output and recording		
HD-SDI (EIA708) input => HD-SDI output (EIA708)	●	●
HD-SDI (EIA708) input => SD-SDI output (EIA608)	-	●
HD-SDI (EIA708) input => HD recording (EIA708)	●	●
SD-SDI (EIA608) input => SD-SDI output (EIA608)	●	●
SD-SDI (EIA608) input => HD-SDI output (EIA708)	-	●
SD-SDI (EIA608) input => SD recording*1 (EIA608)	●	●
SD-SDI (EIA608) input => HD recording (EIA708 with "wrapped EIA608")	●	●
Playback		
HD recording (EIA708) => HD-SDI output (EIA708)	●	●
HD recording (EIA708 with "wrapped EIA608") => HD-SDI output (EIA708)	●	●
HD recording (EIA708 with "wrapped EIA608") => SD-SDI output (EIA608)	-	●
SD recording*1 (EIA608) => SD-SDI output (EIA608)	●	●
SD recording (EIA608) => HD-SDI output (EIA708)	-	●
HD cross conversion playback: 1080 (EIA-708) <=> 720 (EIA-708)	-	●

*1: The PDW-HD1500 requires an optional PDBK-S1500 or PDBK-F1500 hardware key.

PDW-F1600/HD1500 Rear Panel

XDCAM HD422 Hybrid Field Recorder

HD/SD Field/In-house
Multi-purpose Recording Device

PDW-HR1/MK1

PDW-HR1/MK1 Features

- Multi-format HD/SD recording/playback capability
  - XDCAM Optical disc and SxS media support
  - HD recording at up to 50 Mbps using MPEG HD422 (MPEG-2 4:2:2P@HL compression)
  - Recording and playback in MPEG HD format (MPEG-2 MP@HL compression)
  - 1080i and 720p recording and playback
  - Up/down-conversion and cross-conversion between 1080i and 720p
  - Three types of picture output mode are supported for down-conversion: Edge Crop, Squeeze, and Letterbox (16:9/14:9/13:9)
- 1080/23.98p format recording and playback capability as standard

CINEALTA

- Supports SD (MPEG IMX/DVCAM) recording modes as standard
- 9-inch*3-type WVGA LCD
- Built-in stereo speaker
- AC, DC, or battery powered

- Easy-to-use Jog/Shuttle dial
  - Jog: -1 to +1 times normal speed
  - Shuttle: -20 to +20 times normal speed
- Disc Exchange Cache (up to 30 seconds)
- Trigger REC function (synchronized recording with compatible camcorders*4)

- Excellent user interface for EDL-based (non-destructive) editing
  - Intuitively operable key panel
  - VTR-editing-like GUIs
  - External-player device control (eg, a VTR/XDCAM deck) via the RS-422A interface