

# Panasonic

# P2HD

## AJ-PD500

Memory Card Recorder



AVC ULTRA AVC INTRA AVC LONG G P2 P2 micro P2 HDmi HIGH-DEFINITION MULTIMEDIA INTERFACE

# AVC-ULTRA\*1 Support for Everything from Mastering-Level Image Quality to Low-Bit-Rate Transmission, Together with Network Solutions and New Compact microP2 Cards. A Half-Rack Size Recorder for a High-Quality, Cost-Effective Workflow.

This P2HD recorder supports today's network-based workflow while interfacing with conventional broadcast systems. In addition to conventional P2 card slots, the AJ-PD500 offers microP2 card slots, which dramatically reduce media costs.

AVC-ULTRA\*1 codecs let you choose the quality and bit rate that suit your application from AVC-Intra200, which produces images that approach the level of uncompressed master quality; the popular AVC-Intra100/50; AVC-LongG50/25, with low-bit-rate operation and Full-HD 1920 × 1080, 4:2:2, 10 bit image quality; and AVC-LongG12, with 8 bit, 4:2:0 images and extended recording time. Lower-rate AVC-Proxy recording enables previewing, metadata input, and playlist editing over a network. In addition to handling DVCPRO HD/DVCPRO50/DVCPRO/DV codec recording and AVCHD playback.\*2

The 3U half-rack size unit houses a wide range of interfaces, including Gbit Ethernet LAN, USB 3.0 (HOST), parallel remote, and RS-422A, while easy use is assured by JOG/SHTL/MENU dial operation. AC/DC power operation enables versatility – from outdoor use to mounting in an OB van or studio installation – for a wide range of broadcast applications.

\*1: AVC-ULTRA is the name of Panasonic's professional video codec family. The AJ-PD500 does not support all of the formats included in the AVC-ULTRA family.

\*2: Requires the optional AJ-YCX500G AVCHD Codec Board.

The use of DCF Technologies is under license from Multi-Format, Inc.



## AVC-ULTRA Includes High-Quality AVC-Intra200 Codec

From mastering to streaming, the image quality and bit rate can be selected to match the application. Panasonic's professional A/V codec family, AVC-ULTRA, is provided as standard equipment for the first time ever, to meet the particular needs of broadcasting and image production.



AVC-ULTRA Codec LSI

**AVC Intra** An intra-frame compression method that is highly suited to image production. In addition to the conventional AVC-Intra100/50 codec, the AJ-PD500 features the AVC-Intra200 codec with twice the bit rate (10 bit quantization, 4:2:2 sampling, and a bit rate of approximately 200 Mbps\*1). With superb images that approach uncompressed quality and 24 bit audio, it offers a level of quality that meets the needs of mastering and archiving.

**AVC Long G** An inter-frame compression method that achieves high-quality HD recording at a low bit rate. Ideal for providing on-air content direct from the shooting location and for workflows using content transferred over the internet. Three bit rates are available: AVC-LongG50/25/12 Mbps. AVC-LongG25 provides 10 bit/4:2:2 quality at a bit rate of approximately 25 Mbps.

**AVC Proxy** Low-bit-rate, high-resolution, high-sound-quality proxy video (Quick Time/H.264) is also recorded with the actual data.\*2 Also includes metadata for efficient offline editing. See the table (AVC-Proxy Recording Modes and Recording Signals) on Page 5.



\*1: For 1080/59.94i. \*2: Proxy data cannot be recorded when using AVC-Intra200, Loop Rec, Simul Rec, 480/59.94i and 576/50i. Proxy data refers to file-based data of low-bit-rate motion images and audio together with management data, such as a time code and metadata.

The use of DCF Technologies is under license from Multi-Format, Inc.

## Network Solutions

The low-rate AVC-Proxy including AVC-LongG6 codecs are well suited to high-speed workflows using a LAN or the internet. Their image and sound quality is high enough for use as a direct broadcast source for breaking news over the internet. They also allow images to be clearly confirmed for offline editing, to greatly streamline the workflow. The AJ-PD500 features a Gbit Ethernet LAN terminal, FTP client function, and FTP/Samba server function for file transfers over a LAN or the internet.\* An HTTP server function can also be accessed from a web browser to provide the following solutions.

\*Samba server function supports download only.

## Standard-Equipped microP2 Card Slots

The AJ-PD500 is equipped with two slots for the microP2 card, the new broadcast-use memory card downsized to match the size of a conventional SD memory card.

- **microP2 card:** While inheriting the high reliability of the P2 card and maintaining the large capacity of 64 GB,\*1 the microP2 card was greatly downsized to match the size of an SD memory card, thus resulting in a considerable reduction in cost.

- **Content Protection System (CPS):** A new security function featured on the microP2 card. The content recorded on the card is locked with a password to protect against unauthorized access. This prevents data from being stolen and enables secure media control.

- **P2 Card Slots:** Two conventional P2 card slots can be used.\*2

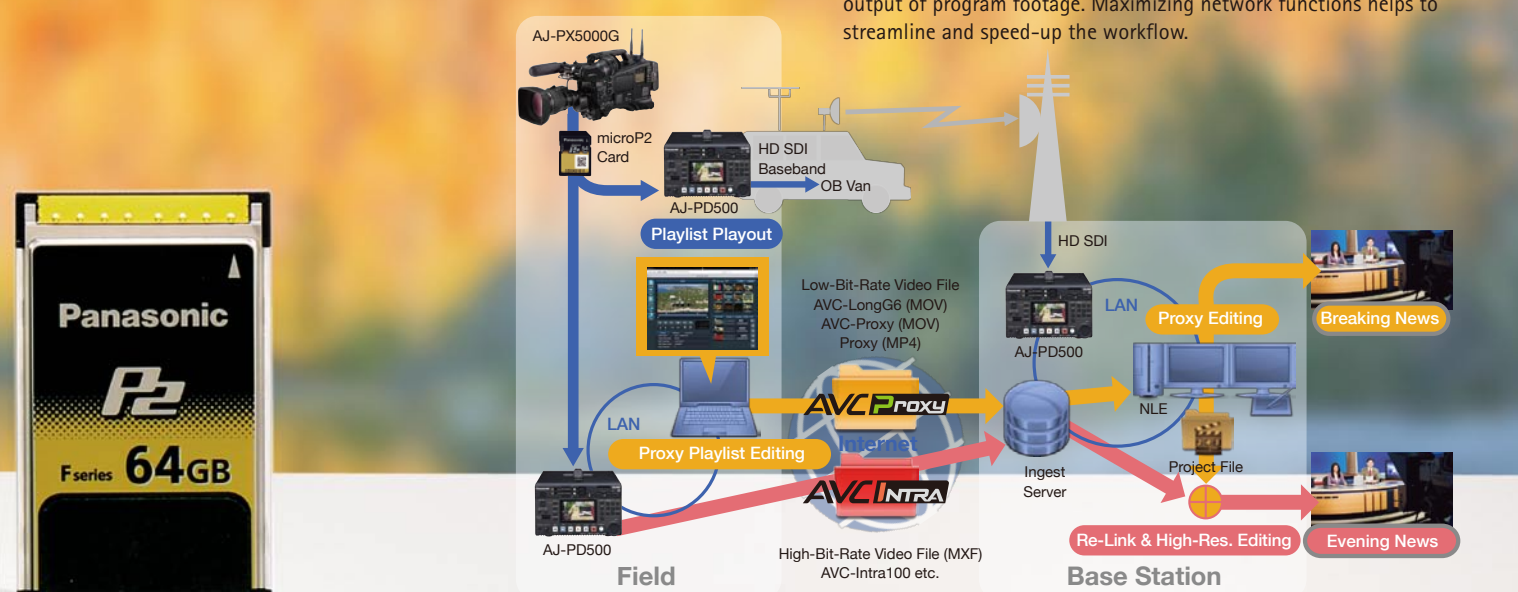
- **Highly Mobile and Reliable:** The microP2 and P2 cards are highly resistant to temperature changes, dust, impacts, and vibration, and there are no worries about condensation, head clogging, or dropout as there are with VTR systems. Data is recorded onto empty card spaces, so there is no need to search for the beginning and ending of recorded portions. There is also no danger of mistakenly recording over existing data.



\*1: Total card capacity includes space for data management, such as system data; therefore, the actual usable area is less than the capacity indicated on the card. See the "Recording Times" table on Page 5 for recording times.

\*2: The microP2 card and P2 card cannot be used simultaneously.

- **Proxy Preview:** AJ-PD500 clips can be displayed as thumbnail images on a PC or Mac for previewing and streaming proxy images.
- **Metadata Editing:** The metadata on AJ-PD500 clips can be searched and edited (or input) on a PC or Mac. The actual data and proxy data both share the metadata, so the edited results can also be reflected in the actual data.
- **Playlist Editing:** Playlists can be edited and saved. They can also be played, SDI output, and copied using a web application. After editing the playlist on location or over the internet, proxy-image news flashes can be transmitted from the playlist. Then, the actual data can be FTP transferred or carried to the studio, and the previously sent playlist can be used for SDI output of program footage. Maximizing network functions helps to streamline and speed-up the workflow.



# Broadcast Functions and Versatile Interfaces in a 3U Half-Rack Size

## AVCHD Playback\* and DVCPRO Series REC/Playback

AVCHD playback\* and recording with DVCPRO Series codecs (DVCPRO HD/DVCPRO50/DVCPRO/DV) are supported. A wide range of needs can be met for different users by selecting and adding to the system.

- **AVCHD Playback\*:** Mounting the optional AJ-YCX500G AVCHD Codec Board allows use of a variety of AVCHD and other broadcast content.
- **DVCPRO Series Codec Recording:** Record/Playback with DVCPRO HD, DVCPRO50, DVCPRO, and DV codecs. For SD images, both NTSC (480i) and PAL (576i) systems are supported.

\* Optionally available. Playback of all files recorded by AVCHD equipment cannot be guaranteed.

## High-Quality 24 bit Audio Recording

High-quality 24 bit digital audio\* recorded by AVC-Intra and AVC-LongG codecs is supported. Recording and playback of 48 kHz/24 bit/8 channel audio is possible with the AVC-Intra200 codec.

\*To play video clips recorded with 24 bit audio, use a 24 bit compatible P2 device or P2 viewer. A P2 device that is not 24 bit compatible will display the clip number in red, and playback will not be possible. A P2 viewer that is not 24 bit compatible will not produce normal sound. Use the latest P2 viewer version. For current information on 24 bit compatible P2 devices and P2 viewers, see the Service and Support section of the Panasonic website (<http://panasonic.biz/sav/>).

## Multi-Functional Recording with Two Pairs of Card Slots\*1

In addition to being able to selectively or continually record onto two card slots each for microP2 and P2 cards, a host of exclusive memory card recording functions are available.

- **Hot-Swap Rec:** Thanks to the two card slots, you can hot-swap P2 cards for continuous non-stop recording. With multiple cards you can record for hours without interruption.
- **Simul Rec\*2:** The same data can be recorded simultaneously onto microP2 and P2 cards to provide a very safe recording mode.
- **Auto Rec:** This mode automatically starts recording in response to SDI video input.
- **Loop Rec\*3:** This is an endless recording mode in which older data is overwritten by newer data. When used with cameras for time-sensitive information gathering, like weather and news reporting, the Loop Rec mode holds the latest video data for a predetermined time period.

\*1: Continuous recording cannot extend over both microP2 and P2 cards.

\*2: Simul REC cannot record when 1080/59.94p, 1080/50p, 1080/23.98PsF, 1080/24PsF, 1080/25PsF, 1080/29.97PsF and AVC-Intra200.

\*3: Loop REC cannot record when 1080/24PsF, 1080/25PsF, 1080/29.97PsF and AVC-Intra200.

## Text Memo, Shot Marker and Metadata

- **Text Memo:** When recording or previewing a clip, you can attach a memo (similar to a bookmark) at a desired location (up to 100 locations on a frame basis). The simplified editing function lets you copy a segment between memos and create a new clip. Text information can be added to a memo.
- **Shot Marker:** During or after recording, you can mark each clip with OK, NG or another designation.
- **Clip Metadata:** This function lets you browse and edit metadata, such as the name of the camera operator and reporter, shooting location and text memos. Metadata files can be uploaded from an SD/SDHC/SDXC card.

## USB Keyboard Connection

The USB 2.0 keyboard terminal lets you connect an ordinary USB keyboard for easy metadata text input. A software keyboard is also provided.

## Gamma Conversion for Cinema Production

This function converts images recorded by a VariCam or images recorded in the Film Rec mode of the AJ-HPX3100 to achieve the same kind of film-like look as the Telecine 5 or Telecine 6 mode of the AJ-GBX27G HD Gamma Corrector. It can also convert to the Cineon curve for film recording.

## Thumbnail, Ordinary Image and Waveform Display on an 8.76 cm (3-1/2 inches) LCD

- **Thumbnail Display:** Thumbnail images can be freely arranged for display, allowing instant playback, deletion or copying of selected clips.
- **Image Full-Screen Display:** Allows use as a recording or preview monitor.
- **WFM:** The AJ-PD500 has waveform and vectorscope display functions for the playback or input video signal on the LCD monitor. It can also display on Video Out and SDI Out.



## Versatile Playback Functions

- **Auto Playback:** This automatically detects the codec for each video clip to play back and output.
- **PB Position Selection:** This lets you select the playback position when playing from a thumbnail image. You can select from three different options: Previous playback position, thumbnail time code position, or the beginning of the clip.
- **One-Clip Playback:** This convenient function lets you play only one clip with one-touch operation.
- **Repeat Playback:** This plays the selected clip (single or multiple) repeatedly.

## Multi-Control Dial

In addition to VTR-like Jog and Shuttle playback, this dial lets you scroll when setting Menu items, and easily set the audio level.



## User Buttons/User Files

Functions can be freely allocated to the six user buttons. These settings are saved internally and protected when the power is turned off. They can also be easily checked on a diagnostic display. A user file containing the settings can be saved onto an SD/SDHC/SDXC card.

## Up/Down/Cross Convert Playout

The AJ-PD500 is capable of up conversion (SD to HD), down conversion (HD to SD) and cross conversion between HD signals (1080p, 1080i and 720p) during playback.

### USB 3.0 Interface Allows High-Speed Transfers

- **USB 3.0 (Host):** AVC-LongG25 codec files can be copied to external storage\*1 at approximately 12 times faster than real time.
- **USB 2.0 (Device):** Device mode allows use as a P2 card drive for a PC (nonlinear editor).
- **Playback from External Storage:** P2 MXF files in external storage can be displayed as thumbnails and played back.\*2



USB3.0/External Storage

\*1: 2 TB or more cannot be used.  
 \*2: Playback is based on disk drive performance, including spindle speed. Panasonic cannot guarantee smooth playback without dropped frames.

### 3G-SDI Input and Three 3G-SDI Outputs

3G-SDI input and three 3G-SDI outputs are standard features. This enables high-quality line recording from a video camera, switcher, etc. When connected to a camera recorder, Rec Start/Stop can be linked to the camera trigger. Super and thumbnail displays can be output.

### Gigabit Ethernet LAN Port

The AJ-PD500 is provided with an Ethernet port (1000Base-T/100Base-TX/10Base-T) and features the following network functions. This enables the AJ-PD500 to connect to a network without using a PC for easy file transfers over the internet.

- **FTP Client Function:** This function lets you connect the AJ-PD500 to an FTP server to send or receive clips to or from the FTP server.
- **FTP/Samba Server Function:** You can access the AJ-PD500 from a PC via a LAN to upload\* or download files.
- **HTTP Server Function:** You can view thumbnails and metadata from a PC.

\*FTP server function only.

### AES/EBU Digital Audio Input/Output

AES/EBU digital audio (4 channel, BNC terminals) input/output is a standard feature for interfacing with digital audio devices and digital VTRs.

### Parallel Remote (15 Pin) Terminal

A 15 pin parallel remote terminal with function assign-ability lends flexibility to user system designs.

### HDMI Digital HD Output

The AJ-PD500 features an HDMI output terminal\*, the next-generation interface for HD images and sound. This provides digital output for a wide variety of both professional and consumer devices.

\* An optional adaptor cable may be necessary for connecting a professional monitor.



### RS-422A Remote

The AJ-PD500 also features the same RS-422A remote terminal (9 pin) that is found on many broadcast VTRs, allowing it to be controlled as a player by an external editing controller.

### Analog Input/Output Terminals

The AJ-PD500 has Ref input, analog video monitor (composite) output,\* XLR analog audio inputs/outputs (Ch 1/Ch 2), time code input/output, and a headphone output jack.

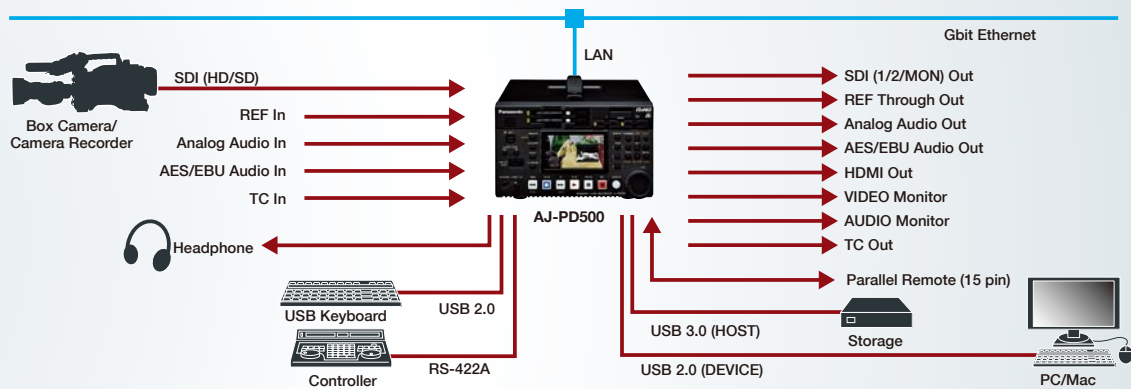
\* This is not output when the system frequency is 24 Hz.

### Compact, Lightweight Design, AC/DC Power Supply, and Built-in Speaker

- Compact, 3U half-rack size and light weight of approximately 3.65 kg (8.1 lbs) are ideal for OB van use.
- AC/DC power supply. Compatible with 100-240 VAC power and 12 VDC battery drive for both studio and field use.
- A built-in front speaker enables audio monitoring.

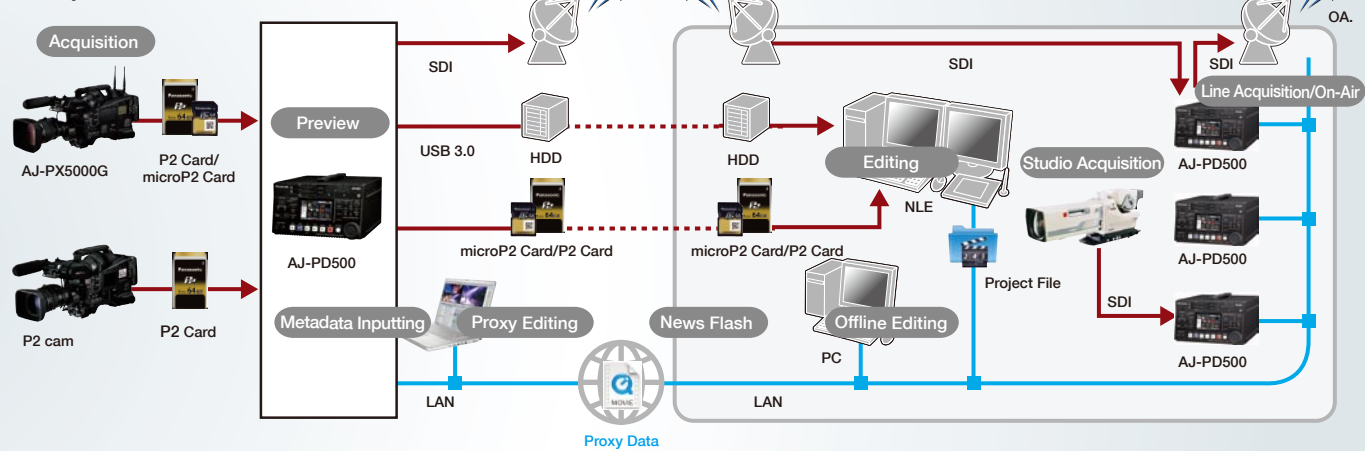


## AJ-PD500 Input/Output I/F



\*This cannot be used as an editing recorder.

## Example of AJ-PD500 Workflow



## Recording and Playback Codecs

Compression Formats	Video Formats				
	1080/29.97PsF 1080/25PsF 1080/24PsF 1080/23.98PsF	1080/59.94i 1080/50i	720/59.94p 720/50p	1080/59.94p 1080/50p	480/59.94i 576/50i
AVC-Intra200	Recording/Playback	Recording/Playback	Recording/Playback	—	—
AVC-Intra100	Recording/Playback	Recording/Playback	Recording/Playback	Recording/Playback < 3G-SDI >	—
AVC-Intra50	—	Recording/Playback	Recording/Playback	—	—
AVC-LongG50	Recording/Playback	Recording/Playback	Recording/Playback	—	—
AVC-LongG25	Recording/Playback	Recording/Playback	Recording/Playback	Recording/Playback < 3G-SDI >	—
AVC-LongG12*	Recording/Playback	Recording/Playback	Recording/Playback	Recording/Playback < 3G-SDI >	—
DVCPRO HD	—	Recording/Playback	Recording/Playback	—	—
DVCPRO 50	—	—	—	—	Recording/Playback
DVCPRO	—	—	—	—	Recording/Playback
DV	—	—	—	—	Recording/Playback

## Recording Times\*

Recording format (Compression Format) 59.94Hz/50Hz	Card x 1		
	16 GB	32 GB	64 GB
AVC-Intra200	Approx. 8 min.	Approx. 16 min.	Approx. 32 min.
AVC-Intra100/ DVCPRO HD	Approx. 16 min.	Approx. 32 min.	Approx. 64 min.
AVC-LongG50/ AVC-Intra50/ DVCPRO 50	Approx. 32 min.	Approx. 64 min.	Approx. 128 min.
AVC-LongG25/ DVCPRO/DV	Approx. 64 min.	Approx. 128 min.	Approx. 256 min.
AVC-LongG12	Approx. 108 min.	Approx. 220 min.	Approx. 440 min.

## AVC-Proxy Recording Modes and Recording Signals

Recording Mode	Video			Audio		
	Resolution	Codec	Bit Rate	Codec	CH	Bit Rate/1CH
AVC-G6 2CH MOV	1080i mode: 1920 x 1080 720p mode: 1280 x 720	H.264 High Profile	6 Mbps	AAC-LC	2 CH	64 kbps
SHQ 2CH MOV	960 x 540	H.264 High Profile	3500 kbps	Linear PCM	2 CH	768 kbps
HQ 4CH MOV	640 x 360	H.264 High Profile	1500 kbps	AAC-LC	4 CH	64 kbps
HQ 2CH MOV	640 x 360	H.264 High Profile	1500 kbps	AAC-LC	2 CH	64 kbps
LOW 2CH MOV	1080i mode: 480 x 270 1080 60/50p mode: 320 x 180	H.264 Baseline Profile 800	800 kbps	AAC-LC	2 CH	64 kbps
STD 2CH MP4	320 x 240 (QVGA)	MPEG-4 Simple Profile	1500 kbps	AAC-LC	2CH	64 kbps

\* For 1080/59p and 1080/50p, the recording times become 1/2 of those shown above. All of the times apply when single clips are recorded continuously one after the other onto a P2 card. Depending on the number of clips to be recorded, the recordable time may be shorter than the times given.



**AJ-P2M064AG**  
**AJ-P2M032AG**  
Memory Card  
“microP2 card”



**AJ-YCX500G**  
AVCHD Codec Board

**Avid NLE Plug-In Software**



**AJ-PS001G**  
Software Key  
for AVC-Proxy re-link.



**AJ-PS002G**  
Software Key  
for AVC-Intra50/100 P2 file export.



**AJ-PS003G**  
Software Key  
for AVC-LongG P2 file export.



**AJ-PS004G**  
Software Key  
for AVC-LongG file import to edit.



**AJ-P2E064FG**  
**AJ-P2E032FG**  
Memory Card  
“P2 card F series”



**AJ-P2AD1G**  
Memory Card Adapter



SD/SDHC/SDXC  
Memory Card

SPECIFICATIONS

**General**

Power Source:	AC 100–240 V, 50 Hz/60 Hz, 45 W DC 12 V, 3.6 A (included option)
Operating Temperature:	0 °C to 40 °C (32 °F to 104 °F)
Operating Humidity:	10 % to 80 % (no condensation)
Storage Temperature:	–20 °C to 50 °C (–4 °F to 122 °F)
Weight:	3.65 kg (8.05 lbs) (main unit only)
Dimensions:	210 mm (W) x 125.5 mm (H) x 253 mm (D) (8-9/32 inches x 4-15/16 inches x 9-31/32 inches) (not including the Handle, set foot, knob and terminal)
Recording Media:	P2 card, microP2 card
Recording Formats:	AVC-Intra200/AVC-Intra100/AVC-Intra50/AVC-LongG50/ AVC-LongG25/AVC-LongG12/DVCPRO HD/DVCPRO50/DVCPRO/ DV (selectable)
Proxy:	File Format: MP4 (ISO/IEC14496 standard), MOV (QuickTime format) Video Compression Formats: MPEG4 Simple Profile, H.264/AVC Baseline Profile, H.264/AVC High Profile Audio: AAC-LC, Linear PCM
Video Recording Signals:	1080/59.94p, 1080/50p, 1080/59.94i, 1080/50i, 1080/29.97PsF, 1080/25PsF, 1080/24PsF, 1080/23.98PsF, 720/59.94p, 720/50p, 480/59.94i, 576/50i
Audio Recording Signals:	AVC-Intra200/AVC-LongG50/AVC-LongG25: 48 kHz 24 bit 8 CH AVC-LongG12 : 48 kHz 16 bit 4 CH AVC-Intra100/AVC-Intra50 : 48 kHz 24 bit 8 CH 48 kHz 16 bit 8 CH DVCPRO HD : 48 kHz 16 bit 8 CH DVCPRO 50: 48 kHz 16 bit 4 CH DVCPRO/DV: 48 kHz 16 bit 4 CH
Recording Times:	See page 5 in this catalog for Recording Times.

**Video Specification (Digital Video)**

Sampling Frequency:	AVC-Intra200/AVC-Intra100/AVC-LongG50/AVC-LongG25/ DVCPRO HD: (59.94 Hz) Y: 74.1758 MHz, P <sub>B</sub> /P <sub>R</sub> : 37.0879 MHz (50 Hz) Y: 74.2500 MHz, P <sub>B</sub> /P <sub>R</sub> : 37.1250 MHz AVC-Intra100/AVC-LongG25 (1080/59p) Y: 148.3516 MHz, P <sub>B</sub> /P <sub>R</sub> : 74.1758 MHz (1080/50p) Y: 148.5000 MHz, P <sub>B</sub> /P <sub>R</sub> : 74.2500 MHz DVCPRO50 : Y: 13.5 MHz, P <sub>B</sub> /P <sub>R</sub> : 6.75 MHz DVCPRO : Y: 13.5 MHz, P <sub>B</sub> /P <sub>R</sub> : 3.375 MHz
Quantizing:	AVC-Intra200/AVC-Intra100/AVC-Intra50/AVC-LongG50/ AVC-LongG25: 10 bit AVC-LongG12/DVCPRO HD/DVCPRO50/DVCPRO/DV: 8 bit
Video Compression Methods:	AVC-Intra200/AVC-Intra100/AVC-Intra50: MPEG-4 AVC/H.264 Intra Profile AVC-LongG50/AVC-LongG25/AVC-LongG12: MPEG-4 AVC/H.264 High Profile DVCPRO HD: DV-Based Compression (SMPTE ST 370) DVCPRO50/DVCPRO: DV-Based Compression (SMPTE ST 314) DV: DV Compression (IEC 61834-2)
Color Sampling:	AVC-Intra200/AVC-Intra100/AVC-LongG50/AVC-LongG25: Y: P <sub>B</sub> : P <sub>R</sub> = 4: 2: 2
Resolution:	AVC-Intra100/AVC-LongG25/AVC-LongG12: 1920x1080 (1080/59.94p, 1080/50p) AVC-Intra200/AVC-Intra100/AVC-LongG50/AVC-LongG25/ AVC-LongG12: 1920 x 1080 (1080/59.94i, 1080/50i), 1280 x 720 (720/59.94p, 720/50p) AVC-Intra50: 1440x1080 (1080/59.94i, 1080/50i) 960x720 (720/59.94p, 720/50p)

**Audio (Digital Audio)**

Sampling Frequency:	48kHz (synchronized with video)
Quantizing:	AVC-Intra200/AVC-LongG50/AVC-LongG25: 24 bit AVC-Intra100/AVC-Intra50: 24 bit/16 bit (selectable) AVC-LongG12/DVCPRO HD/DVCPRO50/DVCPRO/DV: 16 bit
Headroom:	12 dB/18 dB/20 dB (selectable)
De-emphasis:	T1=50 μs, T2=15 μs (auto on/off)

**Video Input**

Reference Input:	BNC x 1, Auto switching of black burst/HD 3-value sync
SDI Input:	BNC x 1

**Video Output**

Monitor Output:	BNC x 1, SD analog composite
Reference through Output:	BNC x 1
SDI Output:	BNC x 2 (HD/SD switchable)
SDI Monitor Output:	BNC x 1 (HD/SD switchable)
HDMI Output*1:	HDMI x 1 (HDMI TypeA terminal), VIERA Link not supported

**Audio Input**

Analog Input:	XLR x 2 (CH1, CH2)
Digital Input:	BNC x 2 (CH1/2, CH3/4), AES/EBU Format
SDI Input:	BNC x 1

**Audio Output**

SDI Output:	BNC x 3
Analog Output:	XLR x 2 (CH1, CH2), Monitor Output (L/R) switchable
Digital Output:	BNC x 2 (CH1/2, CH3/4), AES/EBU Format
Headphone Output:	φ 3.5 mm Stereo Mini Jack x 1, 8 Ω, variable level
HDMI Output:	2 channels (linear PCM)
Internal Speaker:	Round x 1 (monaural)

**Other Input and Output**

Time Code Input:	BNC x 1, 0.5 V [p-p] to 8.0 V [p-p], 10 kΩ
Time Code Output:	BNC x 1, low impedance, 2.0 V ±0.5 V [p-p]
REMOTE:	D-SUB 9 pin x 1, RS-422A Interface
PARALLEL REMOTE:	D-SUB 15 pin x 1
LAN:	RJ-45 x 1, 1000BASE-T/100BASE-TX/10BASE-T
USB Host:	USB3.0 HOST (TYPE A) x 1
USB Device:	USB2.0 DEVICE (TYPE B) x 1
Keyboard*2:	USB2.0 (TYPE A) x 1 (maximum 100 mA)

**Standard Accessories**

AC cable, CD-ROM (Manuals)

Weight and dimensions shown are approximate. Specifications are subject to change without notice.

\*1: HDMI output does not support 480/59.94i and 576/50i. Convert to 480/59.94p and 576/50p for output.

\*2: This port is intended for keyboard connection. If the keyboard draws more than 100 mA, a protective circuit may shut down the unit.

Please refer to the latest product information, P2 Support, Download and Service Information, etc. at the following Panasonic web site.



<http://pro-av.panasonic.net/>

## Notes Regarding the Handling of P2 Files Using a PC

### Mounting and Transferring Files

The PC must be installed with the included P2 driver in order to recognize, copy and transfer P2 files. This driver is also necessary when using the PC card slot and when handling P2 files stored on a hard-disk device, such as P2 store. For other operating requirements, refer to the P2 installation manual. The P2 driver and the P2 installation manual can be downloaded free from a Panasonic website. Visit <<http://pro-av.panasonic.net/en/download/>>

### Preview and Nonlinear Editing

To preview (play) P2 files on a PC, it is necessary to install P2 Viewer Plus software (downloadable for free, for Windows and Mac), both from Panasonic, or P2-compatible editing software available from other companies (for details, visit [http://pro-av.panasonic.net/en/sales\\_o/p2/partners.html](http://pro-av.panasonic.net/en/sales_o/p2/partners.html)). Note that each software places specific requirements on the operating environment, and the operating environment must meet additional requirements to play and edit HD content on Windows PCs and Macs. For P2 Viewer Plus download and operating requirement information, visit <<http://pro-av.panasonic.net/en/download/>>. For operating requirements and details of other P2 editing software, visit the website of the relevant software manufacturer.

### Precautions When Using SD Memory Cards

On the Memory Card Recorder, use SD memory cards that conform to the SD standard, SDHC standard, or the SDXC standard. When performing proxy recording (extra-cost option), use SDHC memory cards, SDXC memory cards, or Panasonic SD memory cards with the class description of class2 or higher. The MMC (Multi Media Card) cannot be used. Be sure to format cards on the Memory Card Recorder before use. In this Memory Card Recorder, memory card of the capacity of SD (8 MB to 2 GB), SDHC (4 GB to 32 GB), and SDXC (32 GB to 128 GB) can be used.

“P2HD”, “AVC-Intra”, “AVC-LongG”, “AVC-Proxy”, “DVCPRO HD”, “DVCPRO 50” and “DVCPRO” logos are registered trademarks of Panasonic Corporation. SDHC logo and SDXC logo are trademarks of SD-3C, LLC. Quick Time is a trademark of Apple, Inc., registered in the U.S. and other countries.

# Panasonic®

**Panasonic Corporation**  
**AVC Networks Company**  
 2-15 Matsuba-cho, Kadoma, Osaka 571-8503  
 Japan  
<http://pro-av.panasonic.net/>

### [Countries and Regions]

Argentina	+54 11 4122 7200	Lebanon	+96 11665557
Australia	+61 (0) 2 9491 7400	Malaysia	+60 3 7809 7888
Bahrain	+973 252292	Mexico	+52 55 5488 1000
Brazil	+55 11 3889 4035	Netherlands, Belgium	
Canada	+1 905 624 5010		+31 73 640 2729
China	+86 10 6515 8828	New Zealand	+64 9 272 0100
Hong Kong	+852 2313 0888	Norway	+47 67 91 78 00
Czech Republic:	+421 (0) 903 447 757	Pakistan	+92 5370320 (SNT)
Denmark	+45 43 20 08 57	Palestine	+972 2 2988750
Egypt	+20 2 23938151	Panama	+507 229 2955
Finland, Latvia, Lithuania, Estonia		Philippines	+65 6277 7284
	+358 (9) 521 52 53	Poland	+48 (22) 338 1100
France	+33 (0) 1 47 91 64 00	Portugal	+351 21 425 77 04
Germany, Austria, Switzerland		Romania, Albania, Bulgaria, Macedonia	
	+49 (0) 6103 313887		+40 (0) 729 164 387
Greece	+30 210 96 92 300	Russia & CIS	+7 495 9804206
Hungary	+36 (1) 382 60 60	Saudi Arabia	+96 626444072
India	+91 1860 425 1860	Singapore	+65 6277 7284
Indonesia	+65 6277 7284	Slovak Republic, Croatia, Serbia, Bosnia, Montenegro, Slovenia	
Iran			+421 (0) 903 447 757
(Vida)	+98 21 2271463	South Africa	+27 11 3131622
(Panasonic Office)	+98 2188791102	Spain	+34 (93) 425 93 00
Italy	+39 02 6788 367	Sweden	+46 (8) 680 26 41
Jordan	+962 6 5859801	Syria	+963 11 2318422/4
Kazakhstan	+7 727 298 0891	Taiwan	+886 2 2227 6214
Korea	+82 2 2106 6641	Thailand	+662 731 8888
Kuwait	+96 522431385		

Turkey	+90 216 578 3700
U.A.E. (for All Middle East)	+971 4 8862142
	+380 44 4903437
Ukraine	+44(0)1344 70 69 13
U.K.	+1 877 803 8492
U.S.A.	+65 6277 7284
Vietnam	



JQA-0443



Factories of AVC Networks Company have received ISO14001:2004-the Environmental Management System certification. (Except for 3rd party's peripherals.)