Panasonic

AJ-PX270
Memory Card Camera Recorder

The "ULTRA" Handheld

*The microphone shown in the photo is an optional accessory.

picture simulated
ULTRA SPEED, ULTRA QUALITY and ULTRA USABILITY.

The AJ-PX270 is a compact, lightweight professional ENG camera recorder for broadcast applications. It inherits Panasonic’s accumulated broadcast technologies and know-how to offer high performance, easy operation and excellent versatility rivaling many shoulder-type models. The AJ-PX270 features the AVC-ULTRA* codec family and support the microP2 card. Its AVC-Intra/AVC-LongG/AVC-Proxy multi-codec recording capability responds to diverse broadcasting needs, ranging from program production to swift news gathering using networking functions.** The AJ-PX270 is equipped with a powerful 22x zoom lens with three manual rings and the high-resolution OLED viewfinder. Control switches, such as the front REC button, and a variety of terminals are positioned to match shoulder-type camera recorder specifications. Armed with networking functions, this camera recorder enables both file-based recording and more advanced network-based recording, to revolutionize your workflow. It will also connect directly to a server via a wired LAN, wireless LAN** or 4G/LTE** network, for easy configuration of a streamlined news-gathering system.

* The AJ-PX270 does not support all of the formats included in the AVC-ULTRA family.
** For details, refer to “Notes Regarding Network Functions” on the back page.
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Featuring superb image quality, functionality and operability matching shoulder-type camera and network capability, this hand held camera recorder revolutionize ENG workflow.
ULTRA SPEED

Dual Codec Recording* for Smooth Network Connection**
The AJ-PX270 can record the main video data (MXF format) with an AVC-Intra100/50 or AVC-LongG50/25 codec, while simultaneously recording proxy video data at a low bit rate. Using the network function, it is capable of IP transmission of proxy video data via LAN, wireless LAN** or 4G/LTE** network. This enables news flash distribution and advance editing before the main video data arrives, dramatically speeding up the video production workflow.

** For details, refer to “Notes Regarding Network Functions” on the back page.
* Some formats are not supported depending on the recording mode.

Wired/Wireless LAN, 4G/LTE Network Functions**
The standard LAN (Ethernet) port allows network connection via a wired LAN. When the optional AJ-WM30 Wireless Module is installed, the AJ-PX270 gains wireless LAN (IEEE 802.11g/n) connectivity, enabling access to the following functions from a network-connected PC/Mac, tablet device or smartphone. 4G/LTE connection is also possible.

* Proxy Preview: Plays back proxy files (AVC-Proxy), downloads file/clip information, displays and allows editing of metadata, and enables addition/deletion of shot marks and text memos.*
* Camera Remote: Easy remote operation is possible from various devices using a web app. The P2 ROP App (available free of charge from the Apple App Store) for iPad enables multifunctional remote operation equivalent to ECU. (See page 8 for details.)
* Playlist Editing: Playlists can be created using proxy video with a PC/Mac or tablet. The workflow can be streamlined to be faster by rough editing on location, and then transferring the content files.
* File Transfer: When connected via wired/wireless LAN or 4G/LTE, the FTP client function lets you transfer clips from the camera recorder to a network.

** For details, refer to “Notes Regarding Network Functions” on the back page.
*Some functions are not supported by some devices.

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

Full-HD Streaming Supported**
Full-HD (1920 x 1080) proxy video* can be streamed via a network connection (wired LAN, wireless LAN, 4G/LTE network) while recording mainstream video onto a memory card. The video can be received and processed by the liveu server. The video can be downloaded or played back via a web app. The AJ-PX270 allows multicast streaming to an unlimited number of devices. The use of DCF Technologies is under license from Multi-Format, Inc.

** For details, refer to “Notes Regarding Network Functions” on the back page.
* When the AVC-Intra200 is selected, streaming output is not supported.
* When the AVC-Intra50 is selected, only SD Streaming mode is supported.
* The video and audio signals arrive with a delay. The latency varies depending on the network environment and the hardware/software environment of the PC, server, etc.

Streaming Mode Specifications

<table>
<thead>
<tr>
<th>Mode</th>
<th>Resolution</th>
<th>Frame Rate</th>
<th>Bit Rate</th>
<th>Codec**</th>
</tr>
</thead>
<tbody>
<tr>
<td>AVC-G6</td>
<td>1280 x 720*</td>
<td>30 fps/25 fps**</td>
<td>6 Mbps</td>
<td>H.264 High Profile</td>
</tr>
<tr>
<td>HQ</td>
<td>640 x 360</td>
<td>30 fps/25 fps</td>
<td>1,500 kbps</td>
<td>H.264 Baseline Profile</td>
</tr>
<tr>
<td>LOW</td>
<td>480 x 270</td>
<td>30 fps</td>
<td>800 kbps</td>
<td>H.264 Baseline Profile</td>
</tr>
<tr>
<td>AVC-G (QoS)</td>
<td>1280 x 720**</td>
<td>30 fps/25 fps**</td>
<td>Variable depending on the communication band, Maximum 9 Mbps</td>
<td>H.264 High Profile</td>
</tr>
<tr>
<td>SHQ (QoS)</td>
<td>960 x 540</td>
<td>30 fps/25 fps</td>
<td>Variable depending on the communication band, Maximum 6 Mbps</td>
<td>H.264 High Profile</td>
</tr>
</tbody>
</table>

* The audio codec is AAC LC 2ch in all streaming modes.
*1: When the AVC-Intra200 is selected, streaming output is not supported. When the AVC-Intra50 is selected, only SD Streaming mode is supported.
*2: The audio codec is AAC LC 2ch in all streaming modes. *3: When only the record signal is 720/59.94p or 720/50p. *4: Output becomes 1080/59.94i or 1080/50i.

Automatic Transferring: Rec during Uploading Function
The Rec during Uploading function*, which automatically and sequentially transfers recorded clips to an FTP server or cloud service, has also been newly added. Uploading is done in the background, and recording/playback continues during the transfer. The transfer status can be checked on the LCD monitor or viewfinder. If the network is disconnected during transfer, or the power of the camera is turned off, transfer resumes when the connection or power is recovered. Manual transfer of up to 100 registered clips is also possible.

* During simultaneous recording, only recorded clips in slot 1 or slot 3 are automatically transferred. Clips of interval recording, loop recording, one-clip recording or one-shot recording are not transferred automatically. While the Rec during Uploading function is enabled, Last clip delete function and streaming function are disabled.

Direct Connection to The LiveU Video Uplink Solution**
The AJ-PX270 supports direct connection to the LiveU Central management platform using public networks, such as 4G/LTE, wireless LAN or wired LAN. There is no need for special uplink equipment. This enables both live previews on the reception side, and on-air streaming.

Users are also able to remotely control the zoom, focus, iris, white balance and master gain of the AJ-PX270 on LiveU Central.

** For details, refer to “Notes Regarding Network Functions” on the back page.
* Contract with LiveU is required separately. For details, contact LiveU: http://www.liveu.tv (US & Americas), info@liveu.tv (International)
600% Dynamic Range with New 1/3-Type 3MOS Image Sensors

Newly developed 2.2-megapixel 1/3-type 3MOS (RGB) image sensors offer full-pixel HD (1920 x 1080) resolution, F11 (59.94 Hz) or F12 (50 Hz) sensitivity* and low noise. They also achieve rich gradation and vibrant color reproduction. The new 1/3-type image sensors achieve the same maximum 600% level (compared to the 300% level of our previous model) of dynamic range as many high-end shoulder-type models. This captures rich data all the way from highlights to shadows, to render truly realistic images. Features such as color grading also expand post-production flexibility.

* In [HIGH SENS.] mode

- **FILM-REC Gamma**: Featured in our previous VariCam model, this function was made possible by the new 600% dynamic range. It achieves a latitude that exceeds the CINE-LIKE D mode in our previous handheld camera recorder. Gamma curves can be selected from 7 modes (HD/SD/FILMLIKE 1/FILMLIKE 2/FILMLIKE 3/FILM-REC/VIDEO-REC).

- **DRS (Dynamic Range Stretch)**: Suppresses blocked shadows and blown highlights to achieve a visually wide dynamic range.

22x Zoom Lens with Three Manual Rings and Ultra Low-Speed Seesaw Zoom Levers

The AJ-PX270 features a newly developed, high-performance, compact zoom lens. Zooming from 28 mm to 616 mm (35 mm equivalent), this 22x zoom lens covers a wide field of view, from wide-angle to telephoto, without the need for a conversion lens. 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 provides superbly high resolution.

In addition, it is combined with our unique, Emmy awarded digital signal processing technology called Chromatic Aberration Compensation (CAC) to minimize color bleeding in the surrounding image areas and to achieve rich expression with finely rendered nuances and excellent shading.

The AJ-PX270 has three manual rings: a mechanical (cam-type) zoom ring, a focus ring and an iris ring. The operating feel and rib pattern of these rings are carefully designed to make manual operation feel using an interchangeable lens. The focus ring is knurled for reliable fingertip control of delicate focusing. The seesaw zoom levers (grip/handle) support extra-slow zooming down to 180 seconds.

Optical Image Stabilizer (OIS), Digital Zoom and ND Filter

- Hand-shake correction with the built-in optical image stabilizer (OIS).
- Equipped with a digital zoom function.* Magnification control can be assigned to a user button for quick zooming to 2x, 5x or 10x. It provides a telephoto capability of up to 220x in combination with the optical zoom.
- Built-in ND filter (OFF, 1/4, 1/16, 1/64).

*1: Flash Band Compensation will not operate while digital zooming.

Image Adjustment Function from a New Menu

The AJ-PX270's camera signal processing LSI enables hue-adjustable 12 axis color compensation for each color gamut, independent 3 axis skin-tone color compensation, and also has a detailed image adjustment function. The new image adjustment menu brings you intuitive image control.

**Setting Items**: H detail, V detail, detail coring, skin tone detail, chroma level, color temperature, master pedestal, knee, matrix, color correction, RB gain control, chroma setting, black control, gamma, high color, white clip.

Advanced Flash Band Compensation (FBC)

This function detects and precisely compensates the flash bands (bands of light and dark) that often occur in still cameras equipped with an MOS sensor.

Variable Frame Rate Supporting 1080p

The Variable Frame Rate function (AVC-Intra100)* was inherited from the Panasonic VariCam, which is widely used for producing movies, TV series and TV commercials. Featuring a variable frame rate of 1 to 60 fps, this function creates a wide range of film-camera-like images, such as overcranking for slow-motion and undercranking for quick-motion effects.

* Pre-Rec, Loop Rec, Interval Rec, One-Shot Rec, Dual Rec and One-Clip Rec cannot be used while recording at the native variable frame rate.

Advanced Focus Assist Functions

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

- **Turbo-Speed One-Push AF**: Pressing the PUSH AUTO button enables focusing in 0.5 seconds or less.*
- **Focus-in-Red Display**: Emphasizes the image areas in focus by marking the edges in red.
- **Expand**: Enlarges the center portion for increased visibility.
- **Focus Bar**: The meter graphically displays the focus level.

* The focusing time varies depending on the shooting conditions and subjects.
New Built-in Electronic Level Gauge
The electronic level lets you easily confirm camera tilting on the LCD monitor screen. It helps to keep the camera level during handheld shooting, low-angle shooting and high-angle shooting.

OLED EVF and High-Resolution LCD Panel
The AJ-PX270 is the first professional handheld camera recorder to feature a viewfinder with a high-resolution OLED display (approximately 2,360 K dots; image display area: approximately 1,770 K dots) for minimal image delay and superb color reproduction. The LCD monitor uses a QHD IPS LCD panel. These allow more easy focusing.

Scene Files and User Files
Six preset scene files can be changed freely. One set of scene files can be stored internally in the AJ-PX270, and eight sets can be stored on an SD Memory Card. In addition, one user file containing camera settings can also be stored internally in the AJ-PX270, and eight files can be stored on an SD Memory Card.

• Scene File Preset (Initial Settings)
  F1 for standard setting, F2 (FLUO.) for shooting under fluorescent lights, F3 (SPARK) for emphasizing contrast, F4 (B-STR) for enhanced gradation of luminance in low-light scenes, F5 (CINE V) for cine-like setting with priority on contrast, and F6 (CINE D) for cine-like setting with priority on dynamic range.

Other Recording Support Functions
Professional Image Quality and Advanced Functions
• Eight User Buttons: Functions can be freely assigned to each buttons.
• WFM/VECTOR: Simplified waveform and vectorscope display.
• Three-position Gain Selector: The 3-position gain selector can be assigned with gain levels selected from a range of –3 dB to +18 dB to its L, M and H positions.
• +36 dB Super Gain: +24 dB/+30 dB/+36 dB Super Gain function enable extra-high sensitivity with subject luminance of as low as 0.02 lx.
• Electronic Shutter with Slow Shutter Capability: The shutter speed can be set in seven steps between 1/60 and 1/2000 second (60i/60p mode). It is also equipped with Slow and Synchro Scan (variable) mode. The shutter opening angle (deg value) can be set with synchro scan mode.
• Shockless Auto White Balance: A smooth transition occurs when switching White Balance modes. This is effective, for example, when moving from outdoors to indoors.
• Mode Check: Displays a list of the camera settings on the viewfinder and LCD monitor.
• Zebra: Select any two levels from among 0% to 109%, in 1% steps. A mode also allows two patterns to be overlaid and displayed.
• Y-GET: Measures brightness at the center and displays numerical data.
• Knee Mode Setting (AUTO/MANUAL/OFF).
• Two-value (A/B) memory and preset (3200/5600/VAR) white balance selector.
• Scan Reverse Function: Displays/records images in vertically or horizontally inverted orientation.
• Marker Display: Displays a center marker, safety zone marker and frame marker.

* When set to F1.6, 18 dB gain, 1-second accumulation, [HIGH SENS.] mode
ULTRA QUALITY

AVC-ULTRA Includes High-Quality AVC-Intra200 Codec
The AJ-PX270 is the first handheld camera recorder that features the AVC-ULTRA codec family as standard. To meet the various needs from mastering to streaming, the image quality and bit rate can be selected to match the application.

[See the table on the next page.]

AVC-Intra
An intra-frame compression method that is highly suited to image production. In addition to the conventional AVC-Intra100/50 codec, the AJ-PX270 features the AVC-Intra200 codec with twice the bit rate (10 bit quantization, 4:2:2 sampling, and a bit rate of approximately 200 Mbps*). With superb images that approach uncompressed quality and 24 bit audio, it offers a level of quality that meets the needs of mastering and archiving.

AVC-LongG
This inter-frame compression method achieves high-quality HD recording at a low bit rate. Ideal for providing on-air content direct from the shooting location and for workflows using content transferred over the internet. Three bit rates are available: 

AVC-Proxy
Low-bit-rate, high-resolution, high-sound-quality proxy video (Quick Time/H.264) is also recorded with the actual data.* Also includes metadata for efficient offline editing. See the table (AVC-Proxy Recording Modes and Recording Signals) on Page 6.

*1: For 1080i/59.94i.*
*2: Proxy data cannot be recorded when using the Loop Rec or Interval Rec function.

Proxy data is low-resolution video and audio data with time code, metadata, and other management data in a file format.
The use of DCF Technologies is under license from Multi-Format, Inc.

HD/SD Multi Format/Multi Codec
In addition to 1080/60i,* the AJ-PX270 supports 24p,* 30p,* 60p,* and 720p multi HD format and SD recording. 59.94 Hz/50 Hz switchable for convenient use in productions headed for global use. (Please see the table at the right for more details.)

*60p, 30p, 24p, and 30p are actually recorded at 59.94 Hz, 23.98 Hz, and 29.97 Hz respectively. 24p, 29p, and 30p are all available with native mode recording.

Full Frame Progressive Recording
1080/60p* (50p) full frame progressive recording is supported for the first time in the AJ-PX270. In addition to being able to record with the AVC-Intra100 or AVC-LongG25/LongG12 codec, the camera can be capable of camera through output from the 3G-SDI and HDMI output terminals.

*60p is actually recorded at 59.94 Hz.

High-Quality 24 Bit 4 Channel Audio Recording
The level volume also supports 4 channels.

*1: The AVC-LongG12 mode does not support 24 bit digital audio recording.
*2: The audio signal can be played back by using 24 bit digital audio equipment. For details, refer to “Note Regarding 24-bit Audio” on the back page.

Standard-Equipped microP2 Card Slots
The AJ-PX270 comes with two slots for the microP2 card, the broadcast-use memory card downsized to match the size of a conventional SD memory card.

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

One P2 card slot is also provided for the use of a conventional P2 card.*2

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

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

*1: Total card capacity includes space for data management, such as system data; therefore, the actual usable area is less than the capacity indicated on the card. See the “Recording Times” table on Page 6 for recording times.
*2: microP2 and P2 cards cannot be simultaneously recorded on.

Multifunctional Recording Including Simultaneous Recording*

• Simultaneous Rec:*2 Records simultaneously onto two microP2 cards.

• Background Recording:*2 Slot 1 records with the Rec Start/Stop control, while slot 2 continues recording even while recording is stopped.

• Hot-Swap Rec:*2 Thanks to the two card slots,*4 you can hot-swap microP2 cards for continuous non-stop recording.

• One-Clip Rec Mode: Records up to 99 consecutive cuts as a single clip. A text memo is automatically attached to the Rec Start point for easy searching for the beginning of the cut.

• Pre Rec: This stores approximately 3 seconds of HD or 7 seconds of SD video and audio data in memory while in standby mode and lets you recover and use the data from the point before you started recording.

• Loop Rec: Maintains a recording of a certain time period through repeated loop recording.

• Interval Rec: Records intermittently based on a set interval time.

• One-Shot Rec: A frame-shoot recording function for producing animations.

• Text Memo:*4 Up to 100 memos can be posted onto a clip as bookmarks.
• Shot Marker:*4 Used to mark clips as OK, NG, etc.
• Last Clip Delete: Deletes the last recorded clip with a single touch.
• Rec Check: This lets you run a quick playback check of the clip-end you have just recorded.

*1: microP2 and P2 cards cannot be simultaneously recorded.
*2: Recording is possible only through the microP2 card slots.
*3: Slots cannot be switched during recording.
*4: The text memo and shot mark cannot be added in Loop Rec, Interval Rec, or One-Shot Rec mode.

Metadata Function Supporting Wireless Connection
The metadata function attaches metadata (text memos tagged to time, GPS data, selected character strings and frames) to P2 files. Metadata can be edited using a tablet or smartphone connected via USB or wireless LAN.* Metadata can be used effectively for searching and management, facilitating the editing, distribution and archiving of video data.

* For a wireless LAN connection, the AJ-WM30 Wireless Module is required.
## Recorder Section

### Recording Codecs and Video Formats

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<tr>
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<th>1080 (60p)</th>
<th>1080 (50p)</th>
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<th>576</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>60i</td>
<td>50i</td>
<td>30pN</td>
<td>24pN/23.98PsF</td>
</tr>
<tr>
<td>AVC-Intra200</td>
<td></td>
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<tr>
<td>AVC-Intra100</td>
<td>✓</td>
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<tr>
<td>AVC-Intra50</td>
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<td>AVC-LongG50</td>
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<td>AVC-LongG25</td>
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<td>AVC-LongG12</td>
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<td>DVCPRO 51</td>
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<tr>
<td>DV</td>
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### Recording Times*4

<table>
<thead>
<tr>
<th>Recording format (Compression Format) 59.94 Hz/50 Hz</th>
<th>Card x 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>16 GB</td>
<td>16 min.</td>
</tr>
<tr>
<td>32 GB</td>
<td>32 min.</td>
</tr>
<tr>
<td>64 GB</td>
<td>64 min.</td>
</tr>
</tbody>
</table>

### AVC-Proxy Recording Modes and Recording Signals

<table>
<thead>
<tr>
<th>Recording Mode</th>
<th>Video</th>
<th>Audio</th>
</tr>
</thead>
<tbody>
<tr>
<td>AVC-G6 2CH MOV</td>
<td>1080i mode: 1920 x 1080 H.264 High Profile 6 Mbps</td>
<td>AAC-LC 2CH 64 kbps</td>
</tr>
<tr>
<td>SHQ 2CH MOV</td>
<td>960 x 540 H.264 High Profile 3500 kbps Linear PCM</td>
<td>2CH 768 kbps</td>
</tr>
<tr>
<td>HQ 2CH MOV</td>
<td>640 x 360 H.264 High Profile 1500 kbps AAC-LC</td>
<td>2CH 64 kbps</td>
</tr>
<tr>
<td>LOW 2CH MOV</td>
<td>480 x 270 H.264 Baseline 800 kbps AAC-LC</td>
<td>2CH 64 kbps</td>
</tr>
</tbody>
</table>

*4: For 1080/60p and 1080/50p, the recording times become 1/2 of those shown above. All of the times apply when single clips are recorded continuously one after the other onto a P2 card. Depending on the number of clips to be recorded, the recordable time may be shorter than the times given. *5: Some recording modes are not supported depending on the main recording format. *6: For 720/30pN, 720/24pN or 720/25pN, the bit rates become 3 Mbps.
New Design – Switches Match Like Shoulder-Type Models
The AJ-PX270 was designed for easy operation as an ENG camera. It inherits the functions, switch layout and dials of shoulder-type camera recorders. Users of professional shoulder-type camera recorders will be able to take advantage of the mobility of the AJ-PX270 immediately.

• **Front Rec Button**
The front Rec button is positioned immediately below. When a tripod is used, this button allows smooth recording starts after operating the lens.

• **Front Audio Level Dials**
This is the industry’s first handheld camera recorder to feature audio input level controls (which can be allocated with ON/OFF and CH) on the front side of the unit. This allows quick operation during recording.

• **Triple Toggle Switches**
Three toggle switches – DISP/MODE CHECK, GAIN and WHITE BAL – are provided. They are located at the same location as on a shoulder-type model to support operation during recording.

• **Audio Level Dials**
Large 2 channel (switchable between CH1 and CH2) audio level dials.

Separately Positioned XLR Audio Input Terminals
The AJ-PX270 is equipped with 2 channel XLR mic/line audio input terminals supporting a +48 V phantom power supply. They are arranged on the front and rear sides of the unit, just like on a shoulder-type model. The front mic terminal is located behind the rear mic mounting section, eliminating problems resulting from catching protrusions on the side panel.

Battery Replacement during Recording
The large-capacity battery is housed in the main body, and does not extend beyond the rear panel. This ensures comfortable holding of the AJ-PX270 against the chest. When power is supplied to the DC power supply input terminal using the AC adaptor, the battery can be changed while recording.

Handle with Multi-Stage Zoom Lever
The zoom lever located on the upper part of the handle is also provided with a multi-stage variable zoom function. It provides the same smooth zooming operation from a super-low speed as the zoom lever on the hand grip, allowing smooth zooming when shooting from a low angle or using a tripod.

New Design Offering Enhanced Mobility and Easy Operation
Even with its high-power zoom lens, the AJ-PX270 is compact and has a low center of gravity. It remains stable during handheld shooting, and provides excellent visibility and a wide field of view. The lens hood with a built-in cover improves convenience and safety while moving.

The magnesium alloy diecast chassis is rugged and durable.

3G-SDI Output and HDMI Output
• **3G-SDI OUT**: A 3-Gbps speed supports 1080/60p and 50p progressive full-frame image output. Can be set to HD-SDI or down-converted SD-SDI. Allows Rec Start/Stop linked backup recording with a Panasonic recorder equipped with SDI input.

• **HDMI OUT**: This terminal allows digital A/V output to a wide range of devices such as an HD monitor.

• **Aspect Conversion**: The aspect ratio can be selected from among Side Crop, Letter Box, or Squeeze mode when down-converting and outputting from the SDI OUT terminal.

USB 3.0 High-Speed Transfer Interface
• **USB 3.0 (HOST)**: High-speed file copying to external storage.*

• **USB 2.0 (DEVICE)**: Allows use as a P2 card drive.

* Storage media with more than 2 TB of capacity cannot be used.

Multi-Camera Synchronizing with Genlock IN and TC IN/OUT
This handheld camera recorder supports a multi-camera configuration. It features 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 synchronized and output to a switcher, providing the same level of operation as many shoulder-type models.
The P2 ROP App for Wireless Control using iPad**
The P2 ROP App (downloadable free of charge from the Apple App Store) for iPad is available. It enables iPad to control functions/setting of the AJ-PX270 Camera Recorder remotely via wireless connection.
P2 ROP App can control Focus, Zoom and variety of settings similar to those of the AG-EC4G Extension Control Unit controls, including picture quality settings and REC start/stop. Easy-to-see value display and easy-to-operate up/down touch keys provide settings and adjustments. Proxy browser is also built into the app so that operator can adjust the setting while checking recorded clips with thumbnail and previewing. Metadata can also be displayed and edited on iPad to support post production work.

** For details, refer to “Notes Regarding Network Functions” on the back page.
* It supports to iOS7.1 and iOS8.1.

Wired LAN Remote Focus and Zoom Supported
Wired remote operation is enabled with the optional AK-HRP200G Remote Operation Panel via LAN connection. In addition to joy stick operation of the aperture and pedestal, as well as menu-operated adjustment of the picture quality, this allows remote-controlled focusing and zooming on the AJ-PX270.

* Only functions that are supported by the AJ-PX270 can be controlled.

Interfaces and Devices
• Supports live video transfer uplink equipment (scheduled for the near future).
• Equipped with an audio output terminal (stereo mini-jack).
• Equipped with a headphone terminal (stereo mini-jack).
• Back tally, rear tally equipped. ON/OFF switchable.
• Camera Remote: Focus, iris, zoom and REC start/stop can be controlled.
**Options and P2 HD Equipment**

**AG-MC200G**
XLR Microphone

**VW-VBD58**
Battery Pack (5,800 mAh)
CGA-D54/CGA-D54s
Battery Pack (5,400 mAh)

**AG-B23**
Battery Charger

**AJ-WM30**
Wireless Module

**AK-HRP200G**
Remote Operation Panel (ROP)

**AJ-P2M064AG**
microP2 Card

**AJ-P2E064FG**
Memory Card "P2 card" F Series*1

**AU-XPD1**
Memory Card Drive*2
1-slot card drive for an expressP2 card/P2 card with bus power from a USB 3.0/2.0 interface.

**AG-PD500**
"P2 portable deck"
Memory Card Recorder
AVC-ULTRA and microP2 supported. A half-rack size recorder for a high-quality, cost-effective workflow.

**P2 Viewer Plus**
Viewing Software*3
Supports P2HD. This Windows/Mac utility makes it easy to view and copy P2 files.

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

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

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

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

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*1: The P2 card F Series may require P2 equipment software to be updated. Please go to the P2 support page on the Panasonic web page http://pro-av.panasonic.net/

*2: Connection of the AU-XPD1 requires two USB cables. And a power supply is connected with USB 3.0 port of PC or an AC adaptor.

*3: For information on purchasing software keys, see “Service and Support” on the Panasonic web page http://pro-av.panasonic.net/

*4: For P2 Viewer Plus download and operating requirement information, see “P2 Viewer Plus” on the Panasonic web page http://pro-av.panasonic.net/en/sales_o/p2/p2viewerplus/

*5: For P2 Streaming Receiver download and operating requirement information, see “P2 Streaming Receiver” on the Panasonic web page http://pro-av.panasonic.net/en/download/
Specifications

As of April, 2015

General

Power:
- DC 7.2 V (when the battery is used)
- DC 12 V (when the AC adaptor is used)

Power consumption: 19.5 W (when the LCD monitor is used)

Operating Temperature: 0 - 40 °C (32 °F to 104 °F)

Operating Humidity: 10 % to 80 % (no condensation)

Weight: Approx. 2.2 kg (4.9 lbs.)

Dimensions: 176 mm(H) x 171 mm(W) x 329 mm (D) (excluding protrusion)

Camera Unit

Pickup Device: 1/3-type 2.2 million pixels, MOS solid state image sensor × 3

Lens: Optical image stabilizer lens, optical 22x motorized zoom

Filter Diameter: 72 mm

Optical System:
- Prism system

ND Filter:
- OFF, 1/4, 1/16, 1/64

Shortest Shooting Distance: 1.1 m from the front lens

Gain Setting:
- LM/H selector switch: 3 dB to 18 dB in 1 dB steps
- Negative value of gain is only in [HIGH SENS.] mode.

Shutter Speed: (When assigning [S.GAIN] to the USER button:
- Switching between 24 dB, 30 dB, and 36 dB)

Color Temperature Setting:
- ATW, ATW LOCK, Ach, Bch, preset 3200 K, preset 5600 K (VAR 2200 K to 15000 K)

Slow Shutter Speed: Setting is possible when [VFR] is [DPF]

Shutter Open Angle: 3.0 deg to 180.0 deg to 360.0 deg (in 0.5 deg steps, angle display)

Synchro Scan Shutter:
- When [SYNC SCAN TYPE] = [sec]

Shutter Speed: When [SYSTEM MODE] = 50 Hz

Audio input

Built-in Microphone:
- Supports stereo microphone

Audio INPUT 1/AUDIO INPUT 2:
- XLR x 2, 3 pin, Input high impedance, LINE/MIC switch selection: LINE 4 dBu/0 dBu (selectable menu), MIC: −40 dBu/−50 dBu/−60 dBu (selectable menu), +48 V on/off (switch selection)

Audio output

Optional Headphones:
- 3.5 mm diameter stereo mini jack x 1, Output level: 600 Ω, 316 mV

Headphones:
- 3.5 mm diameter stereo mini jack x 1

Other input/output

CAM REMOTE:
- 2.5 mm diameter super mini jack x 1 ZOOM S/S

GPIO IN:
- 100 Ω, −16 dBV (32 Ω load, at maximum output level)

USB2.0 HOST (sub-host):
- Type A connector, 4 pin (exclusively for wireless module AJ-WM30)

USB3.0 HOST (host):
- Type A connector, 9 pin

Audio input/output

SDI OUT:
- BNC x 1, HD (3G/1.5G, 5G: 57/50.25 [−p−p])

VIDEO OUT:
- BNC x 1, Also used as the GENLOCK IN, IN/OUT switch selection

HDMI OUT:
- HDMI x 1 (HDMI type A terminal, not compatible with VIERA Link)

Included Accessories

Battery (VW-VBD58), Shoulder strap, Battery charger, AC adaptor, Microphone holder, Screw for microphone holder (12 mm), Power code x 2, Eye cup, Lens hood, Grip belt

Digital video

Sampling Frequency:
  - 74.1758 MHz, P/4: 37.0875 MHz (59.94 Hz)
  - 37.50 kHz (50.00 Hz)

DVCPRO50:
- Y: 15.35 MHz, P/4: 6.75 MHz
  - DVCPRO
  - Y: 15.35 MHz, P/4: 3.375 MHz

Quantizing:
  - AVC-Intra50/DVCPRO HD/DVCPRO50/DVCPRO/DVCPRO/DV: 8 bits

Video Compression Format:
- AVC-Intra200/AVC-Intra100/AVC-Intra50:
  - MPEG-4 AVC/H.264 Intra Profile
- AVC-Long50/AVC-Long502/AVC-Long512:
  - MPEG-4 AVC/H.264 Basic Profile
- DVCPROHD/DVCPRO/DVCPRO/DV: DV-Based Compression (SMPTE 370M)
- DVCPRO/DVCPRO/DVCPRO/DV: DV-Based Compression (SMPTE 314M)

DV: DV Compression (IEC 61834-2)

Digital audio

Recording Audio Signal:
- AVC-Intra200/AVC-Intra100/AVC-Intra50/AVC-Long50/AVC-Long502:
  - 48 kHz/24 bits, 4 CH
  - AVC-Intra100/AVC-Intra50:
    - 48 kHz/16 bits, 4 CH and 48 kHz/24 bits, 4 CH switch
  - AVC-Intra50/DVCPRO HD/DVCPRO50/DVCPRO/DVCPRO/DV:
    - 48 kHz/16 bits, 4 CH

Headroom:
- 12 dB/16 dB/20 dB switchable menu

AVC proxy

File Format:
- MOV

Video Compression Format:
- H.264/AVC Baseline Profile, H.264/AVC High Profile

Audio Compression Format:
- AAC-LC, Linear PCM

Approximate Recording Time (1 GB)
- AVC-Intra100/AVC-Intra50:
  - 48 kHz/24 bits, 4 CH

AVC-Intra100/AVC-Intra50:
- Approx. 32 min. Approx. 64 min. Approx. 128 min.

DVCPRO50/DVCPRO/DVCPRO/DV:
- Approx. 16 min. Approx. 32 min. Approx. 64 min.

DVCPRO/DV:
- Approx. 6 min. Approx. 12 min. Approx. 24 min.

Approximate Recording Time (5 GB)
- AVC-Intra200/AVC-Intra100/AVC-Intra50:
  - 48 kHz/24 bits, 4 CH

AVC-Intra200/AVC-Intra100/AVC-Intra50:
- Approx. 16 min. Approx. 32 min. Approx. 64 min.

DVCPRO50/DVCPRO/DVCPRO/DV:
- Approx. 8 min. Approx. 16 min. Approx. 32 min.

DVCPRO/DV:
- Approx. 4 min. Approx. 8 min. Approx. 16 min.

DVCPRO/DV:
- Approx. 2 min. Approx. 4 min. Approx. 8 min.

DVCPRO/DVD:
- Approx. 1 min. Approx. 2 min. Approx. 4 min.

DVCPRO/DVD:
- Approx. 4 min. Approx. 8 min. Approx. 16 min.

DVCPRO/DVD:
- Approx. 2 min. Approx. 4 min. Approx. 8 min.

DVCPRO/DVD:
- Approx. 1 min. Approx. 2 min. Approx. 4 min.

DVCPRO/DVD:
- Approx. 4 min. Approx. 8 min. Approx. 16 min.

DVCPRO/DVD:
- Approx. 2 min. Approx. 4 min. Approx. 8 min.

DVCPRO/DVD:
- Approx. 1 min. Approx. 2 min. Approx. 4 min.

DVCPRO/DVD:
- Approx. 4 min. Approx. 8 min. Approx. 16 min.

DVCPRO/DVD:
- Approx. 2 min. Approx. 4 min. Approx. 8 min.
Notes Regarding the Handling of P2 Files Using a PC

Mounting and Transferring Files
The P2 drive must be mounted in order to recognize, copy and transfer P2 files. This drive is also necessary when using the P2 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 drive and the P2 installation manual can be downloaded free from a Panasonic website. Visit <http://pro-av.panasonic.net/en/download/>.

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

** Notes Regarding Network Functions
- For 4G/LTE: 4G/LTE module is required from a 3rd party. Availability of this function may vary depends on areas. For details, please visit Panasonic website <http://pro-av.panasonic.net/en/sales_o/p2/server/4glte.html>
- For wireless LAN: Wireless module (optional, AJ-WM30) is required. For the OS, browser, device compatibility information, see "Service and Support" on the Panasonic website <http://pro-av.panasonic.net/>. Some functions are not supported by some devices.
- For iPad remote control: The P2 ROP App (downloadable free of charge from the Apple App Store) is required. For details, please visit Panasonic website <http://pro-av.panasonic.net/en/sales_o/p2/ver_up/p2rop_app.html>
- For streaming: Transfers only to a designated server (one server). The proxy image cannot be recorded while streaming. The streaming function cannot be used together with dual codec recording and simultaneous recording, or with the Reducing Upload function. For details on downloading and the operating environment of video streaming compatible application software, please refer to the Panasonic website <http://pro-av.panasonic.net/en/sales_o/p2/q-px270/>. For streaming, 4G/LTE USB modem and PC must be able to access directly each other by Public IP (Global IP). Please contact your provider to get Public IP (Global IP). To display the streaming video using P2 browser, player is required. (VLC MEDIA PLAYER or Windows PC, etc.) Please refer to the Panasonic website <http://pro-av.panasonic.net/en/download/>.

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

Note Regarding 24 bit Audio
Clips recorded using 24 bit audio must be played back with 24 bit compatible P2 equipment or the P2 Viewer Plus. If clips are played back with equipment not compatible with 24 bit audio, the clip number will be indicated in red and the clips will not be played back.

**Notes Regarding Nonlinearity
- "AVC-ULTRA", "P2HD", "AVC-Intra", "AVC-LongG", "AVC-Proxy", "DVCPRO HD", "DVCPRO 50" and "DVCPRO" logos are registered trademarks of Panasonic Corporation. SDHC logo and SDXC logo are trademarks of SD-3C, LLC. Quick Time is a trademark of Apple, Inc., registered in the U.S. and other countries. HDI Multimedia Interface are trademarks or registered trademarks of HDMI Licensing, LLC. VLC media player is trademarks internationally registered by the VideoLAN organization.

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