Panasonic

P2HD

AG-HPX255
AG-HPX250

P2 Handheld Memory Card Camera Recorder

(AG-HPX255P/HPX250P, AG-HPX255EJ/HPX250EJ, AG-HPX255EN/HPX250EN)

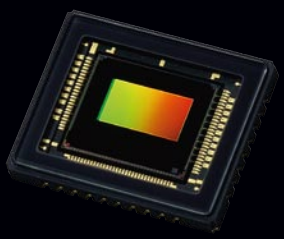
AVC-INTRA DVCPRO HD DVCPRO 50 DVCPRO DV

Shoulder-Type Performance and Functions in a Handheld Camera Recorder for Broadcast Use

The high-performance AG-HPX255/HPX250 P2 handheld camera recorders fill out the P2HD Series by incorporating the newest technologies throughout — in the lens, camera and recorder sections. The 22x zoom lens covers a wide shooting range, from wide-angle to telephoto, and features three manual rings for precise control. Imaging is optimized by the high-sensitivity, low-noise 1/3-type 2.2-megapixel U.L.T. (Ultra Luminance Technology) 3MOS image sensors. And the AG-HPX250/HPX255 are the first handheld models to support AVC-Intra codecs. This combination produces a level of performance that rivals many full-size shoulder-type camera recorders, and adds the high-quality acquisition of Full-HD (1920 x 1080) in 10 bit, 4:2:2 full sampling. Image expression is also boosted by the Variable Frame Rate (VFR) function, and system expansion for broadcasting and other production applications is provided by multi-camera synchronizing. The stylish design of the AG-HPX250/HPX255 adds further to both mobility and operating ease, and opens a new stage for news gathering and image acquisition. In addition to these specifications, the AG-HPX255 is fully prepared for broadcast use, including camera remote capabilities when combined with the optional AG-EC4G Extension Control Unit.

28 mm to 616 mm*, 22x Zoom Lens

*35 mm equivalent



2.2-Megapixel U.L.T. Image Sensors

1920 × 1080 10 bit 4:2:2 AVC-Intra Codec

Full HD (1920 x 1080 Pixels) & 10 bit 4:2:2 Full Sampling Recording

22x Panasonic Lens — Zooming in on New Levels of Image Expression

AG-HPX255/HPX250

Packed with Panasonic Optical Technology

The high-performance zoom lens was developed specifically for professional HD video production. While inheriting the wide-angle capabilities of the DVX and HVX Series, it adds the same level of operating ease as you'd expect from an interchangeable lens model for broadcasting and other professional uses. Combining 18 lens elements in 12 groups, this advanced lens unit further adds a UHR (Ultra High Refractive) glass element, a low dispersion element and aspherical lenses. This newest optical technology can provide high resolution. In addition, it is combined with a unique Panasonic digital signal processing technology called Chromatic Aberration Compensation (CAC) to minimize color bleeding in the surrounding image and achieve rich expression with finely rendered nuances and excellent shading. Zooming from 28mm to 616mm (35mm equivalent), this 22x zoom lens covers a wide field of view, from wide-angle to telephoto, without a conversion lens.

Wide 28 mm | Tele 616 mm (22x) | 22x optical zoom x 10x digital zoom (220x)

Three Manual Rings — Zoom, Focus and Iris

The lens unit is provided with three rings — a mechanical (cam-driven) zoom ring, a focus ring, and an iris ring. You can operate them manually almost like an interchangeable lens including rugged operation of zoom ring.

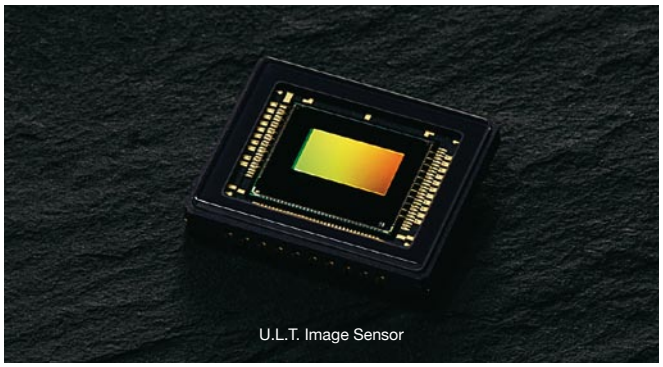
Optical Image Stabilizer, Digital Zoom, and ND Filter

- Hand-shake correction with the Optical Image Stabilizer (OIS).
- Digital Zoom function.* It can be assigned to an user button and close up to 2x, 5x, and 10x. In combination with the optical zoom, this function provides a telephoto capability up to 220x.
- Four-position (OFF, 1/4 ND, 1/16 ND, 1/64 ND) optical neutral density filter wheel.

* The digital zoom cannot be used while operating the Dynamic Range Stretch (DRS) or Scan Reverse functions. If either function is operated while digital zooming, the zoom will be automatically turned off. Also, Flash Band Compensation (FBC) will not operate while digital zooming.

High-Sensitivity, Low-Noise U.L.T. Image Sensor

AG-HPX255/HPX250



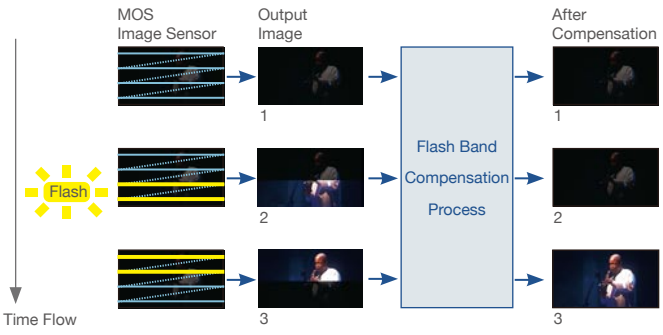
High-Sensitivity F10*, 2.2-Megapixel, Low-Noise U.L.T. Image Sensor and Optimized Signal Processing Circuit

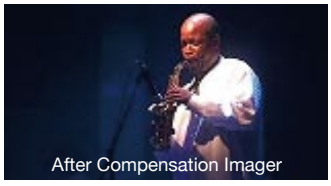
The AG-HPX255/HPX250 feature the Ultra Luminance Technology (U.L.T.) 1/3-type 2.2-megapixel 3MOS image sensor that is incorporated in our shoulder-type P2HD camera recorders. This advanced image sensor is set to maximize the performance of the lens and signal processing circuit under standard shooting conditions. Progressive Advanced Processing (PAP) technology, which is driven by 3D adaptive processing, has also been further refined to enable high-sensitivity F10*, low-noise shooting in dimly lit places.

*AG-HPX255/HPX250 sensitivity is selectable, F10 is PAP Filter Type1 and F7 is PAP Filter Type2 in 59.94Hz mode.
In 50Hz mode, F11 is PAP Filter Type1 and F8 is PAP Filter Type2. The default setting is PAP Filter Type2.

Flash Band Compensation

In contrast with the CCD image sensor, which accumulates still images of single frames that are exposed with identical timing, the MOS image sensor uses a rolling shutter system that sequentially scans each line of pixels. This lowers power consumption and enables high-speed drive, but because the exposure timing differs for each line, when an external flash is used, it tends to produce images where the brightness is divided between the top and bottom of the image. This is called the flash band effect. The AG-HPX255/HPX250 are equipped with highly accurate flash band detection and compensation software. By generating pairs of frames containing flash bands, and frames in which a flash extends from the previous frame to the entire screen, and then using the compensation process to adjust the level, the flash band effect of MOS-based imagers is eliminated.



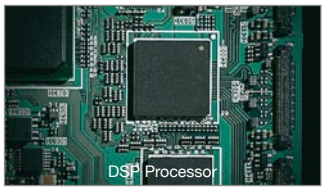


The High-Quality DSP Matches Image Processing and Quality to match Each Shooting Situation

AG-HPX255/HPX250

20 bit Digital Signal Processor

The AG-HPX255/HPX250 incorporate a high-performance 20 bit DSP that handles image rendering processes such as gamma and various detail enhancement functions with exceptional precision.



Dynamic Range Stretch (DRS)

In scenes with mixed contrast, such as when panning from indoors to outdoors, the DRS function automatically suppresses blocked shadows and blown highlights. A gamma curve and knee slope are estimated to match the contrast of each pixel, and applied in real time. When dark, bright, and intermediate shades are all contained in the same scene, this produces excellent gradation for each shade and minimizes blocked shadows and blown highlights.

* The DRS function does not operate in 1080/24p, 1080/25p or 1080/30p mode.

DRS OFF

DRS ON

Seven Mode Gamma for Richer Gradation

Drawing on technologies developed for the VariCam, Panasonic has equipped the AG-HPX255/HPX250 with advanced gamma functions that address seven different shooting scenarios, including two Cine-Like Gammas.

HD NORM mode

CINE-LIKE D mode

AG-HPX255/HPX250 Gamma Modes

HD NORM:	Suitable for standard HD recording.
LOW:	Works to flatten out a high contrast scene.
SD NORM:	Normal setting for SD.
HIGH:	Expands the tone of dark parts and makes a brighter image. The contrast softens.
B.PRESS:	Makes the contrast sharper than LOW.
CINE-LIKE D:	The Cine-Like mode shifted to prioritize dynamic range.
CINE-LIKE V:	The Cine-Like mode shifted to prioritize contrast.

Other Camera Image Settings

- Variable shutter speed from 1/6 to 1/2000 sec. plus Synchro Scan function.
- Matrix setting including a Cine-Like mode
- Adjustable H detail level, V detail level, detail coring and skin tone detail.
- Adjustable chroma level, chroma phase, color temp and master pedestal.
- Knee point settings: Auto, Low, Mid and High.

Rapid Response with Agile Shooting Assist Functions

AG-HPX255/HPX250

Advanced Focus Assist Functions

A variety of focus assist functions support quick and accurate focusing in Manual Focus mode.

- Turbo-Speed One-Push Auto-Focus: Pressing the PUSH AUTO button enables focusing in 0.5 sec. or less.*1 *2
- Focus-In-Red Display: This function emphasizes the image areas in focus by marking the edges in red.*2
- Expand: Enlarging the center portion increases visibility.
- Focus Bar: This provides a graphical meter display of the focus level.

*1: Focusing time may vary depending on the shooting conditions and object.
*2: You may need to update the AG-HPX250 firmware. Please refer to "Service and Support" on the Panasonic Website (http://pro-av.panasonic.net/).

Focus Assist OFF

Focus Assist ON

Three Position Gain Selector plus 30dB Super Gain Function

There is a three position gain selector, with L, M and H settings. To each setting you can assign a gain value from 0, +3, +6, +9, +12, +15 and +18 dB. There is also a Super Gain such as +24 dB and +30 dB.

Scene File / User File

Set Scene dial for an instant set of shooting conditions. Six preset files are provided, and you can change any of the six file names and their settings as desired. One set can be stored internally in the AG-HPX255/HPX250, and four sets on an SD Memory Card. One file with camera setting values can also be stored internally, and four files on an SD Memory Card.

Scene File Description

F1: –	Standard settings
F2: FLUO.	Indoor shooting under fluorescent lights
F3: SPARK	Highlighting subjects at receptions, events etc.
F4: B-STR	Enhanced gradations of luminance in low light scenes
F5: CINE V	Cine-Like setting shifted to prioritize contrast*
F6: CINE D	Cine-Like setting shifted to prioritize dynamic range*

* Selecting a scene file does not change the video recording format. If you want to switch to 25p, 24p and 30p, you must do so as a separate procedure.

Five User Buttons

There are a total of five User buttons: User Main, User 1 to 3 on the top panel, and User 4 on the rear of the AG-HPX255/HPX250. Based on user's requirements, customized operation can be set by assigned 18 versatile functions to these user buttons.

User button allotment function

SPOTLIGHT, BACKLIGHT, ATW, ATW LOCK, S.GAIN, D.ZOOM, Y GET, DRS, TEXT MEMO, SLOT SEL, SHOT MARK, MAG A. LVL, LVL METER, PRE REC, WFM, LAST CLIP, FBC, LCD B.L.

Exclusive P2HD High Image Quality: 10 bit, 4:2:2, AVC-Intra 100 Codec

AG-HPX255/HPX250

Full-Pixel, Full-Sample AVC-Intra Recording

These are the first handheld camera-recorders to support the AVC-Intra codecs of the P2HD Series for HD recording of broadcast and movie images. Featuring a high compression ratio based on the new MPEG-4 AVC/H.264 moving picture compression technology, this advanced system maintains intra-frame compression to provide both high image quality and excellent editing performance.
It offers recording and playback of both AVC-Intra 100 and AVC-Intra 50 modes, and also supports DVCPRO HD recording and playback.

- **AVC-Intra 100: 1920 x 1080,* 10 bit, 4:2:2**

High-quality images with full-pixel HD and full sampling are recorded at the same bit rate as DVCPRO HD, bringing agile mobility to high-end production.

- **AVC-Intra 50: 1440 x 1080,* 10 bit, 4:2:0**

Image quality is the same level as DVCPRO HD, but with the SD (DVCPRO 50) bit rate. You get twice the recording time of DVCPRO HD, and about half the required data transmission time.

* These figures are for 1080i/p mode. The AG-HPX255/HPX250 also supports 720p mode.

Multi-Format Recording with Native 24p/25p Support and More

- **Native recording modes:** In addition to 1080/59.94i with the AVC-Intra codec, native recording is supported at 1080/23.98p or 1080/29.97p and 1080/25p. In 720p, native recording is possible for both DVCPRO HD and AVC-Intra, making it possible to extend recording time by 2 to 2.5 times in comparison with pull-down recording.

*Camera through output and playback image output are pulled-down 59.94 (50) frames.

- **Pulldown record mode:** This VariCam-compatible mode records*1 with the DVCPRO HD codec. A 2:3 pulldown is applied to 23.98p, and a 2:2 pulldown is applied to 29.97p, to record 1080/59.94i or 720/59.94p and 1080/25p over 50i or 720/25p over 50p. The 23.98pA (2:3:3:2 advanced pulldown) mode is also supported, allowing editing on applicable nonlinear systems*2 with little image degradation.
- **59.94Hz/50Hz selector:** Supports worldwide HD/SD production.
- **SD image acquisition:** The DVCPRO 50/DVCPRO/DV multi-codec enables 480/576 image acquisition, with aspect ratio conversion. Select from Side Crop, Letter Box and Squeeze modes.

*1: Not compatible with the AVC-Intra codecs.
*2: See the following website for details on applicable systems.
http://pro-av.panasonic.net/en/sales_o/p2comp/index.html

High Quality/16 bit, Four Channel Digital Audio

The AG-HPX255/HPX250 can record high quality/16 bit digital audio on all four channels. You can freely select the audio source for each channel, choosing from built-in mic, external mic and line-in. Level volume is also supported on all four channels.

P2 Card Recording Boasts High Reliability and Easy Operation

AG-HPX255/HPX250

Double Slot System with Two P2 Card Slots

In addition to allowing continuous recording onto two P2 cards, this system offers the following functions.

- **Card select:** The recording slot can be switched in Standby mode.
- **Hot-swap recording:** The card in the standby slot can be exchanged while the other card is being recorded on.

Reliable, Large-Capacity P2 Card/microP2 Card Media

In addition to the conventional P2 card, the AG-HPX255/HPX250 accommodate the compact, lightweight microP2 card.*1 Along with the semiconductor's inherent resistance to impact, vibration and temperature change, this new media, unlike tapes and discs, has no rotating or physically contacting parts during recording and playback – for increased reliability. The microP2 card also features a Content Protection System (CPS) that enables password data locking to further bolster security. Both the P2 card and microP2 card offer a maximum capacity of 64 GB*2 for extended recording time (see page at right). Both cards are designed to stand up to repeated, long-term use.

*1: You may need to update its firmware. Please refer to the "service and support" on the Panasonic Website (http://pro-av.panasonic.net/). Requires the optional AJ-P2AD1G Memory Card Adapter to use the microP2 Card . *2: 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.

Versatile MXF File-Based Recording

File-based recording onto memory cards enables high-speed starts, recording starts with no need for cueing, and protection against accidental data overwriting. The recorded data is organized into MXF files. The files can be transferred to a nonlinear editor or over a network without the need for digitizing.*

*PCs must be installed with the included P2 driver in order to mount P2 cards. For editing, PCs must be installed with P2-compatible editing software available from various companies. Read "Notes Regarding the Handling of P2 Files Using a PC" on the back page.

AG-HPX255/HPX250 Recording Format & Recording Time

HD Format	Pull down	Codec & Recording Time (with two 64 GB P2 Card)		
		DVCPRO HD	AVC-Intra 100	AVC-Intra 50
1080/59.94i	—	Approx. 128 min.	Approx. 128 min.	Approx. 256 min.
1080/29.97p over 59.94i	2-2		—	—
1080/23.98p over 59.94i	2-3		—	—
1080/23.98pA over 59.94i	2-3-3-2		—	—
1080/29.97pN (Native)*1	—	—	Approx. 128 min.	Approx. 256 min.
1080/23.98pN (Native)*1	—	—	Approx. 160 min.	Approx. 320 min.
1080/50i	—	Approx. 128 min.	Approx. 128 min.	Approx. 256 min.
1080/25p (over 50i)	—		—	—
1080/25pN (Native)*1	—	—	Approx. 128 min.	Approx. 256 min.
720/59.94p	—	Approx.128 min.	Approx. 128 min.	Approx. 256 min.
720/50p	—		Approx. 128 min.	Approx. 256 min.
720/29.97p over 59.94p*2	2-2		—	—
720/25p over 50p*3	2-2		—	—
720/23.98p over 59.94p*2	2-3		—	—
720/29.97pN (Native)*1	—	Approx. 256 min.	Approx. 256 min.	Approx. 512 min.
720/25pN (Native)*1	—			
720/23.98pN (Native)*1	—	Approx. 320 min.	Approx. 320 min.	Approx. 640 min.
SD Format	**Pull down**	**Codec & Recording Time (with two 64 GB P2 Card)**		
		DVCPRO 50	**DVCPRO**	**DV**
480/59.94i	—	Approx. 256 min.	Approx. 512 min.	Approx.512 min.
480/29.97p over 59.94i	2-2			
480/23.98p over 59.94i	2-3			
480/23.98pA over 59.94i	2-3-3-2			
576/50i	—	Approx. 256 min.	Approx. 512 min.	Approx. 512 min.
576/25p (over 50i)	2-2			

*1: Native modes record only the effective frames.
*2: When you select 24 FRAME/30 FRAME in VFR mode in DVCPRO HD 59.94p mode.
*3: When you select 25 FRAME in VFR mode in DVCPRO HD 50p mode.

Variable Frame Rate Function Enhances the Image Expression

AG-HPX255/HPX250

Variable Frame Rate — Also Supported in 1080p Mode

The Variable Frame Rate (VFR) function was inherited from the Panasonic VariCam, which is widely used for producing movies, TV series, and TV commercials. It creates a wide range of film-camera-like images, such as overcranking for slow-motion and undercranking for quick-motion effects.

Image Modes and Variable Frame Rates

1080/59.94i, 23.98p, 29.97p:	1/2/4/6/9/12/15/18/20/21/22/24/25/26/27/28/30 fps (frames per second)
1080/50i, 25p:	1/2/4/6/9/12/15/18/20/21/22/23/24/25 fps
720/59.94p, 23.98p, 29.97p:	1/2/4/6/9/12/15/18/20/21/22/24/25/26/27/28/30/32/34/36/40/44/48/54/60 fps
720/50p, 25p:	1/2/4/6/9/12/15/18/20/21/22/23/24/25/26/27/28/30/32/34/37/42/45/48/50 fps

- **Normal cinematic shooting (at 24 fps, 25 fps or 30 fps)** refers to the same rate as used in film cameras. The AG-HPX255/HPX250 can record in 24 fps. Note that 25 fps and 30 fps are the standard frame rates used in the production of TV commercials, music clips and video media.
- **Overcranking (higher-speed shooting)** produces a slow-motion effect. This is especially effective for high-action scenes like car chases or crashes, or to create a dramatic impact in a scene. For example, when a scene is shot at 48 fps and played at 24 fps, a slow-motion effect of 1/2x is attained.
- **Undercranking (lower-speed shooting)** gives you a quick-motion effect. This technique can be combined with a warp-speed effect to give special emphasis to flowing water, fast-moving clouds, etc. For example, when a scene is shot at 12 fps and played at 24 fps, a quick-motion effect of 2x is attained.

Undercranking (lower-speed shooting)

Overcranking (higher-speed shooting)

Versatile Recording Functions Enabled by File-Based Recording

AG-HPX255/HPX250

Clip Thumbnail Display and Clip Editing

Recorded clips are automatically allocated a thumbnail image and metadata. This lets you display the thumbnail images on the LCD monitor, delete clips, and confirm or edit metadata (using the built-in Software Keyboard function).

- **Last clip delete:** The clip that was most recently recorded is deleted with a single touch.
- **Rec check:** The beginning and ending of the clip that was most recently recorded are checked with a single touch.

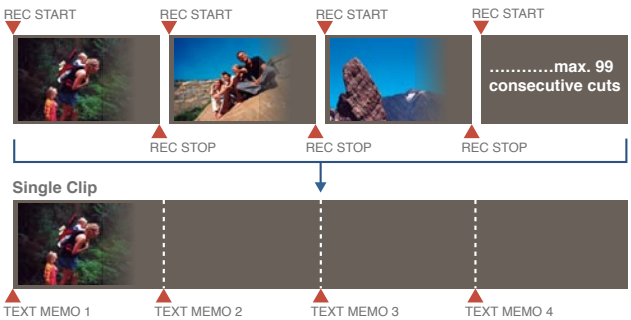
Shot Marker and Text Memo*1

- **Shot marker:** Clips can be marked during or after recording. When mounted to a PC,*2 the user can display only the marked clips if desired.
- **Text memo:** This lets you post a memo on any scene of any clip, up to 100 memos in all, similar to a sticky note.

*1: Shot marker and text memo cannot be used in loop rec, interval rec, or one-shot rec.
*2: When using P2 Viewer Plus, a Windows PC viewing application that can be downloaded free of charge by P2 users. See the following website for details.
http://pro-av.panasonic.net/en/sales_o/p2/index.html

One-Clip Rec Mode

Whereas normal Rec mode produces a clip for each Rec start/stop cut, One-Clip Rec mode records up to 99 consecutive cuts as a single clip, which greatly improves the nonlinear editing work that follows. A text memo is automatically attached when recording begins, making it easy to find desired cuts within the clip.



Recording Modes That Meet a Wide Variety of Needs

- **Loop rec:** This repeatedly re-records a particular recurring time slot, always maintaining a recording of the most recent period.
- **Pre-rec*:** While in standby mode, you can continuously store, and subsequently record, up to 3 seconds in HD (7 seconds in SD). This will help you to get the shot you want every time.
- **Interval rec*:** This gives you automatic intermittent recording based on a set interval and recording time.
- **One-shot rec*:** This frame-shot recording function is useful for producing animations.
- **Time stamp:** The date and time can be stamped onto recorded images. Commonly used for evidential images.

* These functions cannot be used during Variable Frame Rate recording.

Focus FS-P250 (by VITEC) Proxy File Recorder (Optional)

The optional Focus FS-P250 Proxy Recorder is compatible with the AG-HPX255/ HPX250 camera recorders. The Focus FS-P250 records proxy files onto SD/SDHC memory cards in parallel with the AVC-Intra or DVCPRO format files recorded onto the P2 cards in the camera recorder.*2 The proxy files are compatible with P2 file format and are linked to the P2 footage via filename, ID and metadata. This allows the proxy files to be easily used for offline editing applications; the editor only needs to replace the proxy data with P2 data before rendering the final video production.*3 The Focus FS-P250 supports high quality video (Quick Time/H.264) and audio formats (see chart below) at a low bit rate. The Focus FS-P250 high quality proxy files can be used for breaking news and other scenarios that would benefit from proxy workflows. Moreover, the Focus FS-P250 streamlines production workflow by allowing the editor to review the content details during offline editing.

Proxy Viewing by Wireless Connection (Optional)

The Focus FS-P250 Proxy Recorder also features a wireless web interface. When using the AJ-WM30 Wireless Module with the Focus FS-P250, proxy files can be streamed/viewed via standard web browser on a PC/Mac, tablet, or smartphone.*4 While viewing the streamed files, metadata can be added to the proxy files. Using a PC/Mac also enables a cloud-based workflow by uploading and sharing video data via a network.

Focus FS-P250

Proxy Recorder (Manufactured by VITEC)

- Records P2-compatible proxy video files (.MOV/H.264).
- Includes a built-in wireless web interface. When used with the optional AJ-WM30 Wireless Module, the Focus FS-P250 allows a PC/Mac or iOS device to view the proxy files and input metadata.
- High quality, low-bit-rate files enable faster media sharing and video uploading.
- Compact size and light weight (approx. 320 g/approx. 0.71 lb).
- Battery powered and AC adaptor operation.
- Equipped with SDI (HD/SD) input and loop-through output.
- Includes desktop application for a PC/Mac that allows the user to manage and synchronize the metadata form both the P2 and proxy files.

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

Mounts to the camera recorder's accessory shoe. (This application example also shows the AJ-WM30 Wireless Module attached.)

*Optional bracket is required for mounting to a camera recorder.

Specifications

Power Source:	DC 12 V
Power Consumption:	3.6 W for main unit only, 4.2 W with AJ-WM30 Wireless Module
Dimensions (WxHxD):	84 mm x 34 mm x 135 mm (3-5/16 inches x 1-3/8 inches x 5-3/8 inches)
Weight:	Approx. 210 g (approx. 0.46 lb) for main unit only, Approx. 320 g (approx. 0.71 lb) with battery pack

FS-P250 Recording Format

Mode	Wrapper	Video					Audio		
		resolution	Scanning Mode	Frame Rate	H.264 Profile	Bit Rate	CH	Bit Rate	Codec
SHQ*5	MOV	960 x 540	Progressive	30/25/24 fps	High	3 to 4 Mbps	2 CH	48 kHz	Linear PCM
HQ*5	MOV	640 x 360	Progressive	30/25/24 fps	High	1.5 Mbps	2 CH	64 kbps, 48 kHz	AAC-LC
LOW*5*6	MOV	480 x 270	Progressive	30/25/24 fps	Baseline	800 kbps	2 CH	64 kbps, 48 kHz	AAC-LC
LOW (NTSC)*7	MOV	352 x 240	Progressive	30 fps	Baseline	800 kbps	2 CH	64 kbps, 48 kHz	AAC-LC
LOW (PAL)*7	MOV	352 x 288	Progressive	25 fps	Baseline	800 kbps	2 CH	64 kbps, 48 kHz	AAC-LC

*1: You may need to update AG-HPX255/HPX250 firmware. Please refer to "Service and Support" on the Panasonic Website (http://pro-av.panasonic.net/).
*2: Proxy data cannot be recorded when using the Loop REC or Interval REC function. Proxy data is a low-resolution video and audio data with time code, metadata, and other management data in a file format.
*3: It doesn't guarantee the zero frame error. For the latest information about offline editing support, see "Service and Support" on the Panasonic website.
*4: For the latest information, see "Service and Support" on the Panasonic website (http://pro-av.panasonic.net/).
*5: SHQ/HQ/LOW are HD modes. When the camera recorder recording in SD mode, these modes cannot be selected.
*6: The resolution for 720/60p and 720/50p input is 320 x 180, and the frame rate is 60 fps and 50 fps, respectively.
*7: When the camera recorder records in SD (NTSC), the proxy will be recorder in LOW (NTSC). When it records in SD (PAL), it will be recorded in LOW (PAL). No other modes can be selected.

A Camera Remote Function Prepares the AG-HPX255 for Studio Use

AG-HPX255

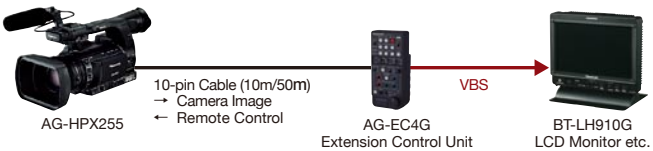
AG-EC4G

Extension Control Unit

- Compatible camera recorders: AG-HPX255, AG-HPX370 series, AG-HPX500 series, AG-HPX600, AJ-HPX3100G, AJ-PX5000
- The maximum length of the remote control cable is 50 m (164 feet).
- A 10 m (32 feet) remote cable is bundled.
- The AG-EC4G is both compact and light at 630 g (1.4 lb).

New 10-pin Remote Terminal

A remote terminal is provided for the optional AG-EC4G Extension Control Unit. This enables camera settings to be made and recording to be controlled while watching the monitor at the remote end.* This handheld unit also supports studio integration.



*Only functions that are supported by the AG-HPX255 can be controlled.

Control Functions

Camera Settings:	Gain Up/Down, White Balance A/B/Preset Selection and AWB/ABB Execution, Iris Auto/Manual Selection and Adjustment, Master Pedestal, Painting, Shutter SS/Fix/Off Selection and Speed Setting
Operation:	Menu Operation, User Buttons (x3), Rec/Play/FF/Rew/Rec Check
Monitor Output:	Cam/Bar Select (linked to Auto Knee), Character On/Off

Specifications

Power Supply:	DC 12 V
Power Consumption:	2.5 W
Weight:	630 g (1.4 lb)
Dimensions (WxHxD):	82 mm x 180 mm x 56 mm (3-1/4 inches x 7-1/8 inches x 2-1/4 inches) excluding knobs

High Resolution and High Brightness Color Viewfinder and LCD

AG-HPX255/HPX250

High Resolution and High Brightness Color Viewfinder and LCD

The AG-HPX255/HPX250's color EVF uses a 11.43 mm (0.45 inches), approximately 1,226,000 dot-equivalent (852 x 480 x 3 [RGB]) LCOS (liquid crystal on silicon) display panel. It delivers bright, detailed, high-resolution images and a high response speed.

LCOS Color EVF

High Resolution LCD Monitor

The AG-HPX255/HPX250's LCD monitor has a 87.63 mm (3.45 inches), approximately 921,000-dot (1920 x 480) high-resolution panel.

Color LCD Monitor

Simplified Waveform and Vectorscope Display

The AG-HPX255/HPX250 have Waveform and Vectorscope Display functions for the captured video signal on the LCD monitor.

Waveform

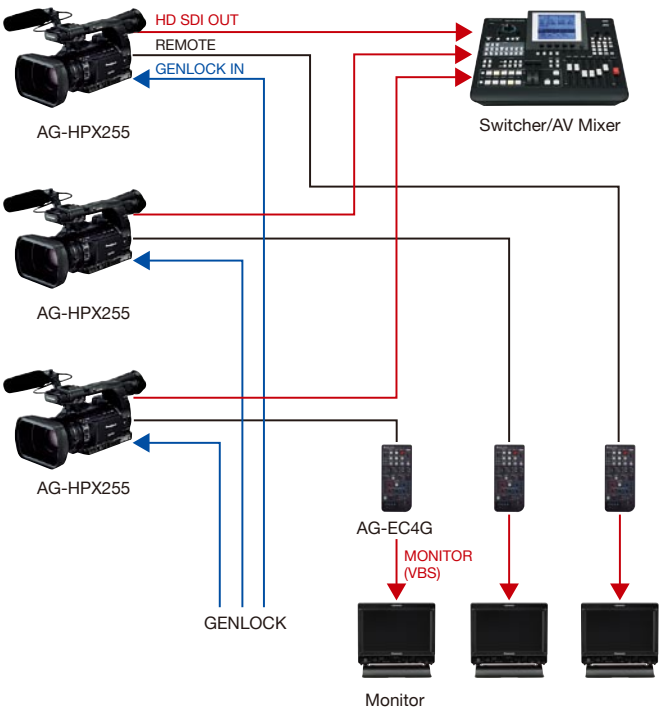
Vectorscope

Other Functions

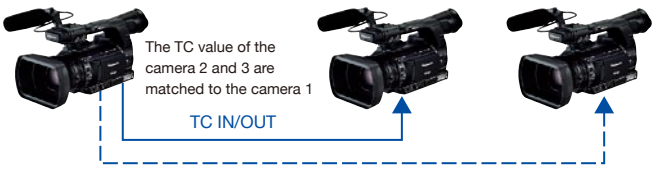
- **White Balance Selector:** Two values (A/B) memory and one value preset.
- **ATW** (Automatic Tracing White balance) function.
- **Mode check:** Displays a list of the camera settings on the viewfinder and LCD monitor.
- **Zebra:** Select any two levels from among 50% to 109%, in 1% steps.
- **Y-GET:** Measures brightness at the screen center and displays precise numerical data.
- **Tally lamps:** Provided on the unit's front and rear.

Multi-Camera Synchronizing with Genlock IN and TC IN/OUT

These handheld cameras support a multi-camera configuration. They feature a built-in SMPTE time-code generator/reader, TC input/output, and Genlock input for multi-camera recording with time-code synchronization. Images can be synched and output to a switcher, providing the same level of operation as many shoulder-type models.



A multi-camera system using GENLOCK synchronization (only the AG-HPX255 is able to use the AG-EC4G and monitor).



A multi-camera system using TC IN/OUT synchronization.

Digital A/V Output with SDI and HDMI

- **SDI OUT (HD/SD):** Allows camera-through output during HD/SD recording, or outputs high-quality 10 bit, 4:2:2 images for playback of AVC-Intra 100 footage. Includes embedded audio, and supports Rec S/S linked backup recording with a Panasonic recorder equipped with HD SDI input. When outputting SD SDI down-converted from an HD source, the Aspect Ratio Conversion mode can also be selected.
- **HDMI OUT:** This is a next-generation interface for HD video and audio. It allows digital A/V output from a wide range of devices with both professional and consumer specifications.
- **VIDEO OUT:** SD composite output. HD playback is down-converted.

Other Interfaces

- **USB 2.0 HOST:** This allows files to be copied between an external HDD and a P2 card *1, and lets you view the thumbnails of P2 files saved onto the HDD.
- **USB 2.0 DEVICE:** Uploads P2 card files to a PC/Mac.
- **DVCPRO/DV (IEEE 1394):** Enables backup recording and dubbing by inputting or outputting a DV stream, including DVCPRO HD.*2
- **Camera Remote:** Controls focus, iris, zoom and REC start/stop.
- **XLR audio input:** 2-channel mic/line inputs supporting 48V phantom power supply.

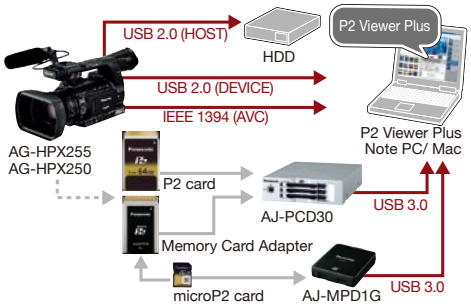
*1: AG-HPX255EJ/HPX250EJ don't support to copy the files onto a P2 card via USB 2.0.
*2: Excluding 720p native mode. Does not support AVC-Intra input/output. Also does not output loop rec, interval rec or one-shot rec content. AG-HPX255EJ/HPX250EJ don't support input.

New, Stylish Design Boosts Mobility

Even with its high-powered zoom lens, the integrated camera and recorder sections are compact and stylish. Shifting the handle grip and LCD position forward (toward the lens) has improved the weight balance and visibility for handheld shooting, enabling a comfortably wide view. The magnesium alloy die cast chassis also excels in both ruggedness and durability.

Low-Angle Shots and Interviews

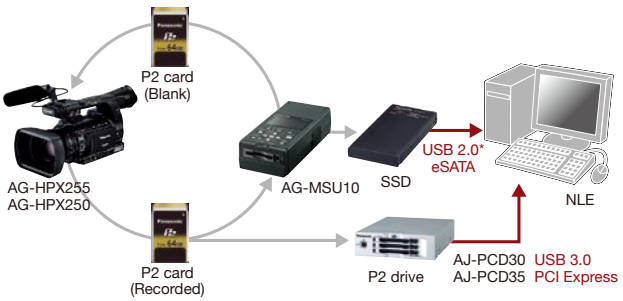
- The upper part of the handle grip contains both the Rec Start/Stop button and a lens zoom speed control (three speed levels). This design assures easy shooting even at low angles.
- The LCD monitor mirror mode is convenient when shooting interviews.



With a Portable HDD or Notebook PC

Files recorded by the AG-HPX255/HPX250 can be copied using only a portable HDD. Or, a notebook PC* can be used for viewing the results and editing metadata and text memos.

* A Windows PC or Mac with P2 Viewer Plus installed.
* For details, see the rear cover page (Notes Regarding the Handling of P2 Files Using a PC).



A Workflow Using the AG-MSU10 Mobile Storage Unit

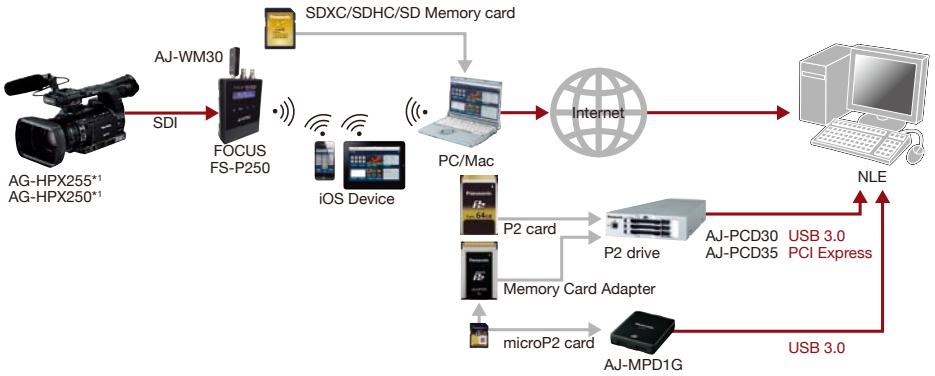
By copying files at high speed to an SSD, the card can be reused, and the files can be uploaded directly from the SSD to a PC.

* The optional AG-MBX10G Removable Interface Box is required to connect the SSD to a nonlinear editor via USB 2.0 or eSATA.

A Proxy and Wireless Workflow (FOCUS FS-P250)

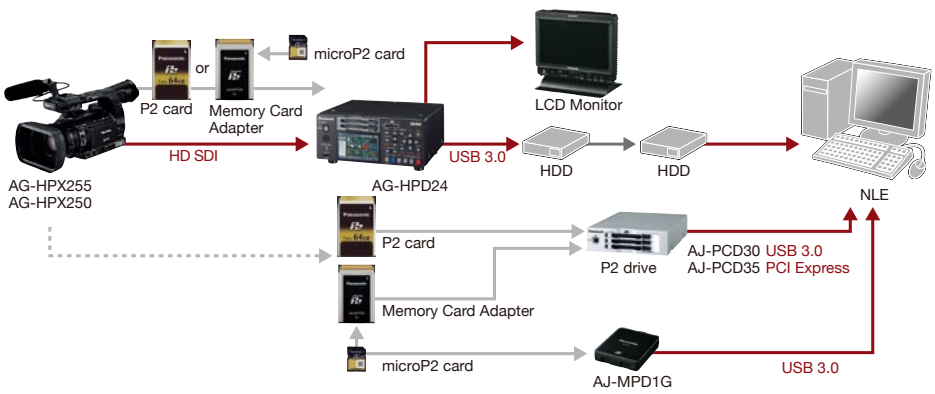
The Focus FS-P250 Proxy Recorder (manufactured by VITEC) records low-bit-rate proxy files in parallel with P2 card recording.* This can be conveniently used for news flashes or offline editing. Attaching the AJ-WM30 Wireless Module makes it possible to view proxy images and edit metadata on a PC/Mac, tablet, or smartphone. Using a PC or Mac computer also enables a cloud-based workflow by uploading data to a network.

* You may need to update AG-HPX255/HPX250 firmware. Please refer to "Service and Support" on the Panasonic Website (http://pro-av.panasonic.net/).



Field Recording Workflow for TV Program Production

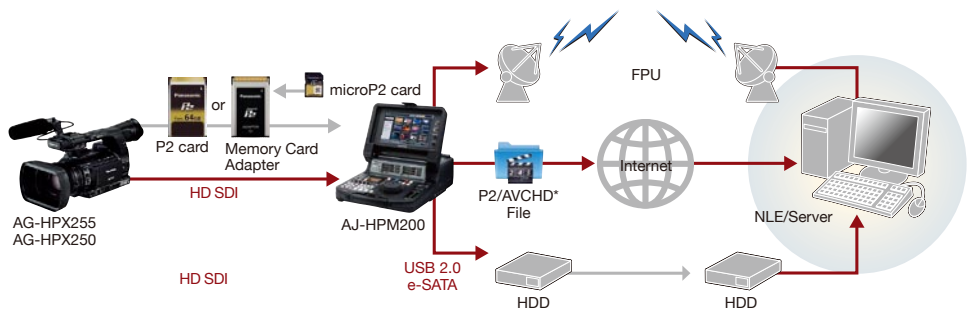
Combination with the AG-HPD24 P2 deck provides a variety of functions, including backup recording, viewing, metadata editing, and high-speed copying to an external HDD.



News Workflow — Interviews, Flash Reports, and Data Transmission

The AG-HPX255/HPX250's file-based format allows full use of IT infrastructures for instantaneous response and operation.
The AJ-HPM200 Memory Card Portable Recorder/Player supports everything from on-location news production to on-air broadcasting, network transmission, and copying to an HDD.

* The optional AJ-YCX250G AVCHD Codec Board is required for AVCHD file conversion and output.

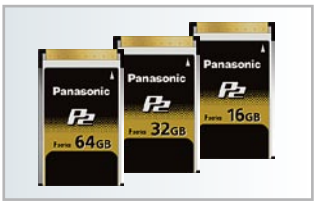


AG-MC200G
XLR Microphone

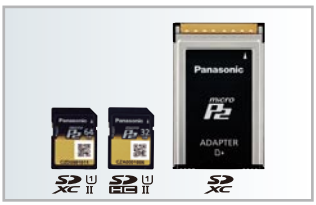
- Sensitivity: –40 dB ±3.5 dB (0 dB=1V/Pa, 1 kHz)
- Maximum input level: 127 dB (1000 Hz, distortion within 1%)
- S/N: more than 69 dB

CGA-D54/CGA-D54s
Battery Pack
(5,400 mAh)

AG-B25
AC Adaptor Kit*1



AJ-P2E064FG
AJ-P2E032FG
AJ-P2E016FG
Memory Card (P2 card F series)



AJ-P2M064AG NEW
AJ-P2M032AG NEW
microP2 Card

AJ-P2AD1G NEW
Memory Card Adapter

SD/SDHC Memory Card

P2 Viewer Plus*2
Viewing Software

Supports P2 HD. This Windows/Mac PC utility makes it easy to view and copy P2 files.*3

AJ-SK001G NEW
(for P2 Viewer plus)
Ingesting Function Software Key*4

The ingesting function copies all clips on P2 cards to a storage medium, such as an HDD. During ingesting, the clips are verified for secure copying, with log files created.

AJ-PCD30
Memory Card Drive
"P2 drive"

Three slots drive with USB 3.0 interface for high-speed 1.5 Gbps data transfer.

AJ-PCD35*3
Memory Card Drive
"P2 drive"

High-speed PCI Express interface.

AG-MSU10
Mobile Storage Unit
"P2 MSU"

Fast copying from P2 cards to a removable solid-state drive*5.
It simplifies backing-up P2 content in the field.

AG-HPD24
Memory Card Portable Recorder
"P2 portable deck"

Equipped with USB 3.0 and RS-422A interfaces, this compact two slots P2 deck supports 3D recording.

AJ-HPM200
Memory Card Recorder/Player
"P2 mobile"

Advanced P2 mobile with versatile functions such as networking, AVCHD compatibility (option) and eSATA interface.

AJ-MPD1G NEW
Memory Card Drive
"microP2 drive"

Compact, Lightweight, Low Cost USB Bus Powered microP2 Card Drive with USB 3.0 Support and 2 Card Slots.

AJ-WM30
Wireless Module*6

Use with the optional Focus FS-P250 Proxy Recorder allows streaming playback and metadata input on a PC/Mac or iOS device.

Other Manufacturers' Products

FOCUS FS-P250
Portable H.264 Proxy Recorder

VITEC: www.FOCUSinfo.com

*1: It can be used as a battery charger only. It cannot be used as a AC adaptor for AG-HPX255/HPX250. *2: For P2 Viewer Plus download and operating requirement information, visit https://eww.pavc.panasonic.co.jp/pro-av/. *3: Update to a 24 bit compatible version is necessary. For details, please refer to "Note Regarding 24 bit Audio" below. *4: For P2 Viewer Plus download and operating requirement information, see "P2 Viewer Plus" on the Panasonic web site (http://pro-av.panasonic.net/en/sales_o/p2/p2viewerplus/). *5: Use a commercially available removable SSD that is recommended by Panasonic. In addition to the removable SSD interface box that comes with the AG-MSU10 as a standard accessory, an additional AG-MBX10 can be purchased as an option. Do not use a hard disk drive instead of an SSD. For compatible SSD information, please refer to the following WEB site: http://pro-av.panasonic.net/en/sales_o/p2/ag-msu10/ *6: You may need to update AG-HPX255/HPX250 firmware. Please refer to "Service and Support" on the Panasonic Website (http://pro-av.panasonic.net/).

General Specification

Supply Voltage:	DC 7.2 V (when the battery is used) DC 7.9 V (when the AC adaptor is used)
Power Consumption:	AG-HPX255: 15.0 W (when the LCD monitor is used) 17.5 W (when the LCD monitor and AG-EC4G are used) AG-HPX250: 15.0 W (when the LCD monitor is used)
Operating Temperature:	0 °C to 40 °C (32 °F to 104 °F)
Operating Humidity:	10% to 80% (no condensation)
Weight:	Approx. 2.5 kg (5.5 lb) excluding battery and accessories
Dimensions (W x H x D):	180 mm x 195 mm x 438 mm (7 inches x 7-11/16 inches x 17-1/4 inches) excluding battery, accessories and protrusions

Camera Section

Pickup Devices:	1/3-type progressive, 2.2-megapixel, 3MOS sensor
Effective Pixels:	1920 (H)×1080 (V)
Lens:	Optical image stabilizer lens, 22x motorized zoom, F1.6 – 3.2 (f=3.9 mm – 86 mm), 35 mm conversion: 28 mm – 616 mm (16:9)
Filter Diameter:	72 mm
Optical System:	Prism color separation
ND filter:	OFF, 1/4, 1/16, 1/64
Minimum Shooting Distance:	Approx. 1 m
Hood:	Large-sized lens hood with wide angle of view
Gain Settings:	0/+3/+6/+9/+12/+15/+18/+24/+30 dB, (+24 dB, +30 dB: USER SW allocation only)
Shutter Speed Settings:	• 60i/60p mode: 1/60 (OFF), 1/100, 1/120, 1/250, 1/500, 1/1000, 1/2000 sec. • 30p mode: 1/30 (OFF), 1/60, 1/100, 1/120, 1/250, 1/500, 1/1000, 1/2000 sec. • 24p mode: 1/24 (OFF),1/60, 1/100, 1/120, 1/250, 1/500, 1/1000, 1/2000 sec. • 50i/50p mode: 1/50 (OFF),1/60, 1/120, 1/250, 1/500, 1/1000, 1/2000 sec. • 25p mode: 1/25 (OFF),1/50, 1/60, 1/120, 1/250, 1/500, 1/1000, 1/2000 sec.
Slow Shutter:	• 60i/60p mode: 1/15 sec., 1/30 sec. • 30p mode: 1/7.5 sec., 1/15 sec. • 24p mode: 1/6 sec., 1/12 sec. • 50i/50p mode: 1/12.5 sec., 1/25 sec. • 25P mode: 1/6.25 sec., 1/12.5 sec.
Synchro Shutter:	• 60i/60p 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. • 50i/50p mode: 1/50.0 sec. to 1/250.0 sec. • 25p mode: 1/25.0 sec. to 1/250.0 sec.
Shutter Opening Angle:	3 degrees to 359.5 degrees in 0.5 degree increments
Frame Rates:	• 59.94 Hz mode: 1080p: 1/2/4/6/9/12/15/18/20/21/22/24/25/26/27/28/30 fps (frames per second) 17 step 720p: 1/2/4/6/9/12/15/18/20/21/22/24/25/26/27/28/30/32/34/36/40/44/48/54/60 fps, 25 step • 50 Hz mode: 1080p: 1/2/4/6/9/12/15/18/20/21/22/23/24/25 fps (frames per second) 14 step 720p: 1/2/4/6/9/12/15/18/20/21/22/23/24/25/26/27/28/30/32/34/37/42/45/48/50 fps, 25 step
Sensitivity:	• 59.94 Hz mode: (at 2000 lx, 3200 K, 89.9% reflection) F7 (1080/59.94i, P.A.P FILTER: TYPE2) F10 (1080/59.94i, P.A.P FILTER: TYPE1) • 50 Hz mode: (at 2000 lx, 3200 K, 89.9% reflection) F8 (1080/50i, P.A.P FILTER: TYPE2) F11 (1080/50i, P.A.P FILTER: TYPE1)
Minimum Illumination:	0.2 lx (F1.6, Gain +30 dB, shutter speed 1/30 sec., P.A.P FILTER: TYPE1)
Digital Zoom:	×2, ×5, ×10

Memory Card Recorder Section

Recording Media:	P2 card	
Recording Formats:	AVC-Intra 100/AVC-Intra 50/DVCPRO HD/ DVCPRO50/DVCPRO/DV formats switchable	
Recording/Playback Time*1: with a 64 GB P2 card	AVC-Intra 100/DVCPRO HD: AVC-Intra 50/DVCPRO50: DVCPRO/DV:	approx. 64 min approx. 128 min approx. 256 min
Recording/Playback Time*1: with a 32 GB P2 card	AVC-Intra 100/DVCPRO HD: AVC-Intra 50/DVCPRO50: DVCPRO/DV:	approx. 32 min approx. 64 min approx. 128 min
Recording/Playback Time*1: with a 16 GB P2 card	AVC-Intra 100/DVCPRO HD: AVC-Intra 50/DVCPRO50: DVCPRO/DV:	approx. 16 min approx. 32 min approx. 64 min

Digital Video Specification

Recorded Video Signals:	1080/59.94i, 1080/29.97p, 1080/29.97pN, 1080/23.98p, 1080/23.98pA, 1080/23.98pN, 720/59.94p, 720/29.97p, 720/29.97pN, 720/23.98p, 720/23.98pN, 480/59.94i, 480/29.97p, 480/23.98p, 480/23.98pA, 1080/50i, 1080/25p, 1080/25pN, 720/50p, 720/25p, 720/25pN, 576/50i, 576/25p
Sampling Frequency:	AVC-Intra 100/DVCPRO HD: Y: 74.1758 MHz, P_B/P_R: 37.0879 MHz (59.94 Hz) Y: 74.2500 MHz, P_B/P_R: 37.1250 MHz (50 Hz) DVCPRO50: Y: 13.5 MHz, P_B/P_R: 6.75 MHz DVCPRO: Y: 13.5 MHz, P_B/P_R: 3.375 MHz
Quantizing:	AVC-Intra 100/AVC-Intra 50: 10 bits DVCPRO HD/DVCPRO50/DVCPRO/DV: 8 bits
Video Compression:	AVC-Intra 100/AVC-Intra 50: MPEG-4 AVC/H.264 Intra Profile DVCPRO HD: DV-Based Compression (SMPTE 370M) DVCPRO50/DVCPRO: DV-Based Compression (SMPTE 314M) DV: DV Compression (IEC 61834-2)

Digital Audio Specification

Recording Audio Signal:	AVC-Intra 100/AVC-Intra 50/DVCPRO HD: 48 kHz/16 bits, 4CH DVCPRO50: 48 kHz/16 bits, 4CH DVCPRO/DV: 48 kHz/16 bits, 2CH/4CH switchable

Video Input/Output

GENLOCK IN:	BNC × 1, 1.0 V [p-p], 75Ω
VIDEO OUT:	Pin jack × 1, 1.0 V [p-p], 75Ω
SDI OUT:	BNC × 1, 0.8 V [p-p], 75Ω, HD/SD switching via menu, 10 bit 4:2:2 via camera through out
HDMI OUT:	HDMI TypeA

Audio Input/Output

Built-In MIC IN:	Supports stereo microphones
AUDIO IN:	XLR 3 pin × 2 (INPUT 1, INPUT 2) LINE/MIC/+48 V switchable, LINE: 0 dBu, MIC: –40 dBu/–50d Bu/–60 dBu switching via menu
AUDIO OUT:	Pin jack × 2 (CH1/CH2), Output: 316 mV, 600 Ω
Headphone:	ø3.5 mm stereo mini jack × 1
Internal Speaker:	20 mm diameter × 1

Other Input/Output

REMOTE:	10 pin, for AG-EC4G (AG-HPX255 only)
TC IN/OUT:	BNC× 1, IN: 0.5 V [p-p] to 8 V [p-p], 10 kΩ OUT: low impedance, 2.0±0.5 V [p-p]
CAM REMOTE:	2.5 mm diameter, Super mini jack × 1 (ZOOM, S/S) 3.5 mm diameter Mini jack × 1 (FOCUS, IRIS)
IEEE 1394*2:	6 pin, digital input/output (compliant with IEEE 1394)
USB 2.0 (DEVICE)*2:	Type-miniB, 4 pin USB (compliant with USB ver. 2.0)
USB 2.0 (HOST)*2:	Type-A, 4 pin USB (compliant with USB ver. 2.0)

Monitor, EVF and Seaker

LCD Monitor:	87.63 mm (3.45 inches) color LCD monitor with approx. 921,000 dots (16:9)
EVF:	11.43 mm (0.45 inches) color LCD monitor with approx. 1,226,000 dots (16:9)

Included Accessories

AC adaptor Battery charger, AC cord, DC cord, 5400 mAh battery pack, Wireless remote controller with button-type battery, Microphone holder, Eye cup, Shoulder strap, P2 card driver software install CD-ROM

*1: The Recording/playback times listed are continuously recorded time as one clip. The number of recording clips may reduce the recording time.
*2: AG-HPX255EJ/HPX250EJ don't support input via IEEE 1394 and USB 2.0.

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

AG-HPX255/HPX250 Details

AG-HPX250

AG-HPX250

AG-HPX250

AG-HPX250

AG-HPX255

PASS
Global Concierge for the Lifetime

P2 Asset Support System

The free member's service program for P2HD/AVCCAM

Extensive information for video professionals

Thirsty for Knowledge?

No purchase necessary
Information services for members

- The latest technical information
- FAQs, user's voices
- Tool download

Always the best performance

Additional content with product registration

- Firmware, utility downloads
- Quick inspection, service history
- Newsletters

Contact us through PASS

Direct answers to your inquiries. Sign up now (no purchase necessary)

http://panasonic.biz/sav/pass_e

P2HD

5 year extended warranty program

Extended for free upon registration

* Availability of this extended service program and service content may depend on country/region and model.
* A maximum 5 year or pre-specified hours of operation from the date of purchase, whichever comes first.
* Not all repair work is covered by this extended warranty program.

Informative product-related content also available with equipment registration.

Please refer to the latest Non-linear Compatibilty 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/ and click "P2 Support and 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) or P2 CMS content management software (downloadable for free, for both 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). 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 or P2 CMS download and operating requirement information, visit http://pro-av.panasonic.net/. For operating requirements and details of other P2 editing software, visit the website of the relevant software manufacturer.

Precautions When Using SDHC/SDXC Memory Cards with the AJ-P2AD1G Memory Card Adapter

•Only the DV, DVCPRO, DVCPRO50, and AVC-Intra50 recording formats can be used when using the Memory Card Adapter on P2 Series products. Memory cards of Class 10 or higher are recommended, but recording may not be possible with some cards. •DVCPRO HD and AVC-intra100 cannot be used. •Memory card data capacity must be 4 GB to 128 GB. •Interval Rec, One-Shot Rec, Loop Rec, or One-Clip Rec cannot be used. •If the reading performance is insufficient during playback, frames might be skipped (Best-effort playback). •When copying clips that extend over two SDHC/SDXC memory cards onto another SDHC/SDXC memory card, the connecting relationship between the cards will not be saved. Under certain conditions, the connecting relationship between original and copied SDHC/SDXC memory cards is saved.

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 1 308 1610	Kuwait	+96 522431385	Taiwan	+886 2 2227 6214
Australia	+61 (0) 2 9491 7400	Lebanon	+96 11665557	Thailand	+66 2 731 8888
Bahrain	+973 252292	Malaysia	+60 3 7809 7888	Turkey	+90 216 578 3700
Belgium	+32 (0) 2 481 04 57	Mexico	+52 55 5488 1000	U.A.E. (for All Middle East)	
Brazil	+55 11 3889 4035	Netherlands	+31 73 64 02 577		+971 4 8862142
Canada	+1 905 624 5010	New Zealand	+64 9 272 0100	Ukraine	+380 44 4903437
China	+86 10 6515 8828	Norway	+47 67 91 78 00	U.K.	+44(0)1344 70 69 13
Hong Kong	+852 2313 0888	Pakistan	+92 5370320 (SNT)	U.S.A.	+1 877 803 8492
Czech Republic	+420 236 032 552/511	Palestine	+972 2 2988750	Vietnam	+848 38370280
Denmark	+45 43 20 08 57	Panama	+507 229 2955		
Egypt	+20 2 23938151	Peru	+51 1 614 0000		
Finland, Latvia, Lithuania, Estonia	+358 (9) 521 52 53	Philippines	+63 2 633 6163		
France	+33 (0) 1 47 91 64 00	Poland	+48 (22) 338 1100		
Germany, Austria, Switzerland	+49 (0) 611 235 459	Portugal	+351 21 425 77 04		
Greece	+30 210 96 92 300	Puerto Rico	+1 787 750 4300		
Hungary	+36 (1) 382 60 60	Romania	+40 21 211 4855		
India	+91 120 247 1000	Russia & CIS	+7 495 6654205		
Indonesia	+62 21 385 9449	Saudi Arabia	+96 626444072		
Iran (Vida)	+98 21 2271463	Singapore	+65 6270 0110		
(Panasonic Office)	+98 2188791102	Slovak Republic	+421 (0) 2 52 92 14 23		
Italy	+39 02 6788 367	Slovenia, Albania, Bulgaria, Serbia, Croatia, Bosnia, Macedonia, Montenegro	+36 (1) 382 60 60		
Jordan	+962 6 5859801	South Africa	+27 11 3131622		
Kazakhstan	+7 727 298 0891	Spain	+34 (93) 425 93 00		
Korea	+82 2 2106 6641	Sweden	+46 (8) 680 26 41		
		Syria	+963 11 2318422/4		

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

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