Panasonic
ideas for life

P2HD
AG-HPX500
Memory Card Camera-Recorder

P2HD

Superior Recording Quality in Both HD and SD

Broadcasters and video professionals all around the world have already joined the P2 revolution. Now this advanced technology is available to even more professional videographers.

The AG-HPX500 Memory Card Camera-Recorder debuts as the new 2/3" workhorse in the P2 HD Professional Series, which includes the AG-HVX200 handheld and the AJ-HPX2000/2100 shoulder-mount units.
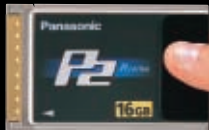
Featuring a 2/3-inch lens mount that accepts interchangeable lenses, HD/SD multi-format compatibility with 50/60-Hz selectability, and a variable frame rate function that allows cine-like picture quality, this new camera-recorder has everything professionals need to create high-quality video content.

Also equipped with four P2 card slots, the AG-HPX500 allows extended HD recording time and delivers the high reliability, quick recording starts and IT benefits that distinguish P2 and revolutionize the recording and editing workflow.

The AG-HPX500 is an exceptional cost-efficient performer for applications that demand full-fledged HD production quality and the advantages of fast IT-based workflow.

P2 Memory Card Recording Brings the IT Revolution to Video Production

Neither tape nor disc, the P2 card is a semiconductor memory device that can hold large amounts of video and audio data. The P2 card's advanced AV technology bring the proven benefits of an IT workflow to broadcasting and video production. Memory card recorders have no drive mechanism, so maintenance costs are much lower. And with their outstanding resistance to impact, vibration, temperature change, dust and other environmental conditions, they offer the high reliability you need in news acquisition and video recording. P2 also transfers data at higher speeds than optical discs or hard drives, so video production is quicker. And P2 files can be transferred as they are – no digitizing required - to nonlinear editors and other network-connectable equipment. With all these advantages, it's no wonder many of the world's leading broadcast stations have already adopted P2. Panasonic P2 equipment has turned in gold-medal performances on the biggest stages - such as the 2004 Olympic Games in Athens and the 2006 Winter Olympic Games in Torino. P2 will be on hand for the next Olympics too, as the official broadcasting equipment for the 2008 Games in Beijing.

	DVTape	Optical Disc	HDD	P2 Card
Maintenance	—	—	—	✔✔
Reliability	—	—	—	✔✔
Transfer speed	—	—	—	✔✔

A P2HD Camera-Recorder That's Built for Professionals

- **Supports all HD/SD recording formats at the price of an SD camera-recorder**
- **Advanced P2 technology provides fast, rugged performance plus IT connectivity**
- **2/3-inch interchangeable lens system**
- **Variable frame rate function**

Professional HD Quality

Progressive 3CCD and 2/3-inch Interchangeable Lens System for Full-Fledged HD Video Production

2/3-Inch Interchangeable Lens System

The 2/3-inch bayonet mount allows use of a wide assortment of broadcast and professional lenses from a number of companies*. 2/3-inch zoom lenses make it easier to capture the shallower depth of field often used in professional videos.

Progressive 3CCD

The AG-HPX500's 2/3-inch progressive 3CCD* has a larger light receiving area for higher sensitivity, and achieves an optimal balance among image quality, sensitivity and cost.
The camera CCDs scan at full 1080/60 (or 50) progressive frames a second. It is this initial capture that is the foundation for all of the formats that this camera generates. While the camera does not record 1080P/60(or 50), the signals start there and are either cross converted or down converted to the format being utilized that day.

Interlace scanning frame (Image)

Progressive scanning frame (Image)

* The effective image size of the CCD is equivalent to 2/3.2 inches.

Chromatic Aberration Compensation (CAC)

Chromatic Aberration Compensation (CAC) function is installed in AG-HPX500. Combining with the correspondence lens allows AG-HPX500 to automatically compensate the registration error that is caused mainly by lens chromatic aberration, and minimize the circumjacent blur.

14-bit Digital Circuitry

The AG-HPX500 features a high-performance digital signal processor (DSP) with 14-bit A/D conversion and 19-bit inner processing. This DSP provides gamma settings and makes other adjustments for each of the R, G and B color signals in that initial stage of picture generation from 1080 progressive, and it handles all HD/SD format conversion processes (P/I conversion, line conversion, down conversion) at the same time. You get superior image quality in all video formats.

HD/SD Multi-Format Capabilities

Supporting 32 HD/SD video recording formats, the AG-HPX500 meets professional needs in news acquisition and in the production of TV programming, independent films and other demanding video content, and its versatility allows this content to be distributed worldwide.
For 1080i/720p HD recording, the AG-HPX500 uses the DVCPRO HD codec, with its proven track record in broadcasting applications. For SD recording, the AG-HPX500's multi-codec capabilities let you select from DVCPRO50, DVCPRO and DV video quality.

Extended Recording with Four Slots for 16-GB P2 Cards

The AG-HPX500 has slots for four P2 cards so you can record continuously onto all four in sequence. Using four of the new 16-GB P2 cards (available soon), you can get up to 68 minutes of HD recording (1080/60i, 4 cards x 17 minutes = 68) or 136 minutes of SD (DVCPRO 50) recording (4 cards x 34 minutes = 136).

Video format and codec supported by AG-HPX500

Recording Video Format *1		Rec. Time*3	Codec
HD 60Hz	1080/60i	68 min.	DVCPRO HD
	1080/24p (over 60i)		
	1080/24pA (over 60i)		
	1080/30p (over 60i)		
	720/60p		
	720/24p (over 60p)		
	720/30p (over 60p)		
	720/24pN (Native)*2	168 min.	
	720/30pN (Native)*2	136 min.	
HD 50Hz	1080/50i	68 min.	
	1080/25p (over 50i)		
	720/50p		
	720/25p (over 50p)		
	720/25pN (Native)*2	136 min.	
SD 60Hz	480/60i	136 min. (DVCPRO 50) 276 min. (DVCPRO/DV)	
	480/24p (over 60i)		
	480/24pA (over 60i)		
	480/30p (over 60i)		
SD 50Hz	576/50i		
	576/25p (over 50i)		

*1: 24p=23.98p, 30p=29.97p, 60p=59.94p and 60i=59.94i
*2: In the Native mode, AG-HPX500 record only active frames.
*3: using two 16GB P2 cards. (1/4 with a single card)
Recording time varies depending on the video format, codec, and recording setting.

48-kHz/16-bit, 4-Channel Digital Audio

The AG-HPX500 can record full 48-kHz/16-bit digital audio on all four channels. You can freely select the audio source for each channel, choosing from mic-in and line-in.

Shooting Performance

A Host of Features and Functions, Including a Variable Frame Rate Function for Cine-Like Video Production

Variable Frame Rate

In 720p mode,* the frame rate can be set from the conventional 24p/30p to any of 11 steps between 12p and 60p (or 50p). Like the VariCam, the AG-HPX500 allows undercranking and overcranking common in film cameras to create fast-motion and slow-motion effects.

* In 1080 and 480 modes, the frame rate is fixed at 24p/30p (25p in the 50-Hz mode).

• Higher-rate shooting produces a slow-motion effect.

This is especially effective for high-action scenes like car chases or crashes, or for scenes with considerable dramatic impact.

• Lower-rate shooting creates a fast-motion effect.

This technique can be combined with a Slow Shutter Speed to emphasize movements, such as flowing water or fast-moving clouds.
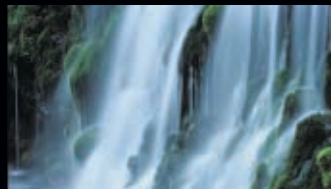

Table of Frame Rate and Speed Effect

60Hz Mode			50Hz Mode	
Supported Frame Rate	Speed Effect in 24p base	Speed Effect in 30p base	Supported Frame Rate	Speed Effect in 25p base
12 fps	200% Faster	250% Faster	12 fps	208% Faster
18 fps	133% Faster	167% Faster	18 fps	138% Faster
20 fps	120% Faster	150% Faster	20 fps	125% Faster
22 fps	109% Faster	136% Faster	23 fps	108% Faster
24 fps	100% Standard	125% Faster	25 fps	100% Standard
26 fps	92% Slower	115% Faster	27 fps	92% Slower
30 fps	80% Slower	100% Standard	30 fps	83% Slower
32 fps	75% Slower	94% Slower	32 fps	78% Slower
36 fps	66% Slower	66% Slower	37 fps	67% Slower
48 fps	50% Slower	62% Slower	48 fps	52% Slower
60 fps	40% Slower	50% Slower	50 fps	50% Slower

Native and Over-60p (50p) Modes

•**720p Native Mode:** The AG-HPX500 records images at the frame rate set in the camera. Using the AG-HPX500 to play back the recording at the normal rate, you can preview the speed effect right on the spot, without using a frame rate converter. Native mode also extends the recording time.

•**720p over 60p (or 50p) Mode:** The unit can output a DVCPRO HD stream from the IEEE 1394 connector as it records. This lets you produce a backup copy using a connected external hard disk recorder, such as the Panasonic AJ-HD1400 DVCPRO HD recorder or the Focus Enhancements FireStore FS-100.

Cine-Like Gamma (Eight-Mode Gamma)

Drawing on technologies developed for the VariCam, Panasonic has equipped the AG-HPX500 with advanced gamma functions that address eight different shooting scenarios and expand your creative abilities. Included are Cine-Like Gamma, which gives recordings the characteristic warm tone of film recordings, and a News Gamma that's designed especially for news gathering.
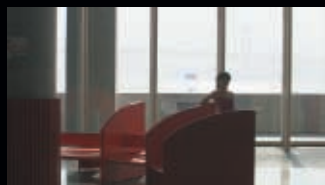
Video Gamma Image   **Cine-Like Gamma Image**

AG-HPX500 Gamma Modes

NEWS:	Minimizes washout to faithfully capture all visual information especially in the highlights
HD NORM:	Suitable for HD recording
LOW:	Works to flatten out high-contrast scenes
SD NORM:	Normal setting for SD
HIGH:	Provides additional contrast and color gradation
B.PRESS:	Provides more contrast and richer blacks to low-contrast scenes
CINE-LIKE-D:	Shifts the Cine-Like mode to prioritize dynamic range
CINE-LIKE-V:	Shifts the Cine-Like mode to prioritize contrast

1080/480 24p Advance Mode

When recording in 1080/24p or 480/24p at 60 Hz, the AG-HPX500 lets you select 24pA (Advance) mode. In this mode, it performs 60i conversion using 2:3:3:2 pulldown, which maintains higher image quality than ordinary 24p (2:3 pulldown) in nonlinear editing*. In 30p and 25p recording (at 50 Hz), the AG-HPX500 uses 2:2 pulldown.

* For compatibility details, visit https://eww.pavc.panasonic.co.jp/pro-av/sales_o/ieee1394

Slow, Synchro and High-Speed Shutter

Used with the variable frame rate function, this allows you to create a blurring effect or crystal-clear stop-motion of sports action. The AG-HPX500 also features a synchro scan function for capturing screen shots from a computer monitor.

Scene File Dial

Set this dial for a set of shooting conditions, and later you can instantly retrieve the settings when needed. Six preset files are provided, and you can change any of the six file names and their settings as desired. You can also transfer the setting files to an SD Memory Card.

Shooting Assist Functions

• Three User Buttons: Assign a function to each, and then you can select functions with pushbutton ease.
• Focus Assist: Facilitates focusing.
• Eight lens aberration correction files (fixed) and four shading correction files support a variety of interchangeable lenses.
• Color temperature can be adjusted after the white balance is set.
• Rec Review function for easy checking of recorded results
• 4-position optical filter

P2 Recording Function
Four Slots for Quick Recording on Reliable P2 Memory Cards

P2 Cards: High Capacity, Fast Transfer and Superior Reliability

Developed for cost effective production applications, the P2 card consists of four SD cards packaged together as a single compact unit that weighs only about 0.099 lbs (45 grams). This ultra-reliable card has four times the capacity and four times the transfer speed of a single SD card.

In addition to the high resistance to impact, vibration and temperature change that semiconductor memory is known for, the P2 card also offers outstanding reliability. Unlike tapes and discs, it has no rotating or contact parts. It's built to withstand repeated recording and initialization over many years of use. The P2 card connector is specifically designed to stand up to the repeated insertion and removal involved in professional use.

The AG-HPX500 records the A/V data for each recording as a file on the P2 card, which eliminates the need for digitizing. The files can be used directly in a nonlinear editing system or transferred over a network. The P2 card transfers data at a speed that discs simply cannot match, giving you faster, easier operation.

The P2 card is convenient too - you can plug it directly into the card slot on a laptop.

Immediate Startup and Better Data Protection

When you press the Record button in standby mode, the AG-HPX500 instantly finds a blank area on the P2 card and begins recording. It can begin recording immediately even when you're using it to preview video. In normal use, there's no chance of accidentally overwriting a recording. Recordings will not be erased unless you intentionally delete a file or initialize the card.

Advanced Recording Functions Employing Four Card Slots

In addition to continuous, multiple-card recording, the four P2 card slots of the AG-HPX500 also enable some useful new recording functions that are possible only with memory cards.

• **Card selector:** The recording slot can be switched instantly when the unit is in standby mode. Immediately after recording a clip, you can remove the P2 card and use it in editing or transmission. This lets you continue your recording work with much shorter downtime than when changing tapes or discs.

• **Hot-swap-rec:** You can replace a full memory card with a blank one while the P2 cam is recording onto a second card. Successively swapping cards gives you virtually unlimited recording capability.

• **Loop-rec:** This function can be specified in length and the camera will continuously record over that area until you push the pause. This allows for a longer record time than pre-record.

Other Versatile Recording Functions

• **Pre-rec:** While in standby mode, you can continuously store, and subsequently record, up to 3 seconds in HD (7 seconds in SD). In effect, this lets you record footage of events that occur even before you press the Rec Start button, giving you a way to "go back" and capture moments you otherwise would have missed.

- **One-shot rec:** Convenient for producing animation, this mode records for a set time (from 1 frame to 1 second) each time you press the Start button.
- **Interval rec:** Recording one frame at a time at set intervals (from 2 frames to 10 min), this mode is useful for monitoring and special ultra-undercranking effects.

Clip Thumbnail/Data Function

The P2 cam records each recording as a clip (file) and automatically attaches a thumbnail image and file information to it. To preview a clip on the LCD monitor or to check clip data, simply choose the clip you want from the list of thumbnails.

The thumbnail image and file information can also be displayed on a PC (using P2 Viewer*) or nonlinear editing software.

* P2 Viewer software for Windows PCs can be downloaded, free of charge.

Clip Thumbnail Display

Shot Marker and Text Memo

A shot mark, which allows convenient OK and NG marking, can be added to each clip during or after recording. When a P2 card with marked clips is inserted in a PC*, it's possible to have only the marked clips displayed. The AG-HPX500 also has a text memo function. When recording or previewing a clip, press the Text Memo button at any of up to 100 locations and a blank text memo label is registered. On your PC*, you can then search for the label and write a memo into it.   * Must have P2 Viewer installed

P2 Viewer

SD Memory Card Slot

Plug an SD card into the slot provided, and you can save or load scene files and user-setting files. You can create a metadata upload file (produced with P2 Viewer) containing information such as the name of the camera operator, the name of the reporter, the recording location, and text memos on an SD Memory Card, and load it as clip metadata.

System and Interface

Comes Equipped with IEEE 1394, USB 2.0 and HD SDI Interfaces. Allows Remote Control with the AJ-RC10G.

IEEE 1394 Interface

The IEEE 1394-compliant DVCPRO (6-pin) output connector lets you output all HD/SD compression streams without decoding.*
This means you can connect and use a DVCPRO HD VTR (such as the AJ-HD1400) or Focus Enhancements FireStore FS-100 for degradation-free backup recording.
The IEEE 1394 interface also makes it easy to upload data to a Mac-based or PC-based nonlinear editing system. The AG-HPX500 also provides a host mode that lets you copy P2 files to a hard drive without using a PC.

* Output is not possible in 720p native mode (24pN 30pN, 25pN).
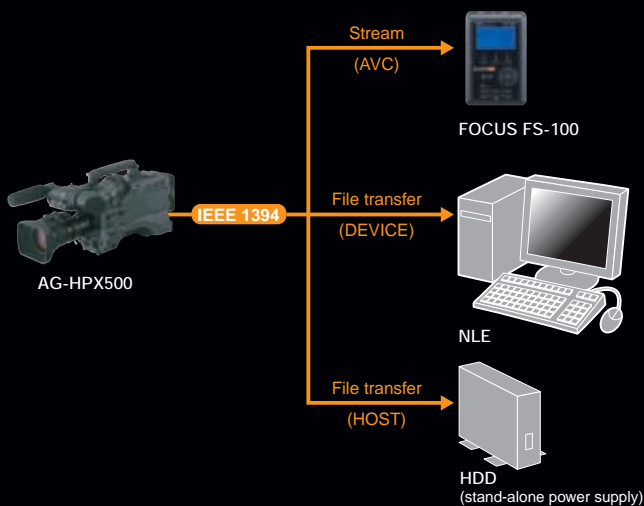
Compatibility with Nonlinear Editing Systems

DVCPRO HD P2 files recorded by the AG-HPX500 can be used in nonlinear editing systems made by a variety of manufacturers, making it possible for you to produce HD content in native DVCPRO HD. And because the AG-HPX500 uses the same recording format as the AG-HVX200, the AG-HPX500 is compatible with nonlinear editing systems that support our other P2HD cameras.

*The latest compatibility test report with NLEs is shown at https://eww.pavc.panasonic.co.jp/pro-av/ (P2 compatibility table)

HD SDI/SD Down-Conversion Output

The AG-HPX500 comes equipped with two BNC video line outputs for flexible monitoring or line recording use.
• **SDI OUT:** Switchable between HD-SDI or SD-SDI (down conversion). HD-SDI output simultaneously backs up recordings to an external digital VTR (such as the AJ-HD1400) in sync with Rec start/stop.
• **VIDEO OUT:** Outputs down-converted SD video (composite).

Panasonic

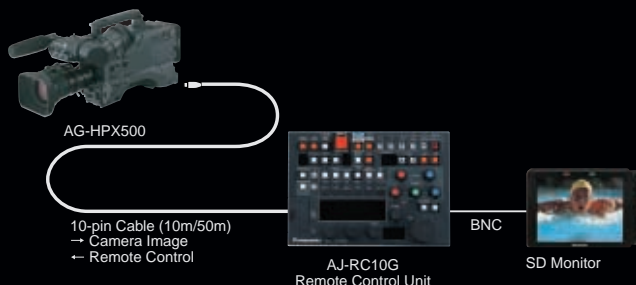POWER | FUNCTION 1 2 3 | PEAK/PHASE CHROMA BRIGHT CONT/B.LIGH
INPUT MENU ∨ ∧ ENTER
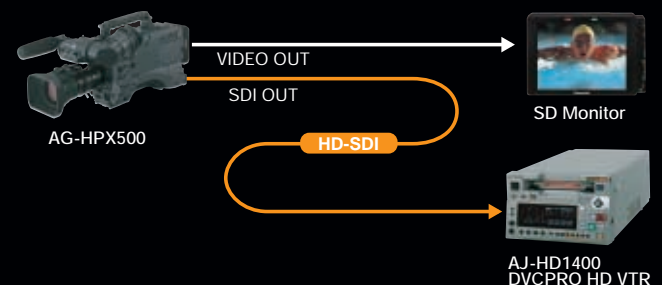
USB 2.0 Interface

The AG-HPX500 comes equipped with a USB 2.0 interface. Connect the AG-HPX500 to a Windows PC, and you can upload files from a P2 card to the PC for nonlinear editing, or to a network server.

AG-HPX500 → USB2.0 → NLE (Windows PC)

Remote Control Unit

The AG-HPX500 comes equipped with a 10-pin RCU terminal for connecting the optional AJ-RC10G Remote Control Unit.
The AJ-RC10G comes with a 10-pin multi-cable that can connect to the AG-HPX500's down-conversion video OUT terminal for monitoring at the RCU. The AJ-RC10G provides control of the AG-HPX500's camera and recorder functions.

AG-HPX500

10-pin Cable (10m/50m)
→ Camera Image
← Remote Control

BNC

AJ-RC10G
Remote Control Unit

SD Monitor

* The AJ-RC10G can control only functions supported by the AG-HPX500. It cannot control unsupported keys or dials.

Multi-Camera-Compatible TC-IN/TC-OUT Terminals

The AG-HPX500 has a built-in SMPTE time code generator/reader. The TC-IN/TC-OUT terminals are independent, so through-connection is possible. The AG-HPX500 supports TC synchronous recording using multiple cameras.

Other System Functions and Options

• Analog component (Y/Pb/Pr) output
• DC power supply for the BT-LH80W 7.9" LCD monitor
• Color bar (full color) and standard audio signal (1-kHz test tone) output
• Multiple battery support, including Anton Bauer batteries

Designed for Easy Operation

The position, function, and shape of all switches, dials and terminals have been designed in response to feedback from video professionals to allow quick operation and prevent errors for greater reliability.
• The Audio Rec level adjustment features a push lock function.
• The Audio Input level adjustment (front) can be switched ON/OFF and allocated to desired channels.
• A 3-point locking viewfinder mount allows precise adjustment.

Workflow with P2HD

News Acquisition and Recording

You can configure a basic P2HD recording system by simply connecting the AG-HPX500 to a laptop. It connects to a Windows PC via USB 2.0 or to a Mac via IEEE 1394. Insert a P2 card in the AG-HPX500's slot, and you can use the PC to preview video clips on the card, copy files, and perform simple editing. Or, you can plug the P2 card directly into the slot on your laptop. For a higher-performance system, combine the AG-HPX500 with the AJ-HPM100 Mobile Recorder. This system lets you perform a variety of operations, such as flexible previews with jog and dial control, playlist editing, file writing, and HD-SDI/Analog/IEEE 1394 streaming output. The AJ-PCS060G P2 store brings new convenience to many applications. It provides high-speed copying of video clips from a P2 card to its internal hard drive, and initializes the P2 card for immediate re-use. The P2 store connects and mounts easily to a non-linear editor via USB 2.0.
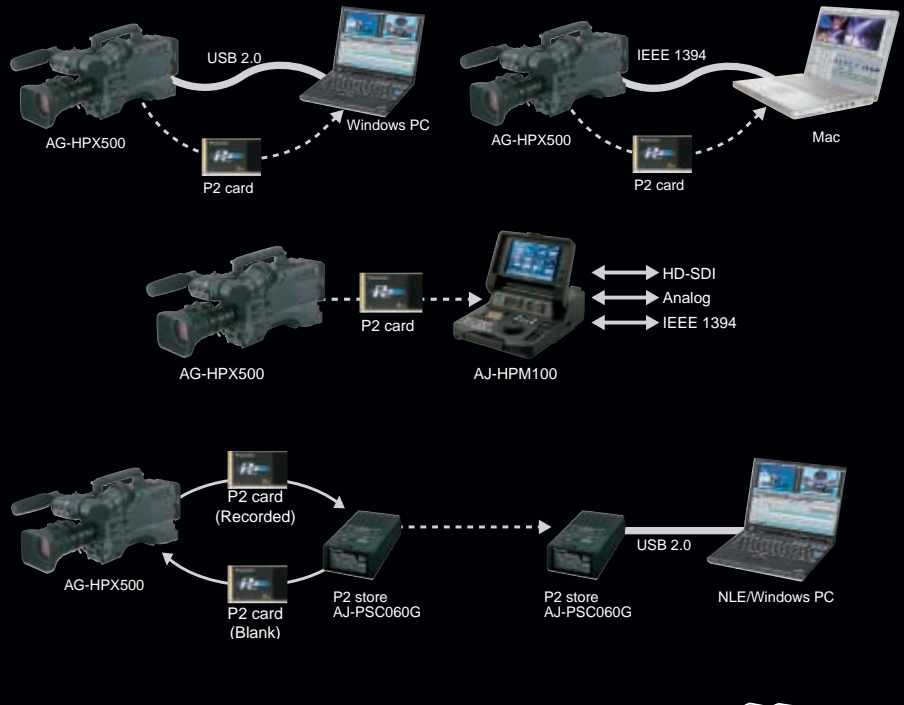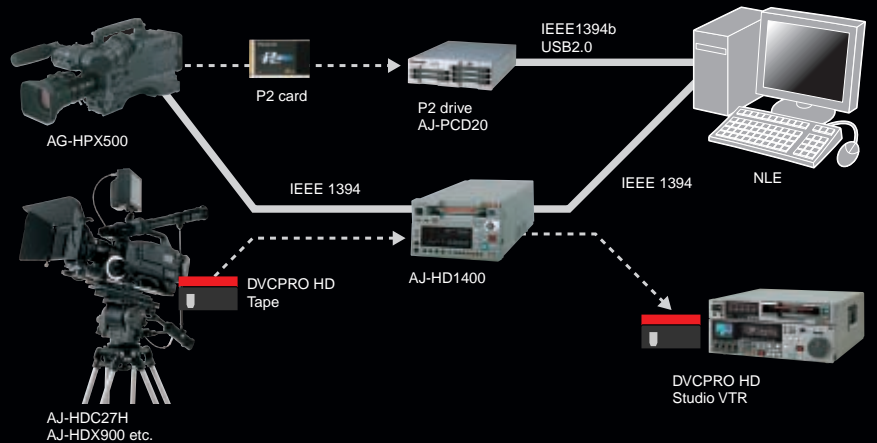
Editing and Production

The AJ-PCD20 P2 drive lets you use P2 cards in nonlinear editing systems manufactured by other companies. Simply connect the AJ-PCD20 to the system via IEEE 1394 or USB 2.0. With the P2 card there's no need for digitizing, so there's no time wasted.

The AG-HPX500 also adapts to conventional tape-based HD editing systems. Its HD-SDI/SDI output allows line recording or copying using any of a variety of HD/SD digital VTRs.
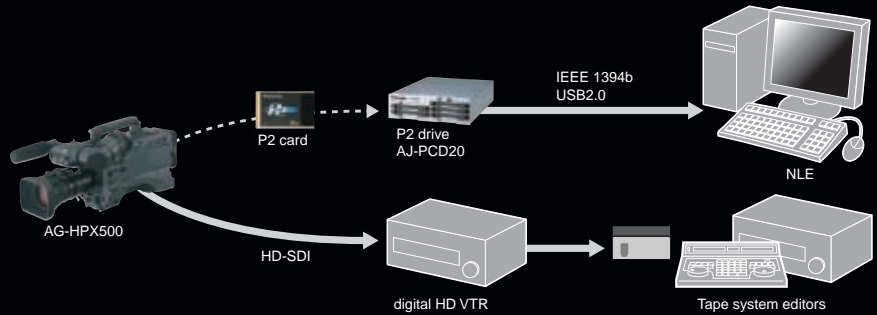
Movie Production

The AG-HPX500 integrates smoothly into systems with DVCPRO HD VTRs like the VariCam. Because the recording codec in the AG-HPX500 is the same one used for both tape and card, it lets you convert, with no degradation, between media – from card to tape and from tape to nonlinear editor – via the IEEE 1394 interface.

AG-HPX500 — USB 2.0 — Windows PC
P2 card

AG-HPX500 — IEEE 1394 — Mac
P2 card

AG-HPX500 — P2 card — AJ-HPM100 → HD-SDI / Analog / IEEE 1394

AG-HPX500 — P2 card (Recorded) → P2 store AJ-PSC060G ⋯ P2 store AJ-PSC060G — USB 2.0 — NLE/Windows PC
P2 card (Blank)

AG-HPX500 — P2 card — P2 drive AJ-PCD20 — IEEE 1394b USB2.0 — NLE
— HD-SDI — digital HD VTR — Tape system editors

AG-HPX500 — P2 card — P2 drive AJ-PCD20 — IEEE1394b USB2.0 — NLE
AJ-HDC27H AJ-HDX900 etc. — DVCPRO HD Tape — IEEE 1394 — AJ-HD1400 — IEEE 1394 — DVCPRO HD Studio VTR

P2HD Equipment

AJ-P2C016RG
AJ-P2C008HG
Memory Card (P2 card)

AJ-PCS060G
Portable Hard Disk Unit (P2 store)

AJ-PCD20
Memory Card Drive (P2 drive)

AG-HVX200
Memory Card Camera-Recorder (P2 handheld)

AJ-HPM100
Memory Card Portable Recorder (P2 mobile)

Optional Accessories

AJ-VF20WB
2" EVF
16:9/4:3 switchable

AJ-VF15B
1.5" EVF for 4:3

FIJINON 2/3" LENS
CANON 2/3" LENS
*Recommend to use the lens which is correspondent to Chromatic Aberration Compensation (CAC) function.

AG-MC200G
Microphone

AJ-MC700P
Microphone Kit

SHAN-TM700
Tripod Adapter

SD memory card

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

AJ-SC900
Soft Carrying Case
*Not available in some areas.

AJ-HT901G
Hard Carrying Case
*Not available in some areas.

SHAN-RC700
Rain Cover
*Not available in some areas.

BT-LH80W
7.9" Wide
HD/SD LCD monitor

BT-LH900A
8.4" HD/SD LCD monitor

BT-LH1700W
17" Wide
HD/SD LCD monitor

BT-LH2600W
26" Wide
HD/SD LCD monitor

AJ-RC10G
RCU (Remote Control Unit) with 10m remote control cable

AJ-C10050G
Remote Control cable (50m)

* The AJ-RC10G can control only functions supported by the AG-HPX500. It cannot control unsupported keys or dials.

Anton/Bauer
Battery Charger Package
HTP-T230

Anton/Bauer
Dionic Battery

Anton/Bauer
Battery Charger

Anton/Bauer
TITAN70 AC Adaptor/
Battery Charger

Microphone
•AG-MC200G
•AJ-MC700P
•Phantom +48V

Viewfinder
•1.5" Supplied Accessories
•AJ-VF15B
•AJ-VF20WB

Anton/Bauer
Ultra Light

BNC cable (HD-SDI)

4-pin DC cable

BT-LH80W
7.9" LCD Monitor

Anton/Bauer
Gold Mount Plate

Anton/Bauer
Batteries

Anton/Bauer
Battery Charger

2/3" HD Lens

AG-HPX500

DC Cable (XLR)

AC Adapter

Shoulder Strap

SHAN-TM700
Tripod Adapter

Fire Store FS-100
Portable DTE Recorder

SD Memory Card

10-pin Remote Cable
(with 10m/max 50m)

AJ-RC10G
Remote Control Unit

AJ-HT901
Hard Carrying Case *

AJ-SC900
Soft Carrying Case *

SHAN-RC700
Rain Cover *

Tripod

■ Standard Accessories   * Not available in some areas.

Specifications

General

Supply Voltage:	DC12V (11V to 17V)
Power Consumption:	Approx. 22W (when 1.5"CRT viewfinder, 3.5" LCD monitor used)
Operating Temperature:	32°F to +104°F (0°C to +40°C)
Operating Humidity:	10% to 85% (no condensation)
Weight:	Approx. 8.2 lbs (3.7kg) excluding battery and accessories
Dimensions (WxHxD):	5-9/16" x 10-7/16" x 12-9/16" (140 x 261 x 318 mm) excluding handle and prominent parts

Camera

Pick-up Device:	3CCD (2/3-inch interline transfer type and progressive modes supported)
Lens Mount:	2/3" bayonet type
Optical Color Separation:	Prism system
ND Filter:	4 position (Clear, 1/4, 1/16, 1/64)
Gain Selection:	60i/60p mode: 0/+3/+6/+9/+12/+18 dB 30p/24p/24pA mode: 0/+3/+6/+9/+12dB Slow Shutter Mode: Gain fix (0 dB)
Shutter Speed (Preset):	60i/60p mode: 1/60 (OFF), 1/100, 1/120, 1/250, 1/500, 1/1000, 1/2000 sec. 30p mode: 1/30, 1/50 (OFF), 1/60, 1/120, 1/250, 1/500, 1/1000 sec. 24p/24pA mode: 1/24,1/50(OFF),1/60,1/120,1/250,1/500,1/1000 sec. 50i/50p mode: 1/50 (OFF), 1/60, 1/120, 1/250, 1/500, 1/1000, 1/2000 sec. 25p mode: 1/25, 1/50 (OFF), 1/60, 1/120, 1/250, 1/500, 1/1000 sec.
Shutter Speed (Variable):	60i mode: 1/60.0 to 1/249.8 30p mode: 1/30.0 to 1/249.8 24p/24pA mode: 1/24.0 to 1/249.8 50i/50p mode: 1/50.0 to 1/249.8 25p mode: 1/25.0 to 1/249.8
Shutter Speed (Slow):	60i/60p mode: 1/15, 1/30 30p mode: 1/15 24p/24pA mode: 1/12 (720p only) 50i/50p mode: 1/12, 1/25 25p mode: 1/12
Variable Frame Rate :	60 Hz mode: 12/18/20/22/24/26/30/32/36/48/60 fps (frame/sec) 50 Hz mode: 12/18/20/23/25/27/30/32/37/48/50 fps (frame/sec)
Sensitivity:	F10 (Typical)

Video P2 HD General

Sampling Frequency:	Y: 74.25MHz Pb/Pr: 37.125Mhz
Quantizing:	8 bits
Compression:	Compression ratio 1/6.7, DCT + variable length code
Recording Bit Rate:	100Mbps

Audio P2 HD General

Sampling Frequency:	48 kHz
Quantizing:	16 bit/4CH
Head Room:	20 dB

Memory Card Recorder

Recording Format:	DVCPRO HD/DVCPRO 50/DVCPRO/DV selectable
Audio Recording Format:	PCM digital recording 48 kHz /16 bits 4ch (DVCPRO HD / DVCPRO 50), 2ch/4ch selectable (DVCPRO / DV)
Recording Time*1: (Approx.)	8 minutes with one AJ-P2C008HG (DVCPRO HD, 4CH) 17 minutes with one AJ-P2C016RG (DVCPRO HD, 4CH)
P2 Card Slot:	4 Slot (4G, 8G, 16G Card)
SD Card Slot:	SD Format standard (MMC not used) 1 Slot (Camera setup, Reading/Writing)
Recording File:	MXF File
File System:	FAT32

Input/Output Signal

Gen Lock:	BNC x 1, 1.0Vp-p, 75Ω,
Component Out:	D4 terminal (Component) , Y: 1.0Vp-p, 75Ω, Pb/Pr: 0.7Vp-p, 75Ω
Video Out:	BNC x 1, 1.0Vp-p, 75Ω
SDI Out:	BNC x 1, 0.8Vp-p, 75Ω (HD:SMPTE292M/296M/299M/ SD:SMPTE259M-C/272M-A/ITU-R.BT656-4 Standard)
TC In:	BNC x 1, 0.5 to 8Vp-p, 10KΩ
TC Out:	BNC x 1, Low impedance, 2.0 ±0.5V p-p
IEEE 1394:	6 pin, Digital In/Out, based on IEEE 1394 Standard
DC In:	XLR x 1, 4-pin, DC12V (DC11.0 to 17.0V)
DC Out:	4-pin, DC12V (DC11.0 to 17.0V), max 1.5 A.
Remote:	10 pin
Lens:	12 pin
EVF:	20 pin
USB 2.0 (Device):	Type-B, 4-pin (USB ver2.0)

Audio Input

MIC IN:	XLR x 2 (FRONT1, FRONT2), High impedance, +48V compatible MIC: –40/–50/–60 dBu (Switch on Menu)
AUDIO IN:	XLR x 2 (REAR1, REAR2), High impedance, LINE/MIC/+48V switchable LINE: 0 dBu, MIC: –50/–60 dBu (Switch on Menu)
Line In/Out:	Pin Jack x 2 (CH1/CH2), Out: 600Ω, 316mV
Phones:	Stereo Mini jack (3.5mm diameter)
Internal Speaker:	28mm round shape x 1

Monitor, Speaker and Other packages

LCD Monitor:	3.5", LCD color Monitor, 210,000 pixels, 4:3
Supplied Accessories:	1.5" , LCD color Viewfinder (4:3 CRT, NTSC/PAL switchable) Shoulder strap, P2 card software driver install (CD-ROM)

* 1:Time shown above is when you record a series of 1 shot to P2 card. Depending on numbers of shots you record, time will get shorter than the number shown above.

* Product image and the specifications shown in this brochure are tentative, and subject to change without notice.

P2HD

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