

**Panasonic**  
ideas for life

**P2HD**

# AJ-HPM100

P2 Mobile — Memory Card Portable Recorder



Beijing 2008



Official Worldwide  
Olympic Partner

# Portable P2 HD/SD Multi-Format Recorder Delivers Ultra Flexibility and Efficiency



P2 solid state equipment offers features that can revolutionize the work flow in news gathering, program recording and program production. Now P2 is more mobile than ever, thanks to the new AJ-HPM100 Mobile Recorder. Referred to as the "P2 Mobile," the AJ-HPM100 brings P2's outstanding mobility and operational efficiency to new heights.

Inheriting the basic design concept of our popular DVCPRO Laptop Editors, the AJ-HPM100 combines HD/SD card recorder capabilities with an editing control panel, 9-inch LCD monitor and stereo speakers in a compact, rugged body. This portable unit handles everything from recording and viewing to playlist editing and broadcasting with on-the-go convenience.

In addition to IEEE 1394 and USB 2.0 interfaces for easy connection to a PC, the AJ-HPM100 comes equipped with broadcast interfaces for HD-SDI and HD component. The versatile AJ-HPM100 excels at a variety of tasks and is perfect from outdoors to the desktop and editing studio.

#### Supported Video Format

Recording:	1080/59.94i, 720/59.94p, 480/59.94i, 1080/50i, 720/50p, 576/50i		
Playback:	1080/59.94i, 1080/23.98p (over 59.94i), 1080/23.98pA (over 59.94i), 1080/29.97p (over 59.94i), 1080/50i, 1080/25p (over 50i), 720/59.94p, 720/23.98p (over 59.94p), 720/29.97p (over 59.94p), 720/50p, 720/25p (over 50p), 720/23.98pN (Native)*1, 720/29.97pN (Native) *1, 720/25pN (Native)*2, 480/59.94i, 480/23.98p (over 59.94i), 480/23.98pA (over 59.94i), 480/29.97p (over 59.94i), 576/50i, 576/25p (over 50i)		
	*1: Pull-down output to 720/59.94p *2: Pull-down output to 720/50p		
Cross Convert:	1080/59.94i ↔ 720/59.94p 1080/50i ↔ 720/50p		
Down Convert	1080/59.94i, 720/59.94p → 480/59.94i 1080/50i, 720/50p → 576/50i		
Up Convert:	480/59.94i → 1080/59.94i, 720/59.94p 576/50i → 1080/50i, 720/50p		

### Fast, Cost-Effective P2 Card Recording

The ultra-light P2 card holds 8 GB\*1 (AJ-P2C008HG) of data and transfers it at speeds\*2 up to 640 Mbps. The new AJ-HPM100 P2 mobile records AV data as MXF files, which expedites and streamlines news gathering and program production. Because the P2 card has no moving mechanisms, it offers outstanding reliability and high resistance to impact, vibration and temperature fluctuations. Reusable many times, the P2 card can reduce operating costs and minimize environmental impact.

\*1 Total card capacity includes space for data management such as system data, therefore, actual usable area is less than capacity indicated on the card. \*2 This data transfer speed is theoretical value. An actual data transfer speed varies according to operating condition and devices.

### Six P2 card Slots

With its six card slots, the AJ-HPM100 holds six 8GB P2 cards for recording up to 48 minutes of HD content. It will play a continuous, extended clip recorded in sequence onto six P2 cards. Or, you can mount five P2 cards shot by P2 cam, and output a playlist editing result to a sixth P2 card.

### HD/SD Multi-Format Operations

The AJ-HPM100 P2 mobile can record and play back in both 1080i and 720p using the DVCPRO HD codec. Also equipped with a 59.94 Hz/50 Hz selector, the AJ-HPM100 supports all HD broadcasting formats used anywhere in the world. This multi-format unit also records and plays back SD sources, supports both NTSC (480i) and PAL (576i) systems, and lets you record and play back in DVCPRO50, DVCPRO or DV.

### Up-/Down-/Cross-Conversion

The AJ-HPM100 can convert up or down between HD and SD or cross-convert between 720p and 1080i during playback. Also featuring an aspect conversion function, the versatile AJ-HPM100 can handle a wide range of video formats.

### Eight Channels of 16-bit Digital Audio

DVCPRO HD offers superb 16-bit linear PCM sound quality, with eight embedded channels for recording in 5.1-channel surround sound. The AJ-HPM100 P2 mobile uses HD-SDI for independent input/output and editing of all eight channels.

### Compatible with 720p

The AJ-HPM100 supports sources recorded in 720p native mode using the AG-HVX200 P2 Handheld Camera-Recorder. It provides 60p pull-down output from a 24p/30p native source, or 50p output from a 25p source.

### New AVC-Intra Codec Option Supported

The P2HD Series will also support the new AVC-Intra codec by mounting an optional board that will be available in June 2007. Based on the latest H.264 motion image compression standard, the new codec will provide intra-frame compression with a high compression rate for high image quality and precise editing. To enable versatile HD production, the AVC-Intra codec offers two modes: AVC-Intra 100 (1920/4:2:2/10 bits) for high-end, full-bit HD quality, and AVC-Intra 50 (1440/4:2:0/10 bits) for lower bit-rate, storage efficient operation with high image quality.

\*This requires a software upgrade for the recorder.





↑  
CIQ



Departures

Welcome Garden



Arrival Lobby is on the 2nd Floor.



## CLIP OPERATION AND PLAYLIST EDITING FUNCTIONS

### Clip Thumbnail Display on 9-Inch Monitor

The AJ-HPM100's built-in 9-inch LCD monitor not only serves as a playback monitor, it also displays clips in a thumbnail list. You can select a clip and play it back immediately. Each thumbnail is indicated with a text memo and a symbol that shows the presence or absence of a shot marker. You also can set the AJ-HPM100 to display only clips you select in the thumbnail list. You can select a thumbnail quickly and easily using the crosshair cursor buttons or jog dial.



### Clip Management

You can delete, copy or merge clips, or add a shot marker and text memo. Details of each clip can be viewed in a properties window.

### Jog/Shuttle Dial and Audio Fader

Like a broadcast editor, the AJ-HPM100 is equipped with a jog & shuttle dial. You can shuttle search at 100x normal speed in forward or reverse and jog search within a range of -1x to +1x speed. Audio can be monitored up to 10x speed. Equipped with large audio fader levers, the AJ-HPM100 also can be used as an audio mixer.

### Playlist Function Allows VTR-Like Nonlinear Editing

The P2 memory card makes an advanced playlist function possible. You can mark up to 100 events using In and Out points and play the events in any order. Thanks to the P2 card's unique high-speed random access capabilities, you get seamless, continuous, on-the-spot playback with no time lag or other disruptions between cuts (clips)\*\*. Edit the recordings and use the results in on-air broadcasts — a quick, easy solution for breaking news reporting and similar “when it counts” tasks. You can save a playlist as a file and later reuse it, or output a playlist playback result as a separate clip. You can mark In and Out points, cue, review, trim and perform other tasks in almost the same way as you would with a conventional editing controller. The display of playlist and event properties lets you handle production and correction tasks intuitively and accurately.

\* No transition setting or effect is available. V fade between events can be set only for audio.

\*\* The cuts (clips) should be the same format.



### Audio Split/Audio Dubbing

The AJ-HPM100's audio split\* feature makes it possible, using the playlist, to move the audio In point forward or backward relative to the video In point. Also, additional audio channels (one or two) can be recorded onto a recorded clip. This lets you connect a microphone for Voice overs. The input audio can be mixed with the playback sound.

\* All channels are moved forward or backward at the same time. You cannot move a single channel independently.



## A VARIETY OF INTERFACES. BUILT FOR MOBILITY.

### USB 2.0 Host Function Allows Use of a Hard Drive

The AJ-HPM100 is equipped with a USB 2.0 interface for host/device. In host mode, you can connect a hard disk drive and read and write P2 files. In device mode, you can connect a PC (or nonlinear editor) and use the AJ-HPM100 as a P2 card drive for direct transfer of P2 clips into nonlinear editing software.

### IEEE 1394 Digital Interface

An IEEE 1394 digital interface comes standard on the AJ-HPM100.

Connect a DVCPRO HD camera-recorder/VTR or FOCUS FireStore, and the AJ-HPM100 can input or output a DVCPRO-compressed stream with no image degradation. This lets you extend the AJ-HPM100's recording and backup capabilities.



### HD-SDI Input/Output

With an HD-SDI interface that allows easy HD-SDI input/output and SD-SDI output, the AJ-HPM100 is ideal for use in an HD broadcasting system. Use the AJ-HPM100 for line recording, in-studio production, data transmission and more. A switch on the front panel lets you select the HD-SDI or IEEE 1394 interface for the input signal.

### Analog Input/Output and RS-422A Remote In

- Analog I/O: Composite In, HD Component Out/Composite Out (shared), Composite Monitor OUT, Audio In/Out (4 channels), and Audio Monitor Out (2 channels)
- RS-422A Remote In: Lets you control the AJ-HPM100 via an external controller for editing applications.
- TC In/Out: The AJ-HPM100 has a built-in time code generator/reader.

### SD Memory Card Slot

The AJ-HPM100 has an SD Memory Card slot. By using the P2 viewer software, you can create a metadata upload file containing the names of the camera operator and reporter, the shooting location and other text information, and save it onto an SD Memory Card. The AJ-HPM100 can then read the information as metadata.

### Menu Setting and User File

Using the crosshair cursor buttons or jog dial, it's easy to select menu items and make settings on the LCD monitor. A user file containing up to five groups of settings can be saved or loaded. You can assign frequently used menu items to the three PF keys, then select them instantly with the touch of a finger.



Side View of the AJ-HPM100



AJ-HPM100's back panel

### Rugged Casing

With its rugged casing and magnesium die-cast frame, the AJ-HPM100 is tough enough for go-anywhere field broadcast use. The rear connector section is protected by a cover. With the editing panel closed, the AJ-HPM100 is the size of a large briefcase and comes equipped with a metal handle for easy carrying. You can take it onboard an airplane as a carry-on.

### AC/DC

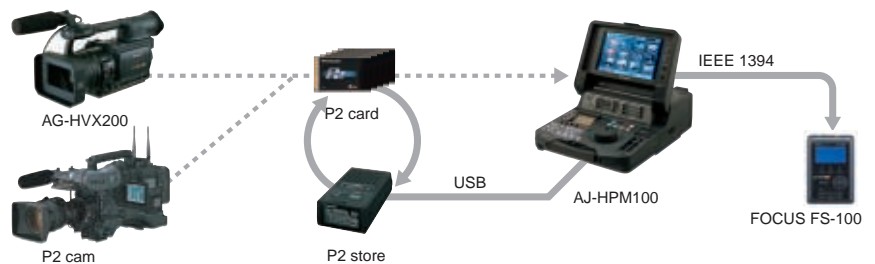
The versatile AJ-HPM100 runs on either AC or 12V DC. Plug it in and you have an outstanding desktop recorder, or take the AJ-HPM100 outside and mount it in an OB van or carry it right into the field.

## SYSTEM APPLICATIONS AND OPTIONS

### FIELD RECORDING:

#### As a Viewer and Editor

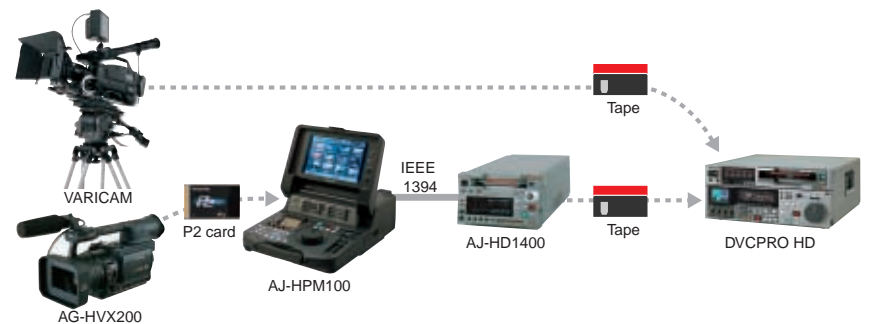
The P2 mobile is an outstanding support tool for news gathering and other field operations using a shoulder-mount DVCPRO P2 camcorder or the AG-HVX200. Use it for a variety of tasks – monitoring recorded clips, on-site playlist production, editing, or producing backup copies on an external hard disk drive



### CINE-LIKE PRODUCTION:

#### Makes the AG-HVX200 More Effective

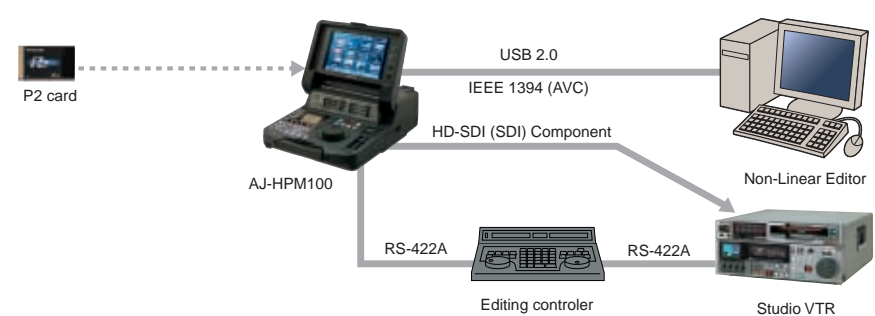
When the AG-HVX200 is combined with a DVCPRO HD (tape) system using the Panasonic VARICAM for cinema/cine-like video production, the AJ-HPM100 can be used to monitor recorded clips and for smooth copying to tape.



### DESKTOP:

#### Use in a Nonlinear/Linear System

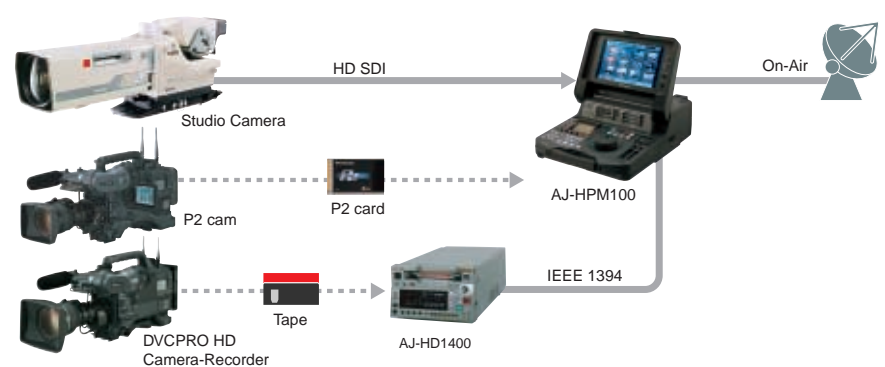
The AJ-HPM100 lets you view and produce a playlist from recordings on P2 cards. When connected to a nonlinear editing system, the AJ-HPM100 serves as a P2 drive. When P2 is added to a VTR platform, the AJ-HPM100 can be controlled as an editing player via RS-422A Remote.



### OB VAN:

#### Immediate Processing of Recordings

Compact, lightweight and versatile, the P2 mobile lets you make effective use of the limited space in an OB van. Use it to make line recordings of HD(SD)-SDI input data, or for digital tape-to-card copying of DVCPRO HD data input via IEEE 1394. The P2 mobile can combine the input content with a source recorded on a P2 card for relay broadcasts, and it expedites playlist transmission.



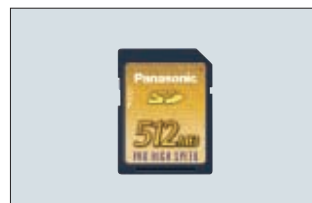
## AJ-HPM100 OPTIONAL EQUIPMENT



AJ-PC008HG / AJ-PC004HG  
H-series memory card



FOCUS Enhancements, Inc.  
FireStore FS-100  
Portable DTE Recorder



SD memory card



AVC-Intra Codec Board  
(available June '07)

# AJ-HPM100 SPECIFICATIONS

## General Specification

Power Source:	AC 100 V to 240 V, 50/60 Hz DC 12V
Power Consumption:	AC:60 W, DC: 4.3 A (with full option)
Operating Temperature:	0°C to 40°C
Operating Humidity:	10% to 80% (no condensation)
Weight:	6.5 kg (14.4 lbs)
Dimensions (W x H x D):	301x 120 x 412mm (11-7/8" x 4-3/4" x 16-1/4")
Recording Format:	DVCPRO HD/DVCPRO 50/DVCPRO/DV switchable
Recording Video Signal:	1080/59.94i, 720/59.94p, 480/59.94i, 1080/50i, 720/50p, 576/50i
Audio Recording Format:	DVCPRO HD: 48kHz/16bits, 8CH DVCPRO 50: 48kHz/16bits, 4CH DVCPRO/DV: 48kHz/16bits, 2CH/4CH
Recording Media:	P2 card
Recording/Playback Time*:[DVCPRO HD, 8CH audio]	by single cards using 6 card slot AJ-P2C004HG Approx. 4min. Approx. 24 min. AJ-P2C008HG Approx. 8 min. Approx. 48 min.
Recording/Playback Time*:[DVCPRO 50, 4CH audio]	by single cards using 6 card slot AJ-P2C004HG Approx. 8 min. Approx. 48 min. AJ-P2C008HG Approx. 16 min. Approx. 96 min.
Recording/Playback Time*:[DVCPRO/DV, 2CH audio]	by single cards using 6 card slot AJ-P2C004HG Approx. 16 min. Approx. 96 min. AJ-P2C008HG Approx. 32 min. Approx. 192 min.
Digital Slow:	-1 to +1 times normal speed

## Video Specification (Digital Video)

Sampling Frequency:	DVCPRO HD: Y:74.25MHz, PB/PR:37.125MHz DVCPRO 50: Y:13.5MHz, PB/PR:6.75MHz DVCPRO: Y:13.5MHz, PB/PR:3.375MHz
Quantizing:	8 bits
Compression Format:	DV-Based Compression (SMPTE 370M/314M)
Video Compression Ratio:	DVCPRO HD: 1/6.7 DVCPRO 50: 1/3.3 DVCPRO: 1/5
Video Bit Rate:	DVCPRO HD: 100Mbps DVCPRO 50: 50Mbps DVCPRO: 25Mbps

## Video Input Signal

Analog Composite Input:	BNC x 1, 1.0 Vp-p (75Ω)
Reference Input:	BNC x 2 (loop-through), BB/HD tri-sync auto, 75Ω auto
SDI (HD/SD) Input:	BNC x 1, serial digital component HD: SMPTE 292M/296M/299M standard SD: SMPTE259M-C/272M-A standard ITU-R BT.656-4 standard

## Video Output Signal

HD Component Output:	BNC x 3 (Y,PB,PR) Y: 1.0 Vp-p, 75Ω
Composite Output:	BNC x 3, (Video 1/Video 2/Video 3) 1.0 Vp-p, 75Ω
SDI (HD/SD) Output:	BNC x 1, serial digital component HD: SMPTE 292M/296M/299M standard SD: SMPTE259M-C/272M-A standard ITU-R BT.656-4 standard
Monitor Output:	BNC x 1

## Audio Specification (Digital Audio)

Sampling Frequency:	48 kHz (sync video)
Quantizing:	16 bits
Frequency Response:	20 Hz to 20 kHz, ±1.0 dB (reference level)
Dynamic Range:	More than 85 dB (1 kHz, emphasis off, "A" weighted)
Distortion:	Less than 0.1% (1 kHz, emphasis off, reference level)
Cross Talk:	Less than -80 dB (1 kHz, between 2 channels)
Headroom:	20/18 dB switchable
De-emphasis:	T1=50 μsec, T2=15 μsec (on/off auto)

## Audio Input Signal

Audio (Analog) Input:	XLR x 4 (CH1/CH2/CH3/CH4), 600Ω/high-impedance switchable, +4/0/-3/-20 dBu switchable LINE/MIC/MIC+48V switchable at CH2 MIC: -60 dBu, MIC+48V: Phantom +48V, -60dBu
SDI Input:	BNC x 1, (embedded audio)

## Audio Output Signal

Audio (Analog) Output:	XLR x 4 (CH1/CH2/CH3/CH4), low-impedance, +4/0/-3/-20 dBu switchable
SDI Output:	BNC x 1, (embedded audio)
Monitor Output:	Pin jack x 2, -8dBV
Headphones:	Stereo mini jack, 8Ω, variable level

## Other Input and Output

Time Code Input:	BNC x 1, 0.5 to 8.0 Vp-p, 10 kΩ
Time Code Output:	BNC x 1, low-impedance, 2.0±0.5 Vp-p
RS-422A Input:	D-sub 9-pin, RS-422A Interface
DVCPRO/DV:	6-pin x 1 400/200/100 Mbps switchable IEEE1394-1995 standard IEC61883-Part1, Part2 standard SMPTE 396M standard AV/C Command Set standard
USB2.0:	Host x 1, Device x 1

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

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Factories of Systems Business Group have received ISO14001:2004-the Environmental Management System certification.



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