

**Panasonic**  
ideas for life

**DVCPRO HD** **P2**

**AG-HVX200**  
Memory Card Camera-Recorder





## The AG-HVX200 HD Camera-Recorder Puts a Host of Powerful Features in Your Hands

Panasonic has been a leader in developing video technologies for the production industry, including filmmaking, broadcasting and other professional applications. Now we have packed a wealth of our leading technologies into an exciting new camera-recorder.

Introducing the AG-HVX200. This handheld DVCPRO HD P2 camera-recorder is designed to meet emerging needs in HD content production. It debuts as Panasonic's first HD video product to use P2, the cutting-edge memory recording device that has the potential to revolutionize the entire production paradigm. The AG-HVX200 records HD, either 1080i or 720p video acquired by a new optical system and high-performance digital signal processor onto a P2 card using the broadcasting DVCPRO HD codec. This system achieves a level of image quality that conventional handheld HD cameras simply cannot match, while also supporting HD/SD multi-format and multi-codec recording capabilities. Variable frame rate recording is just one of the features that makes the AG-HVX200 unique in its class. Using technologies that make the Panasonic VariCam camera-recorder a favorite in movie production, this powerful function allows the overcranking and undercranking techniques used with film cameras to create fast-motion and slow-motion effects. The P2 card offers superior reliability, immediate playback and outstanding cost-performance. It allows direct connection to nonlinear editing systems and streamlines the production work flow, by providing to the editing system data files ready to be edited, rather than a video tape which would require the task of digitizing.

On top of all its advanced features and technologies, the AG-HVX200 inherits the refined design and easy operation that distinguishes Panasonic's high-value DVX100 DV camera series. In the AG-HVX200, video professionals of all kinds will find a powerful tool for giving form to their creative visions.



# True High Definition

IMAGE QUALITY FOR THE PROFESSIONAL



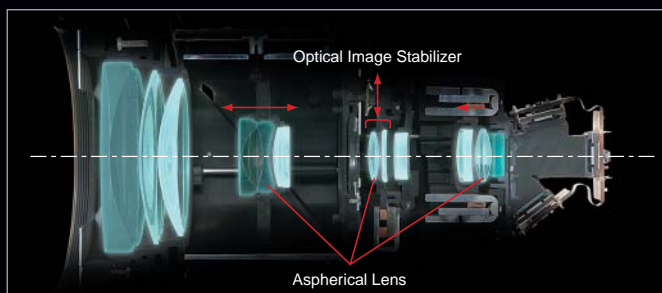
## Newly Designed Leica Dicomar 13x Zoom Lens System for HD Applications

### The New Leica Dicomar® HD Lens

Developed specifically for HD recording, this lens system features a large 82-mm (diameter) filter along with 15 lens elements in 11 groups, including three aspherical lenses.

The Leica Dicomar lens incorporates Leica optical technology and know-how throughout. The use of low-dispersion glass reduces color aberration and increases resolution, while a multi-coating process minimizes flare and ghosting. This results in sharp, crisp, beautifully rendered images with delicate nuances and exceptional shading.

\*Leica and Dicomar are registered trademarks of Leica Microsystems IR GmbH.



### Wide-Angle, 13x Zoom Lens

The Leica Dicomar Lens is a powerful 13x zoom lens designed especially for HD video recording. Extending all the way to 4.2mm (equivalent to 32.5mm on a 35mm lens), this lens covers the full wide-angle range needed in most broadcast and professional shooting. There's no need for a bulky wide-angle conversion lens. With a minimum object distance (MOD) of approximately 1.9 ft (0.6 meter) in telephoto mode, the AG-HVX200 has true handheld maneuverability. And with the same cam-driven zoom ring acclaimed in the DVX100 series, the AG-HVX200 gives you the superior operability and control you need in demanding applications.

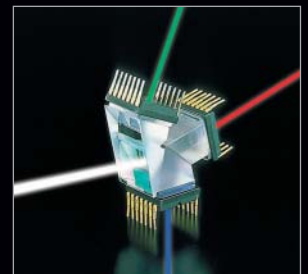
### OIS (Optical Image Stabilizer)

Panasonic's advanced OIS (Optical Image Stabilizer) dramatically reduces the blurring caused by hand-shake. Optical processing with an automatic correction function helps assure consistently clear, sharp images.

## New Progressive CCD and DSP Achieve Higher Sensitivity and Image Quality

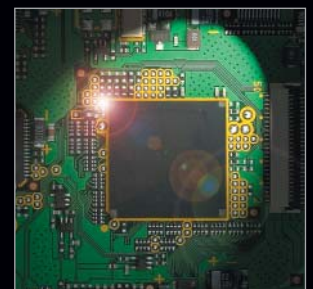
### New High-Sensitivity Progressive CCD

Each pixel has a large light-receiving area, giving this newly developed 1/3-type progressive CCD the kind of high sensitivity not available in previous compact HD cameras. This advanced CCD combines with a newly developed digital signal processor (DSP) in combination with a very sophisticated offset spatial technology achieves a balance of high resolution and high S/N ratio that rivals HD broadcasting cameras.



### New DSP with 14-bit A/D Conversion and 19-bit Processing

The AG-HVX200's newly developed digital signal processor for 1080/60p video signals uses 14-bit A/D conversion and 19-bit inner processing to attain unprecedented accuracy. While the camera does not record 1080/60p, it is from this capture that all other signals are made. The DSP performs a variety of adjustments, including eight types of gamma settings, for each of the R, G and B channels. It also converts the signals to HD or SD format. With a performance equivalent to the processors used in many higher-end HD cameras, this new DSP helps the AG-HVX200 deliver beautiful images in all video formats.



### High-Resolution Native Progressive 1080/60p Scan

Progressive to interlace conversion, cross conversion and down conversion all start with the 1080p/60 scan. That initial 1080p Native Progressive Scan offers the highest level of vertical resolution possible at this level of camera. Keep in mind that the camera does not record this signal but uses it as a basis for all capture. The result is an HD or SD recording with a level of image quality that electronically processed scans cannot match.

DVCPRO HD: The Image and Sound Quality Broadcasters Demand Supports Multi-Codec Recording

### The Superb Images and Sound of DVCPRO HD Codec

Using the DVCPRO HD codec recording system, the AG-HVX200 records HD video with outstanding image and audio quality onto a P2 card in file format. This codec, thanks to a low compression ratio at a video bit rate of 100 Mbps (1080/59.94i, 720/59.94p) and the easy-to-edit intraframe compression system, is suitable for recording fast-moving subjects with no motion artifacts other than motion blur. The 4:2:2 sampling rate minimizes jaggies at chroma edges and is advantageous in image and compositing. Sound quality is excellent too, thanks to DVCPRO HD's uncompressed 16-bit, 4-channel digital audio recording capability.



DVCPRO HD in Athens the Olympics

### HD/SD Multi-Format Recording

The AG-HVX200 is the world's first\*1 compact camera to offer 1080/24p shooting\*2. It can record onto a P2 card in 1080/60i or 720/60p HD, and it's compatible with the SD (480i) format currently used in TV broadcasting. The multi-codec system lets you record in DVCPRO 50, DVCPRO and DV.\*3

\*1: As of November 2005, according to a Panasonic survey

\*2: In 1080/24p, Images are recorded in 60i by 2:3 pull-down.

\*3: The P2 card can be used for recording video in any codec. Mini DV tape can record video in the DV format. Both 16:9 and 4:3 aspect ratios are supported in SD, 16:9 only in HD.

### Video format and codec supported by AG-HVX200

Recording Video Format **	Codec	Media	Rec. Time **6		
1080/60i	DVCPRO HD	P2 card	16 minutes		
1080/24p (over 60i)					
1080/24pA (over 60i)					
1080/30p (over 60i)					
720/60p			DVCPRO HD	P2 card	40 minutes
720/24p (over 60p)					
720/30p (over 60p)					
720/24pN (Native) *5					
720/30pN (Native) *5	DVCPRO50	P2 card	32 minutes		
480/60i					
480/24p (over 60i)					
480/24pA (over 60i)					
480/30p (over 60i)	DVCPRO/DV	P2 card	64 minutes		
480/60i					
480/24p (over 60i)					
480/24pA (over 60i)					
480/30p (over 60i)	DV	mini-DV Tape	63 minutes		
480/60i					
480/24p (over 60i)					
480/24pA (over 60i)					
480/30p (over 60i)					

\*4 24p=23.98p, 30p=29.97p, 60p=59.94p and 60i=59.94i

\*5 In the Native mode, AG-HVX200 record only active frames.

\*6 P2: using two 8GB P2 cards. (half with a single card)  
DV: using a AY-DVM63 mini-DV tape



# Revolution of Work Flow

THE SPEED AND CONVENIENCE OF P2



A Semiconductor Memory  
that Reflects Today's Leading Digital Technologies

## Super-Compact, Large Capacity and High Speed

P2, which stands for Professional Plug-in, is a compact solid-state memory card designed for professional AV use. Basically, four SD Memory Cards are packaged together to create a single P2 card. When striped as a RAID 0 array, this gives the P2 four times the transfer speed and four times the capacity of a single SD Memory Card. A slim, large-capacity 8-GB\*<sup>1</sup> P2 card (AJ-P2C008HG) can hold 32 minutes of DVCPRO/DV codec recording yet weighs only about 45 grams. Compliant with PC Card standards (Type II), the P2 card plugs directly into the card slot of a laptop PC.\*<sup>2</sup> AV data on the card mounts instantly, with each cut as an MXF file. The data can be used immediately — no digitizing necessary — for nonlinear editing, or it can be transferred over a network. The P2 far surpasses all other AV media in transfer speed, too.

The P2 cards transfer data at up to 640 Mbps\*<sup>3</sup>, which can greatly speed up production processes.



\*1: Total card capacity includes space for data management such as system data; therefore, actual usable area is less than the capacity indicated on the card.

\*2: The P2 card driver (standard equipped) must be installed. The P2 card driver operates under Windows XP, Windows 2000, and Mac OS X.

\*Windows® is a registered trademark of Microsoft corporation.

\*Macintosh® is a trademark of Apple Computer, Inc., registered in the U.S. and other countries.

\*3: This data transfer speed is a theoretical value. The actual data transfer speed varies according to operating conditions and other ancillary devices.

## Reliable Performance, Repeatedly Reusable

P2 cards provide superb reliability in even the harsh environments. P2 cards withstand shock up to 1,500 G and vibration up to 15 G, operate in temperatures from -4 to 140°F (-20 to 60°C), and can be stored in temperatures from -40 to 176°F (-40 to 80°C). In durability too, the P2 card goes well beyond ordinary PC cards. Its connector

portion, for example, is specially designed for professional use and has passed insertion/removal tests of more than 30,000 cycles. P2 cards also have a write protect switch that helps prevent accidental data deletion. Solid state memory has the unique advantage of being rewritable, over and over again, in part because it is a non-contact media and requires no rotation. You can use the same P2 card again and again for years — slashing media expenses while also minimizing impact on the environment.

## P2: The Next-Generation Media

### Immediate Startup and Better Data Protection

When you press the Record Button in standby mode, the AG-HVX200 instantly finds a blank area of 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.

### Hot-Swap Recording and Other Functions that Add Versatility

•**Hot-swap recording:** Thanks to the AG-HVX200's two card slots, you can hot-swap P2 cards and have continuous non-stop recording. With multiple cards you can record for hours without interruption. Or, using an AJ-PCS060G, the "P2 Store," external hard drive, you can download recorded files from a P2 card and then initialize it (erasing the files), so it's ready for re-use.



•**Loop recording:** Using two P2 cards and setting the AG-HVX200 for consecutive overwriting, you can repeatedly re-record during a particular recurring time slot, always maintaining a recording of the most recent period. Unlike video tape, P2 cards need no rewinding. They minimize wasted time and allow seamless, continuous

recording. This makes them especially useful for unattended monitoring.

- **Pre-rec:** While in standby mode, you can continuously store, and subsequently record, up to 7 seconds in DVCPRO50/DVCPRO or 3 seconds in DVCPRO HD of video and audio. 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 AG-HVX200 records each cut 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.

### Shot Marker Function

If desired, you can add a simple OK/NG shot marker to each clip either during or after recording. When a P2 card containing marked clips is inserted\* in a PC, the PC will display with a M demarkation in the P2 viewer which of the clips is the one with the Marker.

\* The P2 card driver (standard equipped) must be installed. The P2 card driver operates under Windows XP, Windows 2000, and Mac OS X.

### Connects Directly to PCs and Macs

In PC mode, the AG-HVX200 connects directly via USB 2.0 to a PC running Windows. In IEEE 1394 Device mode, it connects directly to a Mac. This lets you use the AG-HVX200 as a P2 card drive, providing easy access to recordings on the P2 card.

### Added Versatility for Field Work

The battery-powered AJ-PCS060G portable hard disk drive – or P2 Store – gives the AG-HVX200 the added versatility needed in the field. Equipped with a card slot, the P2 Store makes it easy to download files and initialize a card so it can be re-used right away. In the editing booth, the P2 Store can connect to a PC via its USB 2.0 port and serve as an external hard disk drive.





## Variable Frame Rates from 12 to 60 fps Allows Cinematic Expression — A First in this Class

### Variable Frame Rate from 12 to 60 fps

Panasonic's VariCam – named for its ground-breaking variable frame rate capability – is widely used in the production of movies, TV programs and commercials. Now with the AG-HVX200, the variable frame rate function is available for the first time in a compact camera.\*1

In 720p mode\*2, the frame rate can be set from the conventional



•Normal cinematic shooting is done at 24 fps, the same rate as in film cameras. The AG-HVX200 can record in 1080/24p (over 60i) or 480/24p (over 60i) mode, as well as 720/24p mode. 30 fps is the standard frame rate used in production of TV commercials, music clips and video software. The AG-HVX200 can also record in 1080/30p (over 60i) or 480/30p (over 60i) mode, as well as 720/30p mode.



•Higher-speed shooting at 26\* to 60 fp produces slow-motion effects. This is especially effective for high-action scenes like car chases or crashes, or for scenes with considerable dramatic impact.

\*When the standard speed is 24 fps. For a standard speed of 30 fps, anything over 32 fps will be overcranked.



•Lower-speed shooting at 12 to 22\* fps lets you attain fast-motion effect. This technique can be combined with warp-speed effect, special emphasis to flowing water, fast-moving clouds.

\*When the standard speed is 24 fps. For a standard speed of 30 fps, anything under 26 fps will be undercranked.

24p/30p to any of 11 steps between 12p and 60p. Like the VariCam, the AG-HVX200 allows the undercranking and overcranking used with film cameras to create fast-motion and slow-motion effects.

\*1: According to Panasonic survey as of January, 2006.

\*2: In 1080 and 480 modes, the frame rate can be set only to 24p or 30p.

## Equipped with Native and Over-60p Modes for Previewing Visual Effects

### New 720p Native Mode

In the new Native mode, the AG-HVX200 records images at the frame rate set in the camera. For example, in 24p mode it records 24 frames. Using the AG-HVX200 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 of a P2 card.

### 720p over 60p Mode

This is a VariCam-compatible mode for recording 60p-converted video. For example, in 24p mode it records 60 frames by applying a 2:3 pulldown. The recording time is the same as in 1080i or 720p mode, but 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-HD1200A DVCPRO HD recorder or the FOCUS FireStore FS-100.

\* FOCUS and FireStore are registered trademarks of FOCUS Enhancements, Inc..

### 1080/480 24p Advance Mode

The 1080 and 480 progressive recording systems convert recordings to 60i in 24p, 30p, or 24pA (Advance) mode. The 24p Advance mode uses 2:3:3:2 pulldown and performs 60i/24p conversion with minimum image degradation when recording data is captured via an IEEE 1394 interface to a compatible nonlinear editing system. This lets you maintain superior image quality throughout the production process.

\*24p=23.98p, 30p=29.97p, 60p=59.94p and 60i=59.94i



## Cine-Like Gamma Provides Warmer, Film-Like Color Tones

### Eight-Mode Gamma for Richer Gradation

Drawing on technologies developed for the VariCam, Panasonic has equipped the AG-HVX200 with advanced gamma functions that address eight different shooting scenarios and expands your creative abilities. Included are the Cine-Like Gamma, which gives recordings the characteristic warm tone of film recordings, and a News Gamma that's designed especially for news gathering.



CINE-LIKE GAMMA



VIDEO GAMMA

### AG-HVX200 Gamma Mode

NEWS:	Minimizes washout to faithfully capture all visual information especially in the highlights
HD NORM:	Suitable for HD recording
LOW:	Works to flatten out a high contrast scene
SD NORM:	Normal setting for SD (this was available in the DVX100 series)
HIGH:	Provides additional contrast and color gradation
B.PRESS:	Provides more contrast and blacks in low contrast scenes
CINE-LIKE-D:	The Cine-Like mode shifted to prioritize dynamic range
CINE-LIKE-V:	The Cine-Like mode shifted to prioritize contrast



### Create Slow-/Fast-Motion Effects Using Mini DV Tape

In addition to its two P2 card slots, the AG-HVX200 is equipped with a mini DV tape drive. This allows recording in 60i, 30p, 24p or 24pA (Advance) modes, just like AG-DVX100 series models. It also lets you down-convert an HD source (1080i/720p) recorded on a P2 card and copy it to a mini DV tape. During copying, frame-rate conversion is applied to overcranked and undercranked HD image sources in 720p native mode. This lets you create special speed effects during DV production – until now, a feat possible only with a complete VariCam system.





Manual Zoom, Focus, Iris and Gain Functions  
for the Professional

Scene File, User Buttons and Auto Functions  
for Quicker, Easier Shooting

### Cam-Driven Manual Zoom

The cam-driven (mechanical) manual zoom ring provides the same fast, precise zooming as cameras with interchangeable lenses. You'll also enjoy the operating feel. When you turn the zoom ring, you experience the same kind of steady resistance as you feel with 35mm lenses. The AG-HVX200's servo-driven zoom also allows slow zooming.

### Manual Focus with Center Zoom

Enjoy quick, sharp focusing manually or automatically. In manual mode, the focus ring gives you the same kind of operating feel and responsive control as cameras with interchangeable lenses. An HD-compatible focus assist (Center Zoom) function enlarges the center part of the image, making it easier to get the more precise focus needed in HD production. In auto mode, you get quick focusing when shooting at a high or low angle. When set to infinity, the focal distance is immediately prepared for the next manual focus. When in manual mode, pressing the Push Auto button temporarily activates auto focus.



### Manual Aperture

The large aperture dial (direction setting possible) is designed for easy manual operation. You also can add backlight correction or spotlight correction to the auto aperture function.

### Gain, ND Filter

Increases gain up to 18 dB. The selector has three positions: L is fixed at 0 dB; M and H can be set to 0, +3, +6, +9, or +12 dB. +18dB can also be quickly accessed by the use of the USER 1, 2 or 3 switch. Two ND filters (1/8 ND, 1/64 ND) are built-in and easily accessible.

### Slow, Synchro and High Speed Shutter

Used with the variable frame rate functions, this allows you to create a blurring effect or crystal clear stop motion sports action.

The AG-HVX200 also features a synchro scan function that's suitable 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.



### Three User Buttons

The AG-HVX200 has three user buttons, each of which can be assigned any one of 12 functions (rec check, spotlight, backlight, black fade, white fade, ATW, ATW lock, gain 18dB, focus ring, memo/index, slot sel, shot mark). The assigned functions can then be accessed at the touch of a button.

### Auto/Manual Mode Selector

Just select the auto position to turn on Auto Aperture, Auto Gain, Auto Tracking White Balance, and Auto Focus — and you are immediately ready to shoot. You can also customize the auto mode by removing functions and setting the gain to any value desired.

### White Balance with the Auto Tracking White Function

One press of the AWB button is all it takes to adjust the white balance and black balance. There are three white balance values to select from: one that's preset, and two (A, B) that you can set and save in memory. The auto tracking white balance (ATW) function can also be assigned to any of the three positions. The ATW mode supports fast, active shooting by adjusting the white balance in real-time as lighting conditions change.

## XLR External Microphone Inputs and Manual Adjustment Capability Meets Professional Audio Needs

### XLR Audio Inputs

In addition to the built-in stereo microphones, the AG-HVX200 is equipped with two XLR audio input terminals with a 48-V phantom power supply for professional use. Both input 1 and input 2 can be switched between line and mic, and Audio is locked to the Video, unlike consumer DV camcorders.



### Audio Dials and Flexible Input Selection

The AG-HVX200 has the same kind of level-adjustment dials as DVCPRO camera-recorders. This practical design incorporates professional operating features that have been refined over years of use on location. A switch lets you select built-in mic, input 1, or input 2 for the audio input of both channel-1 and channel-2. Auto level control can be turned on or off.



Ergonomic Design Throughout –  
Including the Viewfinder, Monitor and Handgrip

### Large Electronic Viewfinder

The large viewfinder makes it easy to view content, even with your eye at a slight distance, and it tilts upward 90 degrees for easy low-angle shots. The AG-HVX200 also has a detail (PEAKING) function.

### 3.5" Color LCD Monitor

The large, bright LCD monitor opens all the way to 120 degrees and swivels freely within a range of 270 degrees. This makes it easy to shoot from a variety of angles and view the image comfortably. In 16:9 wide-screen mode, the AG-HVX200 can display images in letterbox format.

### Trigger and Zoom Control on Upper Handle Grip

In addition to the lens grip, the upper part of the handle grip contains both the Rec Start/Stop button and a lens zoom control. This design assures easy shooting even at low angles or when using a tripod. The zoom speed can be set to any of three speed levels or off.



### Magnesium Alloy Chassis

The AG-HVX200 has the same magnesium alloy diecast chassis as our DVCPRO broadcast models. This ultra-tough, ruggedly built camera-recorder protects the precision parts within, giving the AG-HVX200 outstanding reliability and durability. Built for professionals, the AG-HVX200 stands up to the bumps and jolts that may occur in the field.

### Support Functions for Greater Convenience

- Mode check:** Displays a list of the camera settings on the viewfinder and monitor.
- Zebra:** Select any two levels from among 50% to 105%, in 5% steps.
- Tally lamps:** Provided on the unit's front and rear, and menu switchable.
- Center Marker:** Provides an accurate numeric display of the brightness at screen center.
- Remote:** Controls zoom, rec, focus and iris

### Advanced Image Adjustments Built-In

- Matrix setting including "Cine-like" mode
- Adjustable V detail level, detail coring and skin detail
- Adjustable chroma phase, color temp and master pedestal
  - Knee point settings: Auto, Low, Mid and High



# System Interfaces

THE ADAPTABILITY TO MEET NEEDS IN TODAY'S HD AND IT ERA

## Compatible with Mac and Windows Nonlinear Editing

With its IEEE 1394 (4-pin) and USB 2.0 interfaces, the AG-HVX200 connects directly to Mac and PC.

The **IEEE 1394** port supports SBP2 (Serial Bus Protocol 2) and allows direct connection to a Mac, making it easy to transfer P2 files for use with FinalCutPro nonlinear editing software. When you've recorded on mini DV tape, the AG-HVX200 can stream to a conventional DV-compatible nonlinear editing system.

The **USB 2.0** interface lets you transfer P2 files to a Windows PC for use with a nonlinear editing system (such as an Avid or Canopus product). These two interfaces provide you the best performance for Mac and Windows nonlinear editing systems.

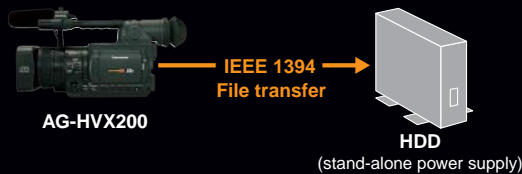
## External Recording with IEEE 1394 Streaming

The IEEE 1394 interface can be used to control an external device synched with the camera's Start/Stop operation, making it easy to create backup recordings. Compatible devices include the AJ-HD1200A (for DVCPRO HD recording), the AJ-SD93 (DVCPRO 50/DVCPRO), and the AG-DV2500 (DV). Also, when used with the FOCUS FireStore FS-100, the AG-HVX200 can provide extended-time recording in all codec formats, including DVCPRO HD (except in native recording mode).



## Transferring Files to an External HDD

The AG-HVX200 offers a host function. Insert a P2 card in the card slot, and data can be transferred to an external Hard Disk Drive (AC Power Supply needed) via the IEEE 1394 port.



## Analog Component Signal Output

The AG-HVX200 is equipped with analog component signal (Y, Pb, Pr) terminals for outputting 1080i, 720p and 480i (each 59.94 Hz) camera video signals. This lets you preview recorded clips on an ordinary HD/SD TV monitor.

## 16:9 Squeeze and Letterbox Modes

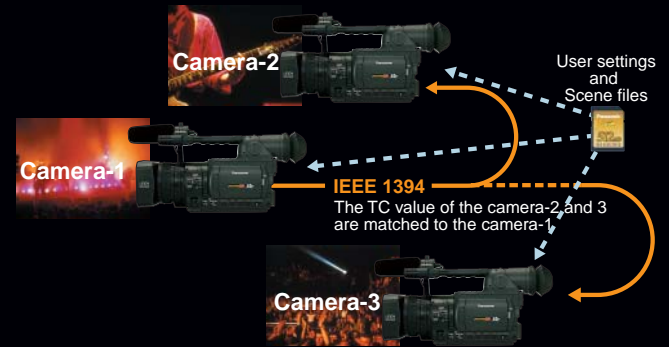
The AG-HVX200 can record in SD with a 16:9 or 4:3 aspect ratio. When 16:9 is selected, the AG-HVX200 can record in native 16:9 recording or can be switched to a letterboxed 4:3 image.

## TC Set and User File Copy with Multi-Cameras

Connecting two AG-HVX200 units together with an IEEE 1394 cable allows set initial time-code, which then enables time-code-matched editing with multiple camera-recorders. The built-in SMPTE time-code generator/reader lets you select the Drop Frame/Non-Drop Frame and Free Run/Rec Run modes, preset and regenerate\*. User bits are also provided.

User files (with sets of camera settings) can be transferred to an SD Memory Card. This makes it easy to synchronize images recorded simultaneously using multiple cameras.

\* Regenerate — available in tape mode.



## Compatibility with Nonlinear Editing Systems

In developing DVCPRO and P2 products, Panasonic has been working in collaboration with a number of strategic P2 Partners. The results are products that offer maximum compatibility with existing hardware and software, including IT-based system platforms and nonlinear editors and network servers.

Apple, Avid and Canopus have announced support of the DVCPRO HD P2 file recorded by the AG-HVX200. Using nonlinear editing systems from these three leading companies, you can produce HD videos from DVCPRO HD native files.\*

\*Latest compatibility test report is shown at : <https://www.pavc.panasonic.co.jp/pro-av/> "P2 compatibility table"

\*Apple and Final Cut Pro are trademarks of Apple Computer, Inc., registered in the U.S. and other countries.

\*Avid Xpress, Media Composer, and NewsCutter are trademarks registered in the United States of Avid Technology, Inc. or its subsidiaries.

\*Canopus, EDIUS are registered trademarks of Canopus Co., Ltd..



Apple Final Cut Pro



Avid Xpress Pro HD  
Avid NewsCutter family  
Avid Media Composer Adrenaline HD



Canopus EDIUS HD/SD/SP/Broadcast\*  
Canopus EDIUS NX/NXe/Professional  
(with Broadcast Upgrade Option)

\*Product name is subject to change in the future.



DVCPR0 HD  
Memory Card Camera-Recorder  
AG-HVX200

Protoble Hard Disk Unit  
"P2 store"  
AJ-PCS060G

H-Series Memory Card  
AJ-P2C004HG (4GB)  
AJ-P2C008HG (8GB)

LCD Video Monitor  
BT-LH1700W

# Versatile Operating Style

A TOOL TO SATISFY EVERY VIDEO PROFESSIONAL

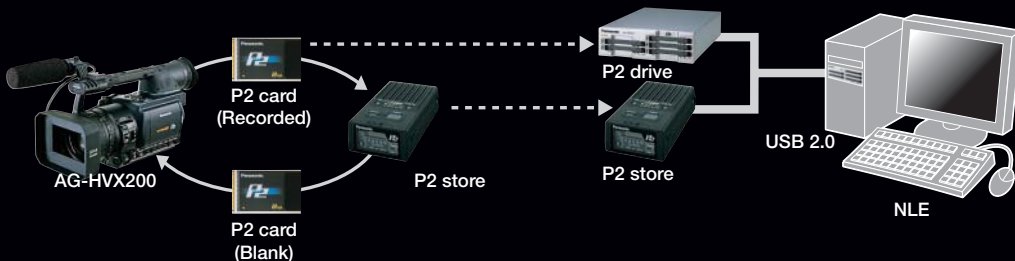
## Simple Solution

Using just an AG-HVX200 and a laptop computer (PC or Mac) you can access each clip or transfer clips via USB2.0 (PC) or IEEE1394 (Mac) without capturing process.



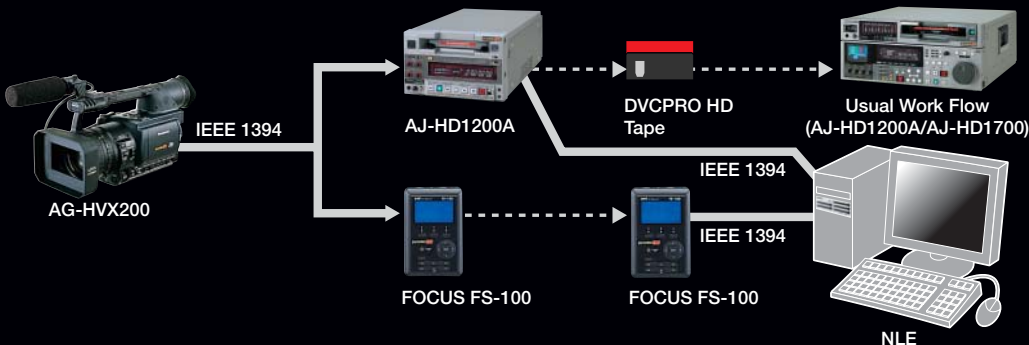
## News Gathering

Out in the field, the P2 Store hard drive lets you use and re-use the same P2 cards repeatedly. Back in the editing room, connect the P2 Store (or a P2 drive) directly to a NLE system. Mobile, reliable and easy to use, the AG-HVX200 speeds up production and gets the news quickly from the field to the air.



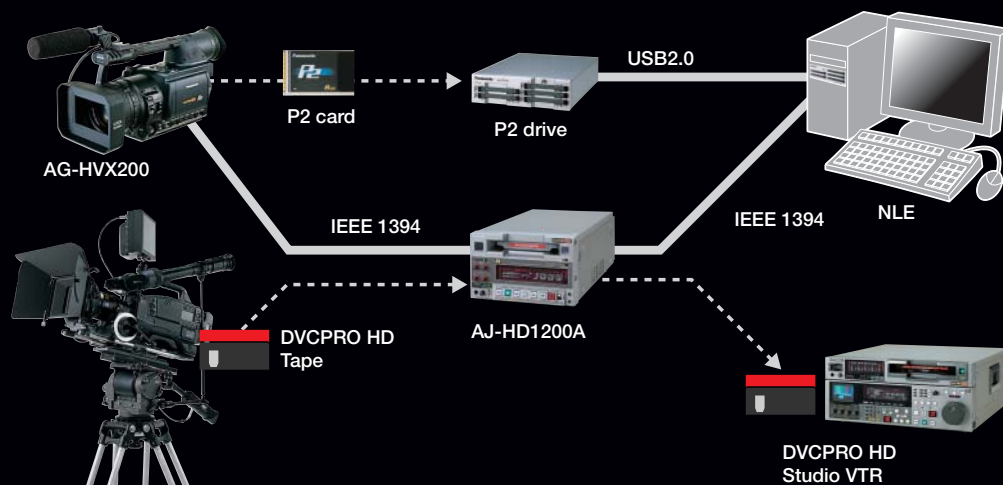
## HD TV Program Production

Program creation for HDTV can be made in the 1080i or the 720P format with the AG-HVX200. Recordings can be output to a DVCPRO HD VTR via the IEEE 1394 interface and added to the existing HD production flow. Used with the FOCUS FireStore FS-100, the AG-HVX200 can provide extended-time recording.



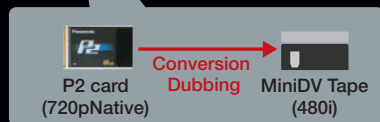
## Film, Commercial and Video Production

Use the AG-HVX200 as a main camera on an independent film shoot, or as a second camera on an VariCam HD production. Or it can be used in a high-end SD production with the AJ-SDX900. The HVX200 records in all of these formats so that you can go where you need to go with the camera. Its size and flexibility make it the camera of choice for many applications; it is mobile, and maneuverable, ready for all kinds of specialty shots.



## As a High-End DV Camera

The AG-HVX200 can record in any of the 60i, 30p, 24p and 24pA (Advance) modes used by DVX100 series equipment. Further, thanks to the P2 card recording and down-conversion function, you can copy overcranked and undercranked HD sources in 720p native mode to mini DV tape. This allows you to offer fast-motion and slow-motion effects in DV productions that here-to-fore just could not be accomplished without a complete VariCam System.





Side view (with LCD monitor open)



Side view (with terminal cover removed)



Rear view



Top controls (including playback and thumbnail functions)

# Specifications

## GENERAL

Supply Voltage:	DC7.2V / 7.9V, Battery or DC Input
Power Consumption:	11.6W (when viewfinder is used) 12.0W (when LCD monitor is used) 14.0W (Max)
Operating Temperature:	32°F to +104°F (0°C to +40°C)
Operating Humidity:	10% to 85% (no condensation)
Weight:	Approx. 5.5 lbs(2.5kg) excluding battery and accessories
Dimensions (WxHxD):	6-11/16" x 7-1/8" x 15-3/8" (168.5 x 180 x 390 mm) excluding prominent parts

## CAMERA

Pick-up Device:	3CCD (1/3-inch interline transfer type and progressive modes supported)
Lens:	LEICA DICOMAR lens with optical image stabilizer, motorized/manual mode switching, 13 x zoom, F1.6 (f=4.2mm to 55mm) (35mm equivalent: 32.5mm to 423mm)
Filter Diameter:	82mm
Optical Color Separation:	Prism system
ND Filter:	1/8, 1/64
Gain Selection:	(60i/60p mode) 0/+3/+6/+9/+12/+18 dB (30p/24p mode) 0/+3/+6/+9/+12 dB
Frame Rate:	variable 12/18/20/22/24/26/30/32/36/48/60 fps (frame/sec)
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 mode: 1/24, 1/50 (OFF), 1/60, 1/120, 1/250, 1/500, 1/1000 sec.
Shutter Speed (Variable):	60i mode: 1/60.0 sec. to 1/249.8 sec. 30p mode: 1/30.0 sec. to 1/249.8 sec. 24p mode: 1/24.0 sec. to 1/249.8 sec.
(Film Cam Mode)	Aperture Angle: 10° to 350°
Slow Shutter Speed:	60i/60p mode: 1/15, 1/30 30p mode: 1/15 24p mode: 1/12
Minimum Luminance:	3 lux (F1.6, +12 dB gain, at 1/24 shutter)

## Video P2 General (DVCPRO HD, 1080i/720p)

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

## Audio P2 General (DVCPRO HD, 1080i/720p)

Sampling Frequency:	48 kHz / Quantizing 16 bits / 4ch
Frequency Characteristics:	20 Hz to 20kHz
Wow & Flutter:	Below measurable limits

## Memory Card

Recording Format:	DVCPRO HD/DVCPRO 50/DVCPRO/DV selectable
Video Recording Signal:	1080/60i — 24p/24pA/30p (all convert to 60i and record) 720/60p — 24P/30p (all convert to 60P and record), 720/24pN, 720/30pN 480/60i — 24p/24pA/30p mode (all convert to 60i and record)
Audio Recording Format:	PCM digital recording 48 kHz / 16 bits 4ch (DVCPRO HD / DVCPRO 50), 2ch/4ch selectable (DVCPRO / DV)
Recording Time*:	8 minutes with one AJ-P2C008GB (DVCPRO HD, 1080/60i) (Approx.) 20 minutes with one AJ-P2C008GB (DVCPRO HD, 720/24pN)

## VTR part General

Recording Format:	DV (25Mbs only, 4:1:1, 5:1 compression)
Tape Format:	Mini DV cassette (6.35mm width metal evaporated tape)
Recording Video Signals:	480/60i (NTSC), 24p/24pA/30p mode (all convert to 60i and record)
Recording Audio Signals:	PCM digital recording, 16 bits: 48kHz/2ch or 12 bits: 32kHz/4ch
Recording Tracks:	Digital video / audio signals: helical track Time code: helical track (sub-code area)
Tape Speed:	SP mode: 18.812mm/sec, LP mode: 12.555mm/sec
Recording Time:	SP mode: 63 minutes, LP mode: 94 minutes (When using AY-DVM63MQ)
FF/Rew Time:	Approx. 140 sec. (when AY-DVM63MQ is used)

## VIDEO connectors

Video Out:	Analog component, Y: 1.0Vp-p, 75Ω, Pb/Pr: 0.7Vp-p, 75Ω
Video In/Out:	Pin Jack x 1, Analog composite, 1.0Vp-p, 75Ω (In/out automatically switched, Input DV tape mode only)
S-video In/Out:	4-pin, Y/C Y: 1.0Vp-p, 75Ω, C: 0.286Vp-p, 75Ω (In/out automatically switched, Input DV tape mode only)

## AUDIO connectors

XLR In:	XLR (3 pin) x 2 (Input 1/Input 2), Input: High impedance Line: 0dBu, MIC: -50/-60 dBu (selectable in menu)
Line In/Out:	Pin Jack x 2 (Input 1/Input 2), (automatically switched), In: High impedance 316mV, Out: 600Ω, 316mV
Internal Microphone:	Stereo Microphone
Phones:	Stereo Mini jack (3.5mm diameter)

## OTHER connectors

IEEE 1394:	4-pin Digital input/output, based on IEEE 1394 standard
USB:	Type mini B connector (USB ver.2.0)
Camera Remote:	Zoom, Rec (Start/Stop) Super Mini jack (2.5mm diameter) Focus Iris, Mini jack (3.5mm diameter)
DC Input:	7.9V

## Monitor, Speaker, AC Adapter, and Other packages

LCD Monitor:	3.5 inches, LCD color Monitor, 210,000 pixels
Viewfinder:	0.44 inches, LCD color Viewfinder, 235,000 pixels
Internal Speaker:	28mm round shape x 1
AC Adapter:	Weight: 160g, Dimensions: 70 (W) x 44.5 (H) x 116 (D)mm
Supplied Accessories:	AC adapter/charger, AC Cord, DC Cord, Battery (5400mAh), Wireless remote controller, Microphone holder, Shoulder strap, Component Video cable, P2 card software driver install (CD-ROM)

\* 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.

# Optional Accessories



**AG-MC100G**  
XLR microphone



IEEE 1394 Interface cable



**AJ-PCS060G**  
P2 "Store" portable hard disk unit



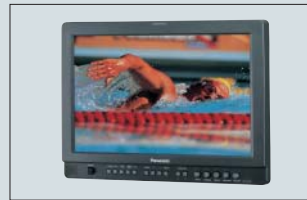
SD memory card



**FOCUS Enhancements, Inc.**  
**FireStore FS-100**  
(will be available soon.)  
Portable DTE Recorder



**AJ-HD1200A**  
DVCPRO HD player/recorder



**BT-LH1700W**  
17" HD/SD LCD monitor



**CGP-D28A/1B** Battery Pack (2.8 Ah)  
**CGA-D54SE/1B** Battery Pack (5.4 Ah)



**AJ-PCD10**  
P2 Memory Card drive



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



**AY-DVM63PQ**  
Professional Series Tape  
**AY-DVM63MQ**  
Master Series Tape  
**AY-DVM63AMQ**  
Advanced Master Quality Series Tape  
\*Please do not use 80 minutes miniDV cassette tapes

**AY-DVMCL**  
Cleaning tape



**BT-LH2600W**  
(will be available in June, 2006.)  
26" HD/SD LCD monitor



P2 — BRINGING GREATER SPEED AND CREATIVITY TO THE CONTENT CREATORS

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