

Ikegami

HD
High Definition

Top-of-the-Line,
Full Digital HDTV Companion Camera System

HDK-727 HDK-727P

— Real Native 720/60P —



Ikegami is the world-leading company of highest quality broadcast and professional video production equipment. The HDK-727/HDK-727P native progressive cameras are superior HDTV gear with high reliability. They have full compatibility and identical colorimetry for a perfect match between Studio and Portable cameras.

New DSP with 14-bit Full Digital

Incorporating advanced full digital process ASIC, 0.18um design rule.

Using sophisticated full digital process ICs, precision designed at 0.18um rule, the video signals are digitized with 14-bit A/D conversion and up to 38-bit internal digital processing circuits.

The latest 14-bit A/D conversion

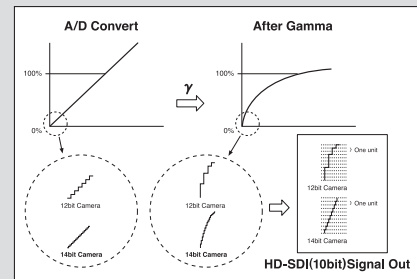
14-bit A/D converters maximize the color gradation for the darker parts of the picture, providing a high-level of digital signal process capability. It preserves fine gradation and details when reproducing the dark areas of the picture.

DTL Correction

A detail correction system, including digitally processed horizontal, vertical and diagonal correction signal for red, green and blue video, is incorporated into the camera head, and obtains noise-free full resolution HDTV picture quality even if the camera is used in stand-alone configuration.

Independent DTL

With Independent DTL systems in the CCU, the type and amount of compensation can be optimized for the different requirements of HDTV and SDTV.



Digital Processing Camera Control Unit, the CCU-790A

DTV Multi-format

1080/60i, 720/60p, 1080/24p, 480/60i and other frame conversion available with optional Engine board fitted.

Simulcast (HDTV and SDTV)

Both HDTV video and SDTV (NTSC) are provided simultaneously from the CCU and in both digital and analog form. Monitoring video signals (WFM and PM) are likewise provided in both HDTV and SDTV to adapt to different system installations and to permit continued use of conventional monitoring.



CCU-790A Front Panel



CCU-790A Rear Panel

Sophisticated features made possible with digital technologies

FINE DTL function

By expanding the small edge in the low contrast object and compressing the edge component in the high contrast object, the impression for the glare of picture with too much edge is reduced and the natural image, which is more visual for human being, can be obtained.

Six-Vector Color Corrector + Two-Axis Custom Color

Includes a color correction function that enables hue and saturation to be adjusted for each of the six primary colors (R, G, B, Cy, Y, Mg), plus another function to make color correction of two user-selected colors of the subject. Color correction before Gamma Circuit provides more true color reproduction.

Enhanced Digital DTL

Improved visual reproduction of subjects such as texture and sheen, and richer reproduction of details in skin tone and in dark backgrounds is realized.

Super KNEE

The Super Color Knee system maintains color saturation without changing the hue of the highlighted parts and provides natural color reproduction under high luminance conditions.

KNEE DTL function

KNEE DETAIL function provides better expression in highlight scene, improving on previous Knee Aperture. Vertical and Horizontal contour corrections are independently made to the highlight video where the KNEE is processed. (Supported by OCP-200/MCP-150/MCP-200/RCP-50B)

Menu Preset function

All menu items including Level and Control settings can be preset and easily recalled from the control panel. It is also easy to reset to factory settings. Preset for 3 MATRICES can be set. The MATRIX settings can be preset for different lighting, and then selected by the control panel. (Supported by OCP-200/MCP-150/MCP-200/RCP-50B)

Master FLARE

A Master FLARE function enables one adjustment to control the overall level of FLARE while maintaining the tracking of the R/G/B channels. This feature makes it possible to control flare during operation since the color balance is never off. (Supported by OCP-200/MCP-150/MCP-200/RCP-50B)

Clear VF DTL function

This function makes a difference in the edging of the image exclusively in the viewfinder, to make the precise point of focus easier to find, and to make it easier for the cameraperson to focus.

HD-SDI Output from the camera Head

HD SDI output is provided from the camera head, and by using VTR connector (option), direct connection is possible with HD digital equipment, such as an HD VTR.

RET Video and teleprompter Video

The CCU-790A accepts two channels of return video input as standard. It is available with up to 4ch as a factory option. Input signals can be selected from HD-SDI, D1 component and VBS signals. The CCU includes an up converter permitting a SDTV return video signal (D1) to be viewed on the HD viewfinder. The CCU transmits the HD return video signal (each Y, PB, PR) and two NTSC Q-TV video signals (Q-TV1, Q-TV2) to the camera for teleprompter and external monitoring purposes.



HDK-727 Rear



HDK-727P Rear

State of the Art, Expanding HDTV System Accessories

CB-79HD/TFA-79HD HDTV Triax System

Ikegami's advanced HDTV triax system is available for the HDK-727 and HDK-727P. The TFA-79HD, housed in a rugged weather resistant case, is used together with the CB-79HD at the CCU side for full resolution transmission of HD signals over conventional triax cable.

Transmission Distance

Up to 850m (2,800ft.)	by 8.8mm diameter triax / Fujikura
Up to 1,550m (5,100ft.)	by 14.5mm diameter triax / Fujikura
Up to 500m (1,600ft.)	by 9.2mm diameter triax / Belden type 9267
Up to 1,000m (3,300ft.)	by 13.2mm diameter triax / Belden type 9232



TFA-79HD (Camera side)



CB-79HD (CCU side)

Space-Saving Design

Suitable for small-sized HD vans and rental / flight-pack systems.

A half-rack base station BS-89 is available, permitting full SMPTE fiber cable extension with a compact base station. It supports HDTV/SDTV simulcast operation with an up converter / down converter built into its half-rack size. It is suitable for small-sized HD vans and rental / flight-pack systems. The HDK-790EXIII and HDK-79EXIII with the System expander can be connected with the BS-89 (AC operation only).

BS-89 Half-Rack Base Station



BS-89 Front



BS-89 Rear

SE-H700 System Expander

The SE-H700 System Expander enables the use of the 9-inch LCD color viewfinder and full studio lenses with the HDK-727P, converting the portable camera into a full facility studio camera.

- Cable-less structure provides easy docking and undocking.
- No optical axis error due to the bayonet ring fixing method.
- Portable lens can be attached.



Cutting-Edge, New Control Panel System

The OCP-200 / MCP-200 is a new Network based control panel system offered as an alternate to the traditional Ikegami style control panels. The Arc-net system allows any OCP-200 to control any camera with assignment set at the OCP itself. System wiring is simplified with control of up to 96 cameras via a single coax cable between CCU locations and video control locations. The OCP-200 and MCP-200 include touch screen LCDs. The depth-of-control of the OCP-200 can be selected from basic to complete to fit the customers' operating discipline. Conventional one by one camera control connection is also available.



BSH-200



CPH-200



Rear



Rear



OCP-200



MCP-200

HDK-727/HDK-727P

Ratings

■ Scanning System

- HDK-727 / 727P..... 720p (59.94Hz or 50Hz)
*59.94Hz/50Hz Switchable : Factory option
- CCU-790A..... 720 lines 59.94Hz 1:1 non-interlaced
720 lines 59.94Hz 1:1 non-interlaced variable frame
480i lines 59.94Hz 2:1 interlaced
1080 lines 59.94Hz 2:1 interlaced (option)
1080 lines 59.94Hz 2:1 interlaced 2-3 pull-down (option)
1080 lines 59.94Hz 2:1 interlaced variable frame (option)
1080 lines 29.97Hz 1:1 non-interlaced (option)
1080 lines 29.97Hz SF non-interlaced (option)
1080 lines 23.98Hz 1:1 non-interlaced (option)
1080 lines 23.98Hz SF non-interlaced (option)

■ CCD image sensor.....

2/3-inch 1,000,000-pixel IT CCD

■ Optical system.....

2/3-inch 3CCD, f1.4

■ Lens mount.....

BTA S-1005B (standard)

■ Viewfinder

- HDK-727..... 9-inch LCD color viewfinder (standard)
- HDK-727P..... 2-inch B/W viewfinder (standard),
5-inch B/W viewfinder (option) or
9-inch LCD color viewfinder (option)

■ Input signals

● HDK-727 / 727P

External SYNC signal..... SYNC 0.6Vp-p ±6dB
Audio signal*..... -60, -50, -40, -30, -20, -10, 0, +4dB 600Ω (2ch, balanced)
(after selecting, variable 5dB available)
(*option for HDK-727)

Intercom signal..... 2ch (ENG/PROD) (standard : XLR type)

● CCU-790A

[HDTV system (SMPT292M and SMPT296M)]
Phase reference signal..... PS/S 0.6Vp-p ±6dB 75Ω bridged, 1ch
Return video signal..... PS 1.0Vp-p 75Ω 2ch (standard)
4ch (factory option)
(Input signal is SDI signal)

[NTSC system]

Return video signal..... VBS 1.0Vp-p 75Ω 2ch (standard)
4ch (factory option)
(Input signal is analog or SDI signal)
bridged, 1ch
Q-TV signal..... VBS or PS 1.0Vp-p 75Ω Single End, 2ch:59.94Hz/1ch:50Hz

Intercom/Tally

Intercom (ENG/PROD)..... (4-wire or Clearcom or RTS)
4-wire..... 0dBm 600Ω 2ch
Clearcom..... -15dBs 200Ω 2ch
RTS..... 0dBm 200Ω 2ch
Tally..... contact/voltage R, G 2ch
Program sound..... 0dBs 600Ω 2ch

■ Output signals

● HDK-727 / 727P

Video signals
Analog signal..... R, G, B or Y, PB, PR each 1ch,
75Ω (multi-pin connector : HDK-727P standard, HDK-727 option)

HD SDI signal..... Y, PB, PR 4:2:2 serial digital 2ch
(BNC connector, Camera cable connector) (SMPT292M)

Q-TV signal..... Analog signal, 2ch:59.94Hz/1ch:50Hz (BNC connector)

Return out.....

HD SDI signal
VTR signal..... BTA S-1005B (Factory option)
Monitor signal..... Y or VF signal select 1ch, 75Ω (BNC connector)

Intercom signal..... 0dBs 2ch (ENG/PROD) (Standard : XLR type)

● CCU-790A

[HDTV system]
Analog video signal (SMPT296M)
Y, Pb, Pr 75Ω each 1ch
(R, G, B signal output is selectable by internal switch)
75Ω 3ch
HD SDI signal (SMPT294M)..... 75Ω 3ch
WFM signal..... R, G, B, Y select 1.0Vp-p 75Ω or HD-SDI 75Ω 2ch (factory option)
PM signal..... R, G, B, Y select 1.0Vp-p 75Ω 2ch
PM-SDI..... 0.8Vp-p 75Ω 2ch (factory option)

[NTSC system]

Composite video signal..... VBS 1.0Vp-p 75Ω 3ch
Component video signal..... R, G, B 0.7Vp-p 75Ω each 1ch
(Y, PB, PR signal output is selectable by CCU Menu)

Component serial signal (D1)..... (SMPT259M) 270Mbit/s
0.8Vp-p 75Ω 4ch

WFM signal..... R, G, B, Y, ENC select 1.0Vp-p 75Ω or SDI 75Ω 2ch
PM signal..... R, G, B, Y, ENC select 1.0Vp-p 75Ω or SDI 75Ω 2ch
Phase reference signal..... sync 0.6Vp-p 75Ω 1ch
(HD or SD automatically selectable)

Audio Signal

Mic..... 0dBm 600Ω 2ch
Digital audio..... AES 3ID 1Vp-p 75Ω 1ch
(In conformity with AES/EBU)

Intercom/Tally

Intercom (ENG/PROD)..... (4-wire or Clearcom or RTS)
4-wire..... 0dBm 600Ω 2ch
Clearcom..... -15dBs 200Ω 2ch
RTS..... 0dBm 200Ω 2ch

■ Filter.....

	1	2	3	4	5
ND	CAP	100%	25%	6.2%	1.6%
	A	B	C	D	E

■ Electric color temperature.....

5600K

■ Ambient temperature.....

HDK-727 / 727P : -20° C ~ +45° C (-4° F ~ +112° F)
CCU-790A : 0° C ~ +45° C (+32° F ~ +112° F)

■ Relative humidity.....

30%~90% (Non-condensing)

■ Operating voltage

AC 100/110/117/220/240±10%

■ HDK-727P.....

11-16V

■ Weight

● HDK-727..... 24kg (52.91 lbs) (without lens)
9-inch LCD color viewfinder : 2.1kg(4.63 lbs)
● HDK-727P..... 4.5kg (9.92 lbs) (without lens)
2-inch B/W viewfinder : approx. 0.8kg (1.76 lbs)

■ CCU-790A.....

approx. 30kg (66.14 lbs)

■ Dimensions

● HDK-727..... W315 X H462 X D517mm
(W12.40 X H18.19 X D20.35 inches)
● HDK-727P..... W125 X H270 X D337mm
(W4.92 X H10.63 X D13.27 inches)
● CCU-790A..... W438 X H132 X D430mm
(W17.24 X H5.197 X D16.93 inches)

Performance

■ Sensitivity.....

F10/2,000 lx

■ S/N

HDTV system..... 58dB
NTSC system..... 62dB

■ Modulation depth

HDTV system..... 40% or more (650 TV lines, 28.875MHz)
NTSC system..... 90% or more (400 TV lines, 5MHz)

■ Limiting resolution

HDTV system..... 700 TV lines
NTSC system..... 700 TV lines
Video frequency response (Base Station output)
Y output..... Below 60Hz..... Falling
60Hz~30MHz..... within ±1.0dB
Over 30MHz..... Falling
Pb, Pr output signal..... Below 60Hz..... Falling
60Hz~15MHz..... within ±1.0dB
Over 15MHz..... Falling
NTSC output signal (Ych 100kHz, output signal from external camera control equipment)
Below 60Hz..... Falling
60Hz~4.5MHz..... within ±0.5dB
4.5MHz~8.0MHz..... within ±1.0dB
Over 8MHz..... Falling

■ Audio Frequency response (Base Station output)

Y output..... Below 100Hz..... Falling
100Hz~10kHz..... within ±1.0dB
Over 10kHz..... Falling

■ Contour correction

Vertical..... Sline
Boost frequency, 13MHz~24MHz (HDTV)
Horizontal..... Boost frequency, 2.7MHz~8.9MHz (SDTV)

■ Gamma.....

OFF, 0.35, 0.4, 0.45

■ Gain.....

-3dB, 0dB, +3dB, +6dB, +12dB (Standard)

■ Power consumption

● HDK-727..... approx. 500VA (including 9-inch LCD color viewfinder and CCU)
● HDK-727P..... Camera Head : 28W / 2-inch VF : 6W

Design and specifications are subject to change without notice.

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