

Panasonic

BUSINESS

AK-UC3000

4K Studio Handy Camera

AK-HC5000

HD Studio Handy Camera

Scheduled for release in Winter 2015

Studio Handy Camera lineup
featuring B4 mount 4K model
and 1080p high-speed model



AK-HVF100



AK-HC5000



AK-UC3000



AK-UCU500

AK-HRP1005

AK-HRP1000

Nurtured in actual production, superior Panasonic imaging Our lineup includes 1080p high-speed system camera and a

By adopting a B4 mount, we achieved superior usability and mobility for existing Panasonic Studio Handy Cameras are today opening a new door in production.



With the newly developed large-format 4K sensor, this camera produces highly expressive 4K video with rich gradation in addition to supporting simultaneous HD/SD.

AK-UC3000 4K Studio Handy Camera

AK-UC3000GJ (Tajimi connector model)
AK-UC3000GSJ (LEMO connector model)

Scheduled for release in Winter 2015

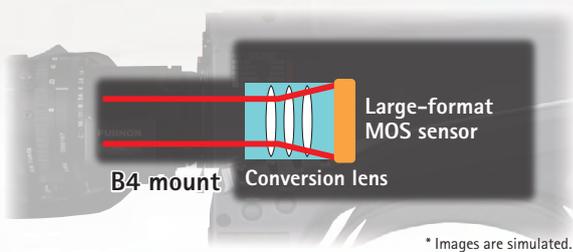


* Lens and viewfinder are optional.
Photo shows a system example using Fujinon 2/3-type 4K ULTRA HDTV Zoom Lens.

Built in special conversion lens allows to use existing 2/3-type lenses for 4K shooting

New-generation 4K video

Applying built in conversion lens, 2/3-type lens can be used with this 4K large-format camera without an adapter and achieves excellent image quality. The new imaging system makes maximum use of incident light to achieve a wide dynamic range.



* Images are simulated.

UHD and HD/SD output are supported*¹

The AK-UC3000 camera system handles UHD as well as HD/SD output simultaneously*¹. You can select the video output based on usage. (See below chart for the supported video format.)

List of supported formats*²

UHD (3G-SDI x 4)	3840 x 2160/59.94p, 50p, 29.97p, 29.97PsF, 25p, 25PsF, 23.98p, 23.98PsF
HD (3G-SDI)	1080/59.94p, 50p, 59.94i, 50i, 23.98p over 59.94i, 29.97PsF, 25PsF, 23.98PsF, 720/59.94p, 50p
SD	480/59.94i, 576/50i

*¹: UHD/HD/SD video is output from the AK-UCU500 Camera Control Unit (CCU).

*²: Support for some of the formats is planned for the spring of 2016.

AK-UC3000/HC5000 Key Features

Both high-quality video and excellent operability

With the AK-UCU500 Camera Control Unit (CCU), uncompressed long-distance transmission of 4K/HD video signals via optical fiber is supported. The AK-HRP1000GJ/1005GJ Remote Operation Panel (ROP) is equipped with a color LCD display that provides excellent visibility. In combination, these devices achieve high-quality video and excellent operability. In cases where power is supplied by the CCU, it is possible to transmit at a long distance of up to approx. 2,000 m between the camera and the CCU. The distance can be extended to approximately 10,000 m by providing an external power supply to the camera and using a general-purpose optical fiber transmission device. Between the CCU and the ROP, in addition to a dedicated serial line, IP connection via LAN cable is also supported.

High sensitivity and low noise

The AK-UC3000 is equipped with a newly developed large-format 4K MOS sensor. Two shooting modes can be selected. In High Sense Mode, while also achieving F10 at 59.94p high sensitivity, it is possible to obtain a S/N ratio of

60 dB or higher when noise reduction has been switched off. The result is low-noise and high-image-quality video. The AK-HC5000 is equipped with a 2/3-type 3MOS sensor, and it also has two shooting modes to choose from. In High Sense Mode, it achieves F10 59.94p and F11 50p high sensitivity and low noise with an S/N ratio of 60 dB or higher.

Skew reduction realized through high-speed scans + flash band compensation

Making unstinting use of knowhow accumulated via Panasonic's ENG cameras, the skewing characteristic of MOS sensors has been reduced by reading out the MOS sensor signal at high speed. In addition, using a camera-signal-processing LSI high-precision flash band detection and compensation function, we were able to eliminate the flash band phenomenon (light and dark areas appearing in the same frame) that occurs when a flash goes off during shooting.

technology is changing studio cameras. system camera that can simultaneously output UHD (4K)/HD/SD.

HD use as well as new 4K video production.

1080p 4x high-speed shooting for vivid imaging of high-energy moments in sports and other events.

AK-HC5000 HD Studio Handy Camera

AK-HC5000GJ (Tajimi connector model)
AK-HC5000GSJ (LEMO connector model)

Scheduled for release in Winter 2015



* Lens and viewfinder are optional.

The 3MOS sensors popular in constantly evolving ENG cameras are now available in Studio Handy Cameras

1080p 4x high-speed shooting included as standard function*¹

The AK-HC5000 camera system has a high-speed shooting function that adds a rich expressiveness to video content production.



* Image is simulated.

Newly developed 2/3-type MOS sensor

High-image-quality video production is realized with the newly developed 2/3-type MOS sensor. (See below chart for the supported video format.)

List of supported formats*²

HD	(3G-SDI)	1080/59.94p, 50p, 59.94i, 50i, 23.98p over 59.94i, 29.97PsF, 25PsF, 23.98PsF, 720/59.94p, 50p
	(3G-SDI x 4)* ³	1080/239.76p, 200p
SD		480/59.94i, 576/50i

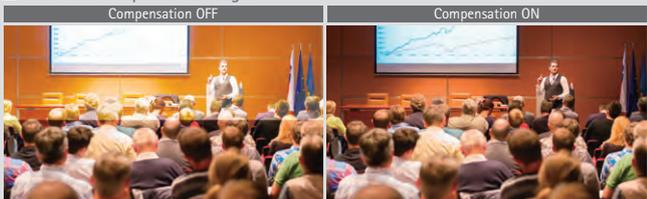
*1: To obtain the 1/4 slow effect, a device to separately record 1080/239.76p, 200p is necessary.
*2: Support for some of the formats is planned for the spring of 2016.
*3: 4x HD video is output from the AK-UCU500 Camera Control Unit (CCU).

Skew reduction images



* Images are simulated.

Flash band compensation images



* Images are simulated.

Chromatic Aberration Compensation (CAC)

This exclusive technology sets up a conversation between lens and camera which allows for a highly sophisticated algorithm to be deployed that will automatically compensate the registration error that is caused mainly by lens chromatic aberration, and minimize the circumjacent blur.

Images showing CAC (Chromatic Aberration Compensation) function effect



* Images are simulated.

Dynamic Range Stretch (DRS) function*1

The DRS function automatically suppresses blocked shadows and blown highlights. When dark and bright areas are mixed in the same scene, such as when looking outside from indoors, DRS can maintain a high level of gradation expression in dark, bright, and intermediate tones, thereby minimizing blocked shadows, blown highlights, and washed out colors. This makes it possible to obtain visually wide dynamic range video in real time.

Images showing DRS (Dynamic Range Stretch) effect



Selectable gamma curves

In addition to the Film Rec Gamma functions (V-REC, F-REC) supporting digital film production, you can select the Filmlike 1/2/3 modes. They produce natural gradations and rich color reproduction with a film-like quality.

Shockless gain

It is possible to smoothly transition the image changes that occur when gain is changed. In addition, with the 0.1 dB step master gain adjustment function, you can fine tune the adjustments to match the scene being shot.

Diverse color correction functions

In addition of using the EBU or NTSC preset color correction matrix, you can fine tune the hue and saturation of individual colors with 12-axis color correction and the linear matrix. Sensitive color expression is also possible using the separate Skin Tone Detail Correction function for skin tone adjustment.

Skin Tone Detail Correction

Tone down wrinkles and dull areas to beautifully shoot natural skin textures. Colors for correction can be chosen from the entire hue phase (360°) even for colors other than skin tones, and two types of correction can be individually applied. There is also a function to select color and directly adjust it.

Images showing Skin Tone Detail Correction effect



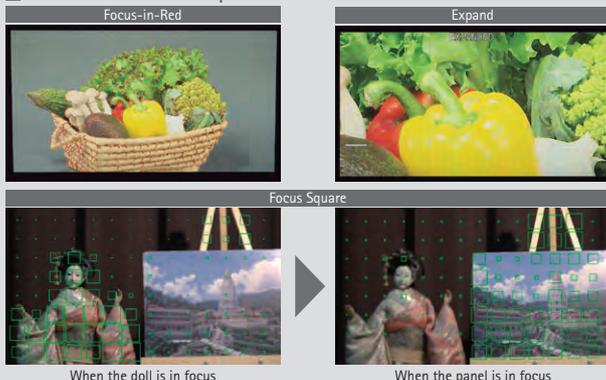
Servo control ND/CC filters

The cameras are equipped with filters for a variety of shooting environments.
[ND filters] CAP, Through, 1/4, 1/16, 1/64
[CC filters] Cross, 3200 K, 4300 K, 6300 K, Diffusion

Focus assist functions

Quick and accurate focusing is supported with focus assist functions such as Focus Bar (indicates focus level), Focus-in-Red (uses color to indicate areas in focus), Expand (magnifies central portion), and Square (shows focus status of screen as a whole). Lenses with auto focus and focus assist capabilities are also supported*2.

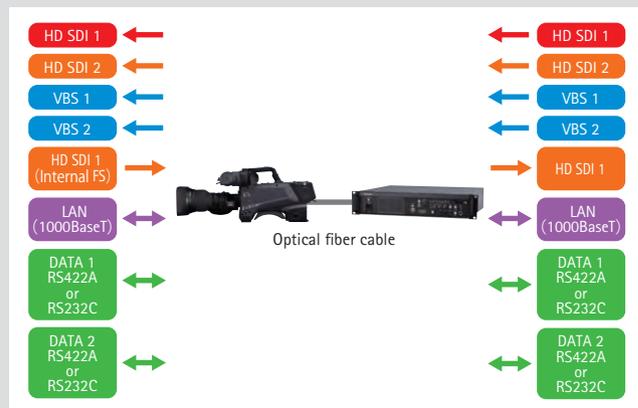
Focus assist function examples



Extensive video and data transmission (TRUNK) functions

Since video and data can be transmitted between the camera and a Camera Control Unit (CCU) using optical fiber cable alone, system expansion to match operation conditions is possible.

- HD SDI (CCU→camera) two lines, VBS (CCU→camera) two lines: Can be used for monitoring with prompter or camera (studio floor monitor), etc.
- HD SDI (camera→CCU) one line*3: This line can be used to transmit an additional video signal of a handheld or remote camera to the studio. Since the camera video input is equipped with a frame synchronizer, asynchronous video signals can also be used.
- LAN (1000BaseT) one line: To be used to control external devices and remote cameras by IP protocol. Transmission of streaming video is also supported.
- DATA (RS422A or RS232C) two lines: Can be used to transfer lens and pedestal position data in a virtual system.



Detailed settings and functions optimized for operability

- Color temperature display and adjustment function (2000 K to 15000 K variable).
- Transmission of approx. 10,000 m possible using single fiber.
- It is possible to save camera settings (VF markers, video adjustments, etc.) on an SD memory card. Firmware version upgrades are also supported.
- A lens file function to save flare and shading values.
- Support for IP streaming (to be added) and IP control.
- DC12 V 2.5 A and 1.0 A output as a standard feature. This can be used as a power source for large lenses, prompters, and sub-monitors.
- There are four user buttons (enabling function selection) on the camera head and four on the viewfinder. They support rapid shooting by the camera operator.

Intercom connection possible

With two independent intercoms, in addition to Intercom 1 and Intercom 2 switching, an Intercom 1 and 2 mix mode has been added and can be selected to observe the situation. With the Intercom 1 front/rear switch and front volume, it is possible to adjust the intercom audio level even when the camera is being used from the shoulder.

New slanted-line design improves mobility and operability

The functional layout achieves both ease of use and high-performance. The low-profile body design enhances visibility to the right side of the camera, along with the low center of which improves operability. The shoulder pad can be moved in a 24 mm (15/16 inches) range so you can increase shooting stability by adjusting the forward/backward balance when lens weight changes.



*1: For the AK-UC3000, only when in HD mode.

*2: For the compatible lenses, please contact the manufacturer.

*3: Cannot be utilized when the camera system is 4K and high-speed mode is used.

AK-HRP1000GJ

AK-HRP1005GJ

Remote Operation Panel (ROP)

Scheduled for release in Winter 2015

Expand operation scope with two size options: a full operation panel and a simplified panel. These compact operation panels also support PoE¹ and IP control.



AK-HRP1000GJ



AK-HRP1005GJ

Rear View

AK-HRP1000GJ



AK-HRP1005GJ



- There are two models: 1/4 rack size (AK-HRP1000GJ) and 1/5 rack size (AK-HRP1005GJ).
- LCD panels with enhanced visibility.
AK-HRP1000GJ: 8.9 cm (3.5 inches) (VGA)
AK-HRP1005GJ: 8.1 cm (3.2 inches) (VGA)
- Camera serial control and IP control (RJ45 LAN cable) are possible.
- Supports PoE¹, which can supply power via LAN cable (CAT5e or faster).
- Can be used for remote control of Panasonic camera recorders, convertible cameras, and HD integrated cameras².
- Functions for studio camera scene file registration and retrieval.
- Equipped with SD memory card slot for saving user files and updating firmware versions.

AK-UCU500

Camera Control Unit (CCU)

AK-UCU500PJ/AK-UCU500EJ (Tajimi connector model)
AK-UCU500PSJ/AK-UCU500ESJ (LEMO connector model)

Scheduled for release in Winter 2015

The CCU supports both 4K and HD formats by just changing the camera head.

It enables a high-quality, long-distance optical fiber transmission camera system to be configured at a reduced cost.



Rear View



- Optical fiber transmission of uncompressed video signals over a distance of approx. 2,000 m between camera and CCU³.
- The compact, lightweight unit measures 2U in height and is rack-mountable.
- Supported formats
4K (3G-SDI x 4)⁴: 3840 x 2160/59.94p, 50p, 29.97p⁵, 29.97PsF⁵, 25p⁵, 25PsF⁵, 23.98p⁵, 23.98PsF⁵
HD (3G-SDI) : 1080/59.94p, 50p, 59.94i, 50i, 23.98p over 59.94i⁵, 29.97PsF⁵, 25PsF⁵, 23.98PsF⁵, 720/59.94p, 50p
HD (3G-SDI x 4)⁶ : 1080/239.76p⁵, 200p⁵ (High Speed)
SD : 480/59.94i, 576/50i

- Supports IP streaming (100 Base-T)².
- An SD memory card can be used for saving user files and updating firmware versions.
- Input/output
SDI OUT x 7, SDI OUT (PM) x 1, VBS x 1, etc.
⁴*4K MODE⁴ : SDI OUT x 4 (4K), SDI OUT x 3, SDI OUT (PM) x 1, VBS x 1, VBS (PM) x 1
⁵*HS MODE⁶ : SDI OUT x 4 (HS), SDI OUT x 3, SDI OUT (PM) x 1, VBS x 1, VBS (PM) x 1
RET Input (SDI: 4ch, VBS: 1ch) etc.
LAN-TRUNK output
PROMPT Input (SDI : 1ch, ANALOG : 2ch)

¹: Abbreviation of Power over Ethernet.

²: Future support.

³: When power is supplied from CCU.

⁴: When AK-UC3000 4K Studio Handy Camera is connected.

⁵: Support planned for spring 2016.

⁶: When AK-HC5000 HD Studio Handy Camera is connected.

AK-HVF100GJ

22.9 cm (9 inch) LCD Color Viewfinder

Scheduled for release in Winter 2015

Equipped with newly designed tilt mechanism and extensive functions such as focus assist and external video input.

- High-resolution 22.9 cm (9 inch) color LCD panel displays full HD 1920 x 1080 pixels
- Focus assist functions (Focus-in-Red, Focus Bar*1)
- Detail depends on zoom ratio*1
- External HD-SDI (3G SDI) input
- Four assignable function switches
- Contrast, brightness, and peaking are adjustable
- Pan, tilt, and lift structure used

*1: When connected to AK-UC3000 or AK-HC5000.



Rear View



■ Lift structure image



AK-MSU1000GJ

Master Setup Unit (MSU)

Scheduled for release in Spring 2016

Controls up to 99 CCU units via IP

- IP and serial connections supported.
IP connection: Up to 99 units
Serial connection: Up to six units

AK-HBU500GJ

Build-up Unit

Scheduled for release in Spring 2016

Enables use of large studio-use lens.

- Smooth camera mounting/removal possible
- Large-lens optical axis (horizontal/vertical) adjustment function
- Rear control panel equivalent to that of a large camera

Other accessories



AJ-HVF21KG
50.8 mm (2 inches) HD EVF
59.94 Hz/50 Hz Switchable



AG-CVF15G
Color HD EVF
Open two ways for LCD monitor viewing



AG-CVF10G
Color HD EVF
Open one way for LCD monitor viewing



AK-HVF70G
17.8 cm (7 inch) LCD Color Viewfinder



SHAN-TM700
Tripod Adapter



AW-PS550
AC Adaptor



AJ-C10050G
Remote Control Cable
(50 m / 164 feet)

Specifications (tentative)

As of September, 2015

AK-UC3000 4K Studio Handy Camera

AK-UC3000GJ (Tajimi connector model)
AK-UC3000GSJ (LEMO connector model)

AK-HC5000 HD Studio Handy Camera

AK-HC5000GJ (Tajimi connector model)
AK-HC5000GSJ (LEMO connector model)

Power Supply	AC 240 V (when CCU is connected) DC 12 V (during external power supply operation)
Power Consumption	Approx. 35 W (during DC12V supply/camera body only)
Operating Temperature	-10 °C to 45 °C (Preheating required at temperatures below 0 °C)
Storage Temperature	-20 °C to 60 °C (-4 °F to 140 °F)
Storage Humidity	Less than 85 %
Weight	Approx. 4.5 kg (approx. 9.9 lb)
Dimensions (W x H x D)	151 mm x 267 mm x 371.5 mm (5-15/16 inches x 10-33/64 inches x 14-5/8 inches) excluding protrusions

Rear View



AK-HRP1000GJ/AK-HRP1005GJ Remote Operation Panel (ROP)

	AK-HRP1000GJ	AK-HRP1005GJ
Power Supply	DC12V (DC10V-16V) *Via CCU or PoE *Via PoE-HUB	
Power Consumption	6 W	5 W
Operating Temperature	0 °C to 40 °C (32°F to 104°F)	
Storage Temperature	-20 °C to 60 °C (-4°F to 140°F)	
Weight	Approx. 1.7 kg (approx. 3.74 lb)	Approx. 1.5 kg (approx. 3.30 lb)
Dimensions (W x H x D)	102 mm x 385 mm x 113 mm (4-1/64 inches x 15-5/32 inches x 2-61/64 inches)	82 mm x 355 mm x 125 mm (3-15/64 inches x 13-31/32 inches x 4-59/64 inches)
Control Method	10BASE-T/10BASE-TX/100BASE-TX Duplex start-stop synchronization EIA-422 (integrated protocol)	
PREVIEW Control	Yes	Yes

AK-UCU500 Camera Control Unit (CCU)

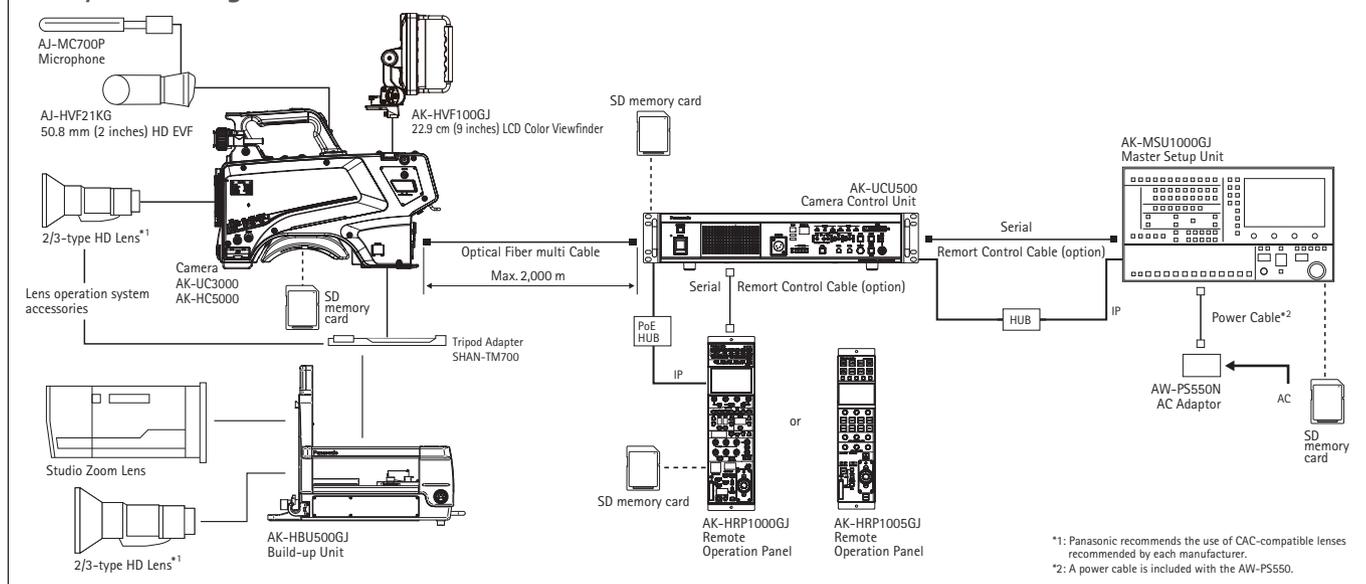
AK-UCU500PJ/AK-UCU500EJ (Tajimi connector model)
AK-UCU500PSJ/AK-UCU500ESJ (LEMO connector model)

Power Supply	AC100 V ~ 240 V, 50 Hz/60 Hz
Power Consumption	Approx. 40 W or less (excluding power supply)
Capacity for Supplying Power to a Camera	AC230 V ±5%, 2 A 50 Hz/60 Hz
Operating Temperature	0 °C to 40 °C (32 °F to 104 °F)
Operating Humidity	10 % to 90 % (no condensation)
Weight	Approx. 10 kg (Approx. 22.0 lb)
Dimensions (W x H x D)	424mm x 88 mm x 400 mm (16-11/16 inches x 3-15/32 inches x 15-3/4 inches) (Full Rack size)

AK-HVF100GJ 22.9 cm (9 inch) LCD Color Viewfinder

Power Supply	DC 12 V (supplied by the camera)
Power Consumption	Approx. 18 W
Operating Temperature	0 °C to 45 °C (32 °F to 113 °F)
Storage Temperature	-20 °C to 60 °C (-4 °F to 140 °F)
Operating Humidity	10 % to 85 % (no condensation)
Weight	Approx. 2.7 kg (Approx. 5.94 lb) (without hood)
Dimensions (W x H x D)	340 mm x 234 mm x 193 mm (13-25/64 inches x 9-7/32 inches x 7-19/32 inches)
Panel size	22.9 cm (9 inch)
Number of Pixels	1920 pixels x 1080 pixels
Display Colors	8 bit RGB 16,777,216 Colors
Operation Panel	<POWER> Switch <MENU> Button <MENU> Selection dial button <F1> / <F2> / <F3> / <F4> Buttons <BRIGHT> Knob <CONTRAST> Knob <PEAKING> Knob
Connectors	Camera I/F (D-Sub 29 pin) x 1 SDI IN connector (BNC x 1) DC IN connector (XLR4 pin x 1)

System Configuration



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JQA-0443



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