AG-UX180
Memory Card Camera Recorder
*The microphone shown in the photo is an optional accessory.

4K 60p/50p*1 Camcorder featuring the Industry's Widest Angle 24mm*2, 20x Optical Zoom and 1.0-type*3 MOS Sensor

*1: Actual recording is UHD (3840 x 2160) 59.94p/50p. *2: Equivalent to 35mm under 4K 24p (aspect ratio of 17:9). Wide angle 24mm is the widest in the industry for a camcorder with integrated lens. (As of June 2017, according to Panasonic survey.) *3: Effective size
Panasonic introduces the 4K camcorder UX series to meet professional 4K video production needs. The AG-UX180 is the premium model with professional functions and specifications for high-end users. This model is equipped with a newly designed compact lens featuring a wide 24mm angle and 20x optical zoom as well as a 1.0-type (effective size) high-sensitivity MOS sensor. Its evolved Optical Image Stabilizer (O.I.S.) and intelligent AF function suitable for professional camera work. The AG-UX180 supports 4K 24p, UHD 60p/50p, FHD 60p/50p multi-format recording and HD super slow-motion. Two SD memory card slots are provided to enable relay/simultaneous/backup recording for enhanced reliability, and also support UHD/FHD dual codec recording for a more efficient workflow. The controls of the AG-UX180, such as the manual three rings and user button, as well as interfaces, such as 3G-SDI/HDMI and XLR input, are engineered to meet the needs of professional video recording. Offering the same level of agility and mobility as the conventional HD handheld camcorder, the AG-UX180 provides powerful support for high-image-quality 4K video production.

**Newly Developed, Industry's Widest Angle 24mm** and 20x Optical Zoom Lens

- The 4-Drive Lens System achieved a up to wide 24mm angle and 20x optical zoom in the handheld camcorder with 1.0-type (effective size) sensor.
- The Optical Image Stabilizer (O.I.S.) with a correction range expansion of approximately 900% enables stable handheld shooting.
- The Micro Drive Focus Unit offers a high-speed auto focus function with excellent tracking performance and improved stability in 4K recording.
Camcorder with Wide-Angle 24mm* and 20x Optical Zoom.

1.0-Type (Effective Size) MOS Sensor for High-Precision, High-Speed 4K 60p/50p* Recording
- The 1.0-type (effective size) MOS (approx. 9,460,000 pixels in 4K 24p**, and approx. 8,790,000 pixels in UHD/FHD) offers an outstanding depth of field and excellent balance between image quality and sensitivity.
- 4K 24p, UHD 60p/50p, FHD 60p/50p multi-format and HD 120 fps (59.94 Hz) /100 fps (50 Hz) super slow-motion recording are available.

Professional Functions and Design, Including 3G-SDI and XLR Audio Input
- The manual three rings, user button and other controls are specially designed to satisfy professional users.
- Equipped with professional interfaces such as 3G-SDI output, XLR input, TC synchro input/output and wired remote control.

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*1: Equivalent to 35mm under 4K 24p (aspect ratio of 17:9). Wide angle 24mm is the widest in the industry for a camcorder with integrated lens. (As of June 2017, according to Panasonic survey.)  
*2: UHS Speed Class 3 (U3) SD memory card is required for a video recording mode of 100 Mbps or higher.  
*3: For information of available codecs, please see Page 8.  
*4: Comparison with AG-AC160A. (Excluding the 4K 24p mode.)  
*5: Actual recording is UHD (3840 x 2160) 59.94p/50p.  
*6: At 4K 24p (aspect ratio 17:9) With regard to "24p" and "60p" other than that included in "4K 24p" in the above text, images are actually recorded at 23.98p and 59.94p, respectively.
**4-Drive Lens System**

The 4-Drive Lens System simultaneously and independently drives 4 lens groups (group 2, iris, group 3, group 4). The lens size and drive range for each of the 4 groups can be efficiently suppressed to optimize image quality/zoom power and achieve compact body.

**Industry’s Widest Angle of 24 mm**

The integrated lens boasts the industry’s widest angle of 24 mm at the wide-angle setting. It enables wide-angle and minimal-distortion shooting without the use of a wide conversion lens and also allows video recording/production in a vehicle or room for example.

*1: Equivalent to 35mm under 4K 24p (aspect ratio of 17:9). Wide angle 24mm is the widest in the industry for a camcorder with integrated lens. (As of June 2017, according to Panasonic survey.)

**World’s First** 20x Optical Zoom in a Camcorder with 1.0-type Sensor

The 20x optical zoom lens covers the range from 24 mm at the wide-angle end to 480 mm at the telescopic end (35mm film equivalent at 4K 24p).

*2: World’s first for a camcorder with integrated lens having a 1.0-type or larger sensor. (As of June 2017, according to Panasonic survey.)

*3: Effective size

**Intelligent Zoom for Maximum 30x Zoom in Super-High Resolution**

In FHD shooting modes, the i.Zoom function increases the zooming capability to a maximum of approximately 30x while maintaining high resolution. When the zoom reaches the 20x optical zoom limit it switches seamlessly to i.Zoom.

An image shot on an aircraft using the wide angle.
Manual Three Rings
The AG-UX180 features manual three rings for Zoom, Focus and Iris control. These manual controls ensures professional operation.

Digital Zoom (2x, 5x or 10x)
The AG-UX180 is equipped with 2x, 5x and 10x digital zoom. Using the 20x optical zoom and i.Zoom together, it gives you super-telephoto magnification equivalent to a 300x zoom without dropping in light intensity.

* The higher the magnification, the greater the image quality degradation.

LEICA DICOMAR Lens
This high-performance lens has passed the stringent quality standards of Leica Camera AG. A multi-coating process minimizes ghosts and flaring, resulting in especially clear images.

* Leica is a registered trademark of Leica Microsystems IR GmbH.
* DICOMAR is a registered trademark of Leica Camera AG.
* LEICA DICOMAR products are manufactured using Leica-certified measuring instruments and quality assurance systems based on rigorous quality standards approved by Leica Camera AG.

Advanced Optical Image Stabilizer [4K/UHD/FHD]
The correction area of the Optical Image Stabilizer (O.I.S.) has been expanded to approximately 900%* over the conventional area (as compared to the Panasonic AG-AC160).
This provides powerful correction even in unstable shooting situations, such as low-angle or high-angle shots. The ball OIS system reduces wear on the drive section, and greatly improves correction for small-amplitude hand-shake.

* Excluding the 4K 24p mode.

5-Axis Hybrid Image Stabilizer [FHD]
In HD shooting modes, by using hand-shake correction that combines the effects of both optical and electronic image stabilization, hand-shake in various directions, including the rotary direction, is detected and corrected.
Intelligent Auto Focus Offering High Speed, Excellent Tracking Performance and Stability

• **Top-class* focusing speed in 4K**: The focus status judgment algorithm achieves accurate and quick transition to search operation.

• **Top-class* tracking performance in 4K**: The high-precision, high-speed Micro Drive Focus unit accurately tracks the subject even when a quick change in focal distance occurs.

• **Top-class* stability in 4K**: The AF system accurately judges changes in the subject by actively using minute wobbling motions in the high-resolution 4K image. This contributes to high focusing stability.

* As a camcorder with integrated lens having a 1.0-type sensor. (As of June 2017, according to Panasonic survey.)

Custom AF Function for Adjustment of AF Speed, Tracking Sensitivity and Area Settings

Auto focus operation can be customized by adjusting the AF Speed, AF Sensitivity and AF Area Width. This function enables the AF to operate exactly as intended by the user in accordance with the subject type or application.

• **AF Speed**: AF speed can be set in seven steps from 1 to 7. The larger the figure, the faster the AF.

• **AF Sensitivity**: AF sensitivity can be set in 10 steps from 1 to 10. The larger the figure, the easier it is to track fast-moving subjects.

• **AF Area Width**: The width of the area in which AF is effective can be adjusted.

By moving the Micro Drive Focus Unit minutely and quickly, highly precise AF performance is also achieved when shooting in 4K or shooting with a shallow depth of field.
Focus Assist (Expand and Peaking)
When the Focus Assist button is pressed, Expand (enlargement)* or Peaking (colored emphasis of focus point) is displayed to assist the user's manual focusing operation. Expand and Peaking can also be displayed simultaneously.
* The part to be expanded is designated by touching the screen.

One-Push AF
This function temporarily activates Auto Focus when shooting in Manual Focus mode, using a "PUSH AF" button.

Manual Focus Assist
Focus is automatically adjusted after you adjust it with the focus ring in Manual Focus mode. This enables quick and accurate focusing.
* Not operable in combination with VFR or wired remote controller (commercially available).

Focus Transition
Up to three focus positions can be preset. The focus can be shifted to a preset focus position (focal distance) with a single touch. The user can set the focus transition time (immediate, 2 to 15 sec, 20 sec, 30 sec, 45 sec, 60 sec, 90 sec) and the wait time until the start of focus transition (0 sec, 5 sec, 10 sec).

Area Function
Auto Focus is easily possible with just a touch on the LCD panel. You can also change this to Auto Iris and Brightness of the Display on the screen.
* Pictures simulated.
High-Image-Quality, High-Sensitivity 1.0-type*1 4K Sensor

The 1.0-type (effective size) MOS sensor (approx. 9,460,000 pixels in 4K 24p*2, approx. 8,790,000 pixels in UHD/FHD) provides an appropriate depth of field and excellent balance between image quality and sensitivity.

Images can be recorded with a resolution of 4K (4096 x 2160) /24p, UHD (3840 x 2160) /60p/50p or FHD (1920 x 1080) /60p/50p.

*1: Effective size
*2: Actual recording is UHD (3840 x 2160) 59.94p/50p.
*3: At 4K 24p (aspect ratio 17:9)
*4: When 1080/23.98p recording mode is selected.

VFR (2 fps to 60 fps)/Super-Slow Motion (120 fps/100 fps)

- FHD VFR (variable frame rate) Recording: VFR recording can be set in 10 steps*4 from 2 fps to 60 fps (60Hz) /9 steps from 2 fps to 50 fps (50Hz).
- Super-Slow Motion: Slow-motion effect can be achieved by high-speed HD recording at 120 fps (59.94 Hz) or 100 fps (50 Hz).

IR (Infrared) Shooting in Dark Places

IR shooting is possible by turning the IR REC ON (with User button allocation or menu setting). When it is turned ON, images can be captured in dark places by using an IR light (commercially available).

* IR lights are optional (waveform length of 850 nm is recommended).
* When the IR REC is ON, iris, gain, and shutter speed are automatically adjusted.

4K/UHD/FHD/SD Multi-Format Recording

Versatile and easy-to-use MOV (QuickTime), MP4 and AVCHD file formats are supported. The variety of recording modes with selectable image quality, frame rate and bit rate settings respond to a wide range of applications, from cinema production to online distribution.

Recording Format Supported by AG-UX180

<table>
<thead>
<tr>
<th>Image Size</th>
<th>Frame Rate</th>
<th>Bit Rate</th>
<th>Compressed Mode</th>
<th>Sound</th>
<th>File Format</th>
</tr>
</thead>
<tbody>
<tr>
<td>4096×2160 3840×2160</td>
<td>24.00p</td>
<td>100 Mbps</td>
<td>LongGOP</td>
<td>LPCM</td>
<td>MOV or MP4</td>
</tr>
<tr>
<td>1920×1080</td>
<td>29.97p/25.00p/23.98p 150 Mbps</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1920×1080</td>
<td>59.94p/50.00p</td>
<td>100 Mbps</td>
<td>LongGOP</td>
<td>LPCM</td>
<td>MOV or MP4</td>
</tr>
<tr>
<td>1440×1080</td>
<td>59.94p/50.00p</td>
<td>200 Mbps</td>
<td>ALL-Intra</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1280×720</td>
<td>59.94p/50.00p</td>
<td>100 Mbps</td>
<td>LongGOP</td>
<td>Dolby Audio</td>
<td>AVCHD</td>
</tr>
<tr>
<td>720×576</td>
<td>720×576</td>
<td>9 Mbps</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Image captured from actual footage shot on AG-UX180 and graded for printing.
Double SD Memory Card Slots

Two SD card slots are provided. This enables unlimited* relay recording by simply changing SD cards, and also allows simultaneous recording and background recording while ensuring high recording reliability.

* Recording can continue across multiple SD memory cards. However, each time the file reaches 96 GB, it will be split into two files, but the recording continues. If the Relay recording time reaches 10 hours, shooting will temporarily stop, and then automatically restart a few seconds later.

UHD/FHD Dual Codec Recording

This function records images simultaneously into two different formats, Main and Sub (see the table below). Sub-recording files can be used for preview, off-line editing and online transmission. FHD (8 Mbps) sub-recording files can be transmitted via mobile networks so editing work can be performed before the delivery of the main recording files, thus improving the workflow efficiency.

Unlimited* Relay Recording

Automatically records continuously from Slot 1 to Slot 2. By changing a full SD card with a new SD card, images can be recorded continuously for many hours.

Simultaneous Recording

Identical data is recorded onto cards in both slots in this dual recording mode.

Background Recording

Records ordinary Rec Start/Stop-controlled data in Slot 1, and records all data, even when Slot 1 is stopped, in Slot 2.

Other Recording Functions

- **Pre Rec:** This function constantly caches approximately 4 seconds of video and audio data in MOV/MP4 format, or approximately 3 seconds in AVCHD format, prior to Rec Start, so the data can be recovered in case there is a delay in pressing Rec Start.
- **Interval Rec:** Records intermittently based on a set interval time of 1 sec, 10 sec, 30 sec, 1 minute or 2 minutes.
- **Freeze Frame:** Images can be recorded as still images together with audio. This function is convenient when moving the camera to a different location or when shooting a different scene.
- **Time Stamp:** The date and time can be stamped onto recorded images.

### Recording Format Table

<table>
<thead>
<tr>
<th>Slot1</th>
<th>Slot2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Main Recording (UHD/FHD)</td>
<td>Sub Recording (FHD)</td>
</tr>
</tbody>
</table>

#### UHD 60p/50p Dual Codec Recording

**Main-Recording** side
- MOV/MP4
- UHD 29.97p/25p/23.98p 100 Mbps
- FHD 59.94p/50p/25p 200 Mbps
- FHD 59.94p/50p 100 Mbps

**Sub-Recording** side
- MOV/MP4
- FHD 29.97p/25p/23.98p 50 Mbps

#### FHD 8 Mbps Dual Codec Recording

**Main-Recording** side
- MOV/MP4
- UHD 29.97p/25p/23.98p 100 Mbps
- FHD 59.94p/50p/29.97p/25p/23.98p 200 Mbps
- FHD 59.94p/50p 100 Mbps

**Sub-Recording** side
- MOV
- FHD 59.94p/50p/29.97p/25p/23.98p 8 Mbps

* Same recording mode selected in the main-recording side.
16-Axis Independent Color Correction Function
This function provides an independent effect to each of the 16 phases of video images. It enables color matching of multiple cameras under the same lighting conditions as well as creative image rendering.

Skin Detail
Makes skin colors appear soft and beautiful. Especially effective when recording the person up close.

Master Detail
Adjusts the overall degree of contour enhancement.

8-Mode Gamma
The AG-UX180 is equipped with eight selectable gamma modes, including two Cine-Like Gammas, drawing on technologies developed for the VariCam.

Scene Files
Six files preset with picture quality settings are provided as Scene Files (Standard, Shooting under fluorescent lights, Spark, Still like, Cine-like contrast, and Cine-like dynamic range). You can change any of the settings as desired and store one set as a Custom File in the AG-UX180, and up to eight sets on an SD memory card.

Other Professional Picture Quality Settings
- Selectable matrix tables including CINE-LIKE mode
- V detail, detail coring
- Chroma level, chroma phase, color temperature, master pedestal
- Knee point setting
Functions and Designs to Support Professional Camera Work

User Buttons
Any of the 44 functions can be allocated to the User Buttons. There are a total of 13 User Buttons: Nine on the AG-UX180 body, and four on the LCD Touch Panel.

Sliding 3.5-type Touch-panel LCD
The 3.5-type monitor LCD built into the handle section can be pulled out and turned 270 degrees in the vertical direction for use in high-angle, low-angle or selfie shots. The touch panel function can be used for menu setting and area functions.

High-Resolution OLED EVF
The viewfinder features a high-resolution OLED display (approximately 1,770,000 dots) for excellent color reproduction.

ND Filters, Gain, White Balance
- **ND Filters:** OFF, 1/4, 1/16, 1/64 ND filters built-in.
- **Gain Selector:** Negative gain is added. Select from −3 dB to 24 dB gain for 3-position (L/M/H) allocation.
- **AWB Selector:** Two-value (A/B) memory and presets (3200/5600/ VAR) can be selected.
- **ATW (auto-tracking white balance) function.**

LCD/EVF Displays That Assist Shooting
- **Waveform and Vectorscope Display:** WAVE (Waveform) and VECTOR (Vectorscope) can be easily displayed on a subscreen of the LCD monitor. The subscreen display position can be set to one of the four corners.
- **ZEBRA:** Two zebra patterns are integrated, from 50% to 105% in 5% steps.
- **Marker (Y Level):** The brightness level in the center of the screen is displayed in percentage.
- **Level Gauge:** Horizontal or vertical tilting of the camcorder can be checked on the LCD and viewfinder.
- A Safety Zone Marker and Center Marker can be displayed.

* Pictures simulated.
Equipped with Professional Interfaces

3G-SDI for connecting to an External 1080/60p, 1080/50p Recorder

The 3G-SDI output terminal (BNC connector, 5CFV) can be used to transmit FHD 1080/60p, 1080/50p signals through a coaxial cable over a distance of up to 100 m. Panasonic recorders equipped with SDI input can be linked to the Rec Start/Stop function of the AG-UX180.

HDMI Output and Video/Audio Output

- **HDMI OUT**: Outputs images up to 4K 24p, UHD 60p and UHD 50p.*2
- **VIDEO/AUDIO OUT**: Outputs analog signals for video and audio monitoring.

*1: HDMI and SDI signals cannot be output simultaneously.
*2: Images output during UHD 60p and UHD 50p recording are FHD.

16-Bit PCM for High-Sound-Quality*3 Professional Audio Recording

Equipped with two channels of XLR audio input (with switchable 48 V phantom power supply, MIC and LINE) and manual audio volume. This enables recording of two high-quality audio channels using either the 16 bit linear PCM system (MOV/MP4) or Dolby Audio system (AVCHD). Other professional features include the OSD level meter, 1 kHz test tone output*4 and headphone output (3.5 mm-diameter stereo mini-jack).

*3: When the MOV/MP4 recording mode is selected
*4: This output is produced when the color bar is displayed. When the 50-Hz system frequency is selected, the output is 997 Hz.

TC Synchro Multi-Camera Recording Supported

The TC PRESET IN/OUT terminal (BNC) allows synchronization of the initial value for the time code in multi-camera shooting. The camera number (0 to 16) can be added*5 to the name of the recording folder to facilitate editing.

*5: Only when the MOV/MP4 codec is used for recording. Setting must be made in each camera.
Equipped with Professional Interfaces for Smooth System Operation

Wireless Remote Control from an iPad
The AG ROP app for iPad*1 is available free of charge from the Apple App Store. It enables wireless remote control of the AG-UX180, with installation of a wireless module (optional AJ-WM50/AJ-WM30). In addition to a multitude of control functions, such as camera settings, picture quality adjustment, REC start/stop and menu setting, the AG ROP app allows control of the AG-UX180’s internal lens for remote operation of the i.Zoom, zoom and focus. It also displays a thumbnail view and preview*2 so recorded clips can be checked on an iPad.

Wired Remote
Equipped with a REMOTE terminal for remote operation of iris, focus, zoom and REC start/stop.

Large-Capacity Battery Options
The AG-UX180 is compatible with the AG-VBR118G, AG-VBR89G and AG-VBR59 battery packs which offer large capacity and quick charge.*

*1: Not available in some areas.
AG-160A/AC160/AC130A/AC130 can be connected and synchronized via BNC-RCA pin converter.
*3: Operation check models: ATOMOS SHOGUN.

* A wired remote controller (commercially available) is required.
* Quick charge is possible only when the AG-BRD50 battery charger is used.

*1: iOS 7.1, iOS 8.1, and iOS 9 are supported.
*2: Only sub-recording (8 Mbps) of dual codec recording is supported with preview.
* App Store is a service mark of Apple Inc. Apple, the Apple logo, and iPad are trademarks of Apple Inc., registered in the U.S. and other countries.
Workflow

Example of 4K workflow

**Options**

**Optional Accessories**

<table>
<thead>
<tr>
<th>AG-VBR118G</th>
<th>AG-VBR89G</th>
<th>AG-VBR59</th>
<th>AG-BRD50</th>
<th>AG-B23</th>
<th>VW-VBD58</th>
<th>AG-MC200G</th>
</tr>
</thead>
<tbody>
<tr>
<td>Battery Pack</td>
<td>Battery Pack</td>
<td>Battery Pack</td>
<td>Battery Charger</td>
<td>Battery Charger</td>
<td>Battery Pack</td>
<td>XLR Microphone</td>
</tr>
<tr>
<td>(11,800 mAh)</td>
<td>(8,850 mAh)</td>
<td>(5,900 mAh)</td>
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</table>

**UX Standard Model**

**AG-UX90**

4K (UHD) / FHD Camcorder featuring Wide Angle 24.5mm* Zoom Lens and 1.0-type MOS Sensor

*55mm film camera equivalent in FHD mode. 35.4mm in UHD mode.

*1: Not available in some areas.

*2: As for the model supporting 4K video playback.

*3: Software planned to be tested by Panasonic.
Specifications

As of June, 2017

General
Power: DC 7.28 V (when the battery is used)
DC 12 V (when the AC adaptor is used)
Power Consumption: 19.7 W (when the LCD monitor is used)
Operating Temperature: 0°C to 40°C (32°F to 104°F)
Operating Humidity: 15% to 80% (no condensation)
Weight: Body: Approx. 2.0 kg
Body only, excluding lens hood, battery, and accessories:
Shooting: Approx. 2.4 kg
Operating: Approx. 2.4 kg
(including lens hood, battery, and eye cup)
Dimensions: 173 mm (W) x 195 mm (H) x 116 mm (D)
(6-13/16 inches x 7-11/16 inches x 13/16 inches)
(excluding protrusion and eye cup)
Shooting: Approx. 195 mm (H) x 172 mm (W) x 116 mm (D)
(including eye cup, excluding protrusion)

Camera Unit
Pickup Device: 3.0 type (effective size) MOS solid state image sensor
Effective Pixels: 9.46 megapixel: 4K 24p
9.46 megapixel: 4K 24p
Lens: Optical image stabilizer lens, optical 20x motorized zoom
f=24.0 mm to 480.0 mm: 4K24.00p
f=25.4 mm to 508.0 mm: UHD/FHD 59.94p/29.97p/23.98p
F2.8 to F4.5 (f=8.8 mm to 176 mm)

Specifications

Shooting: Approx. 2.4 kg
Weight: Body: Approx. 2.0 kg
(including lens hood, battery, and eye cup)
Dimensions: 173 mm (W) x 195 mm (H) x 116 mm (D)
(6-13/16 inches x 7-11/16 inches x 13/16 inches)
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Shooting: Approx. 195 mm (H) x 172 mm (W) x 116 mm (D)
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Effective Pixels: 9.46 megapixel: 4K 24p
9.46 megapixel: 4K 24p
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f=24.0 mm to 480.0 mm: 4K24.00p
f=25.4 mm to 508.0 mm: UHD/FHD 59.94p/29.97p/23.98p
F2.8 to F4.5 (f=8.8 mm to 176 mm)

Specifications

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(excluding protrusion and eye cup)
Shooting: Approx. 195 mm (H) x 172 mm (W) x 116 mm (D)
(including eye cup, excluding protrusion)

Power Consumption
DC 12 V (when the AC adaptor is used)
Power: DC 7.28 V (when the battery is used)
Please refer to the latest Non-linear Compatibility Information, Download and Service Information, etc. at the following Panasonic website:

http://pro-av.panasonic.net/

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*Specifications are subject to change without notice.