

# Ikegami

**HD**  
High Definition

PRELIMINARY

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

# HDK-727 HDK-727P

— Real Native 720P —



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.

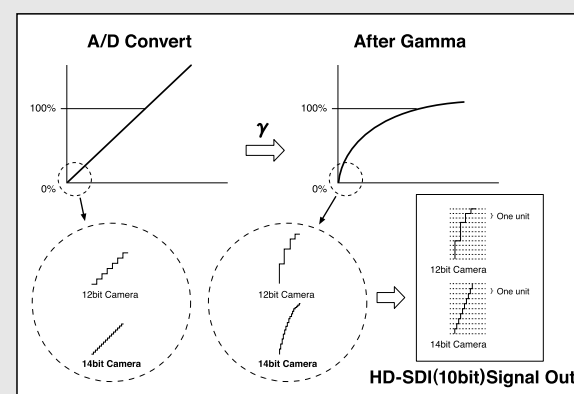
## New DSP with 14-bit Full Digital

### 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.



## Simulcast Broadcasting

### Simulcast (HDTV and SDTV)

Both HDTV video and SDTV 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.

### DTV Multi-format (CCU-790A only)

1080/60i/50i, 720/60p/50p, 1080/24p, 480/60i, 580/50i and other frame conversion available with optional Engine board fitted.



CCU-890 Front Panel



CCU-890 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 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 an 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 (standard), Q-TV2 (option))/one PAL Q-TV video signal 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 second generation HDTV triax system is now available for the full studio cameras, the EX series cameras. 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

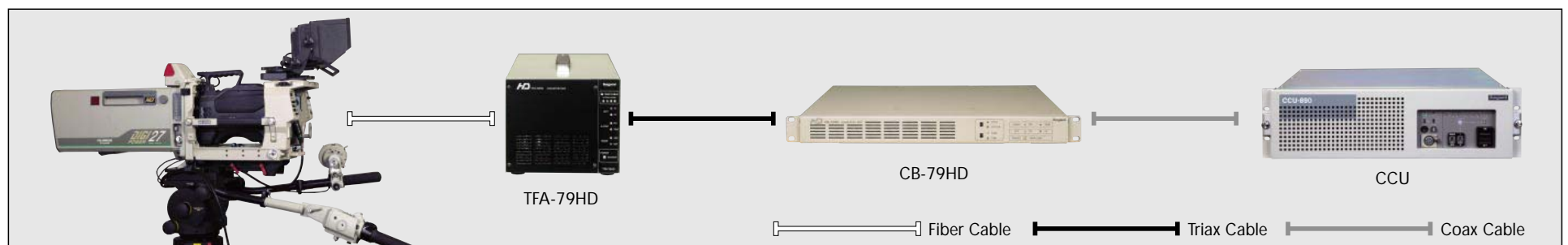
Up to 850m (2,800ft.)	by 8.8mm diameter triax / Fujikura
Up to 1,550m (5,100ft.)	by 14.5mm diameter triax / Fujikura
Up to 500m (1,600ft.)	by 9.2mm diameter triax / Belden type 9267
Up to 1,000m (3,300ft.)	by 13.2mm diameter triax / Belden type 9232



TFA-79HD (Camera side)



CB-79HD (CCU side)



### 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

BSH-200



Front



Rear

CPH-200



Front



Rear



OCP-200



MCP-200

# HDK-727/HDK-727P

## Ratings

<b>nScanning System</b>			
1HDK-727 / 727P.....	750 (59.94Hz or 50Hz, selectable)		
1CCU-890/BS-89 (59.94Hz).....	720 lines 59.94Hz 1:1 non-interlaced		
	480i lines 59.94Hz 2:1 interlaced		
1CCU-890/BS-89 (50Hz).....	720 lines 50Hz 1:1 non-interlaced		
	580i lines 50Hz 2:1 interlaced		
<b>nCCD image sensor.....</b>			
	2/3-inch 1M pixel IT CCD		
<b>nOptical system.....</b>			
	2/3-inch 3CCD, f1.4		
<b>nLens mount.....</b>			
	BTA S-1005B (standard)		
<b>nViewfinder</b>			
1HDK-727.....	9-inch color LCD viewfinder		
1HDK-727P.....	2-inch B/W viewfinder (standard) or		
	5-inch B/W viewfinder (option) or		
	9-inch color LCD viewfinder (option)		
<b>nInput signals</b>			
1HDK-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) (1/4" Phone type or XLR type)		
1CCU-890/BS-89			
[HDTV system (SMPTE274M and SMPTE292M)]			
Phase reference signal.....	PS (1Vp-p) Sync (0.6Vp-p ± 6dB) 75Ω bridged, 1ch		
Return video signal.....	HD SDI Signal 75Ω 4ch		
[SDTV system]			
Return video signal.....	D1 (standard), VBS(option) 75Ω 2ch/4ch		
	*In case that VBS (option) is applied, D1 or VBS is selectable.		
External genlock signal.....	VBS 1.0Vp-p 75Ω bridged, 1ch		
Q-TV signal.....	VBS 1.0Vp-p 75Ω Single End, 2ch		
<b>Intercom/Tally</b>			
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		
Program sound.....	0dBs 600Ω 2ch		
<b>nOutput signals</b>			
1HDK-727 / 727P			
<b>Video signals</b>			
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)		
	(SMPTE292M)		
Q-TV signal.....	Analog signal, 2ch (1ch : standard, 1ch : option)		
	(59.94Hz)/1ch(50Hz) 75Ω(BNC connector)		
Return out (option).....	HD SDI signal		
VTR signal (option).....	BTA S-1005B		
Monitor signal.....	Y or VF signal select 1ch, 75Ω (BNC connector)		
Intercom signal.....	0dBs 2ch (ENG/PROD) (1/4" Phone type or XLR type)		
1CCU-890/BS-89			
[HDTV system]			
Analog video signal (SMPTE274M)			
(CCU-890 only)	Y, Pb, Pr 75Ω each 1ch (HDTV/SDTV selectable)		
	(R, G, B signal output is selectable by Menu)		
HD SDI signal (SMPTE294M).....	75Ω 4ch		
WFM signal.....	HD-SDI 75Ω 2ch (CCU-890)/1ch (BS-89)		
PM signal.....	HD-SDI 75Ω 2ch (CCU-890)/1ch (BS-89)		
[SDTV system]			
Composite video signal.....	VBS 1.0Vp-p 75Ω 2ch		
Component video signal.....	R, G, B 0.7Vp-p 75Ω each 1ch		
(CCU-890 only)	(HDTV/SDTV selectable)		
	(Y, Pb, Pr signal output is selectable by Menu)		
Component serial signal (D1).....	(SMPTE259M) 270Mbit/s 0.8Vp-p 75Ω 2ch		
WFM signal.....	R, G, B, Y, ENC select 1.0Vp-p 75Ω or SDI 75Ω		
	2ch (CCU-890)/1ch (BS-89)		
PM signal.....	R, G, B, Y, ENC select 1.0Vp-p 75Ω or SDI 75Ω		
	2ch (CCU-890)/1ch (BS-89)		
<b>Audio Signal</b>			
Mic.....	0dBm Low 2ch		
Digital audio.....	AES 3ID 1Vp-p 75Ω 1ch (CCU-890 only)		
	(In conformity with AES/EBU)		

<b>Intercom/Tally</b>					
Intercom (ENG/PROD).....	(4-wire or Clearcom or RTS)				
4-wire.....	0dBm 600Ω	2ch			
Clearcom.....	-15dBs 200Ω	2ch			
RTS.....	0dBm 200Ω	2ch			
<b>nFilter.....</b>					
		1	2	3	4
	ND	CAP	100%	25%	6.2%
	CC	CROSS	3200K	4300K	6300K
					8000K
<b>nElectric color temperature.....</b>					
	5600K				
<b>nAmbient temperature.....</b>					
	HDK-727 / 727P : -20°C ~ +45°C				
	CCU-890 : 0°C ~ +45°C				
<b>nRelative humidity.....</b>					
	30%~90% (Non-condensing)				
<b>nOperating voltage</b>					
1HDK-727.....	AC100/110/117/220/240 ± 10%				
1HDK-727P.....	11~16V				
<b>nWeight</b>					
1HDK-727.....	24kg (without lens)				
	9-inch color LCD viewfinder : approx. 2.1kg				
1HDK-727P.....	4.5kg (without lens)				
	2-inch B/W viewfinder : approx. 0.8kg				
1CCU-890.....	approx. 28kg				
1BS-89.....	Approx. 9kg				
<b>nDimensions</b>					
1HDK-727.....	W310 X H410.5 X D380mm				
1HDK-727P.....	W125 X H270 X D337mm				
1CCU-890.....	W482.6 X H132.6 X D481mm				
1BS-89.....	W219 X H130 X D470mm				

## Performance

<b>nSensitivity.....</b>		F10/2,000 lx
<b>nS/N</b>		
HDTV system.....	56dB	
SDTV system.....	62dB	
<b>nModulation depth</b>		
HDTV system.....	40% or more (560 TV lines, 28.875MHz)	
NTSC system.....	90% or more (400 TV lines, 5MHz)	
PAL system.....	90% or more (360 TV lines, 4.5MHz)	
<b>nLimiting resolution</b>		
HDTV system.....	700 TV lines	
SDTV system.....	480 TV lines	
<b>Video frequency response (Base Station output)</b>		
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	
<b>SDTV output signal (Ych 100kHz, output signal from external camera control equipment)</b>		
	Below 60Hz..... Falling	
	60Hz~4MHz..... within ± 0.5dB	
	4MHz~4.5MHz..... within ± 1.0dB	
	Over 4.5MHz..... Falling	
<b>nAudio Frequency response (Base Station output)</b>		
Y output.....	Below 100Hz..... Falling	
	100Hz~10kHz..... within ± 1.0dB	
	Over 10kHz..... Falling	
<b>nContour correction</b>		
Vertical.....	5line	
Horizontal.....	Boost frequency, 13MHz~24MHz (HDTV)	
	Boost frequency, 2.7MHz~8.9MHz (SDTV)	
nGamma.....	OFF, 0.35, 0.4, 0.45	
nGain.....	-3dB, 0dB, +3dB, +6dB, +12dB (Standard)	
<b>nPower consumption</b>		
1HDK-727.....	approx. 500VA (including 7-inch color viewfinder and CCU)	
1HDK-727P.....	Camera Head : 28W / 2-inch VF : 6W	

Design and specifications are subject to change without notice.

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