

Ikegami

Unicam HD

State-of-the-Art

16-bit Full Digital HDTV Camera System

HDK-790GX

16-bit Full Digital HDTV Portable Camera System

HDK-79GX



The HDK-790GX and HDK-79GX are high quality multi-purpose high end camera models reproducing the quality of Ikegami's EX-series cameras, and adding new features and accessories associated with the new Unicam HD series. They can be used for studio, as well as, field applications.



2/3-inch 2.3 Mega pixel AIT CCDs

Three 2/3-inch 2.3 Mega pixel AIT CCDs are employed to achieve 1000 TVL horizontal resolution with high signal to noise ratio of 61dB at F10 (1080/59.94i) or F11 (1080/50i) sensitivity.

Newly developed FPGA with advanced full digital process ASIC

The HDK-79GX incorporates a newly developed FPGA together with advanced full digital process ASIC to achieve outstanding picture performance.

Video processing technology to maximize the benefit of 16-bit

This camera is designed from the start based on 16-bit A/D and matching 16-bit DSP to maximize the benefits of high bit quantization. Especially for the dark areas of the picture, the higher gradation for gamma and other circuits improves the reproduction, providing for more natural color in the shadow areas of the picture.

Advanced features made possible with digital technology

Advanced features such as Master Gain Control, Variable Color Temp., Custom Gamma functions are incorporated.

Digital Extender

There is the selection of x1.5, x2, x3, x4 digital extender available to enlarge the image at the center of shot without any loss in image sensitivity.

Built-in Triple Layer Filter (ND/EFF/ECC)

The triple layer filter system can be remotely controlled from OCP/MCP. The three layers are ND (100%, 25%, 6.2%, 1.6%), EFFECT (Clear, Cross, Snow, Fog) and Electronic Color Compensation (ECC: 3200K/4300K/ 5600K/6300K/8000K) .

In addition, there is Variable Color Temp. function that enables the camera operator to continuously vary the color temperature from 2,000k to 20,000k for easy and precise adjustment.

2 Channels QTV

Two channels of QTV output (VBS) are available at the camera for prompter and external monitoring purposes. The AUX OUT (VBS) connector can be assigned to QTV-1, QTV-2, or Main video by menu. (FA-55) (factory option)

HD SDI Trunk

When the camera is operating with FA-97A fiber adaptor and CCU-980, the system allows 3G (1.5G x2) transmission from the camera head to the CCU, and a second 1.5G video can be transmitted to the CCU as a video trunk channel. For POV or 3D applications, this will reduce the cables which need to be run. (factory option)

Docking style camera body (HDK-79GX)

With a docking style camera body, either an FA (Fiber Adaptor) or TA (Triax Adaptor) can be mounted depending on the use.

Variety of Camera Control Units

3G Capable Base Station BS-98



A half-rack base station, BS-98, is also available, permitting full SMPTE fiber cable extension with a compact base station, suitable for small sized OB vans and rental / flight-pack systems. The BS-98 supports 2 channels of QTV and 4 channel RET selection to match the camera head features

HD SDI QTV

One channel of HD SDI is sent from CCU to camera head for an external purpose such as a vanity monitor for the talent to see the program video in HDTV (option). This channel is independent of RET video.

4 Return Video Input

Standard configuration includes 4 inputs for HD RET and 4 inputs for SD RET (with up conversion to HD). Camera operator selects the RET input to be sent to the camera. When required a Frame Sync function can be selected for the RET video minimizing lock up disturbance (supports only 2 RET SDI inputs).

Embedded audio available as standard

All SDI outputs can be embedded with the audio signals of MIC-1 and MIC-2. Each channel has variable adjustment for delay time and independent On/Off switching for embedded audio.

Simulcast

Using a down converter and up converter incorporated in the CCU-980, both HDTV and SDTV signals are provided simultaneously from the CCU.

Ethernet Port available

Ethernet ports are available on BS-98, CCU-980, BSH-300, OCP-300 and OCP-10.

3G Capable Camera Control Unit CCU-980



The full rack width 3RU CCU-980 permits full SMPTE fiber cable extension with longer cable distance and more utility power. The CCU-980 supports 2 channels of QTV plus HD SDI QTV and 4 channel RET selection.

1.5G Fiber Camera Control Unit FA-55 / BSF-55



The FA-55 Fiber Adapter and BSF-55 Base Station offer cost effective operation in 1080i formats, in combination with the HDK-79GX. The BSF-55 is newly designed in the compact size of 1.5RU height with 19-inch rack mount width, transmitting uncompressed high quality pictures with use of SMPTE fiber cable between camera and base station. Both HDTV and SDTV formats are supported simultaneously in both digital and analog form with a wide range of built-in interfaces. The BSF-55 also features embedded audio in the SDI output signals.

Digital Triax Camera Control Unit DTA-55 / BST-55



The DTA-55 / BST-55 is a triax transmission system, using Ikegami's original super low latency digital transmission to minimize degradation and deliver the full resolution and SNR of the camera head to the base station regardless of the triax cable distance. This new transmission system allows customers to transition from SD to HD while still using their existing triax camera cable infrastructure, saving cost and continuing to use a rugged easy to repair cable/connector type.

* DTA-55/BST-55 can not be used for HDK-790GX.

Sophisticated System Accessories, Expanding HDTV

SE-H750 System Expander

The SE-H750 System Expander enables the use of the 9-inch viewfinder and full studio lenses with the HDK-79GX, converting the portable camera into a full facility studio camera. Installation of the camera into the SE-H750 is very easy, and conversion back to portable configuration is quick for maximum operating flexibility.



Variety of viewfinders

For the HDK-79GX, a 2-inch 16:9 high definition LCD color viewfinder for portable application is available. In addition, a 7.4-inch OLED and a 9-inch LCD color studio viewfinders are available as options.



2-inch LCD



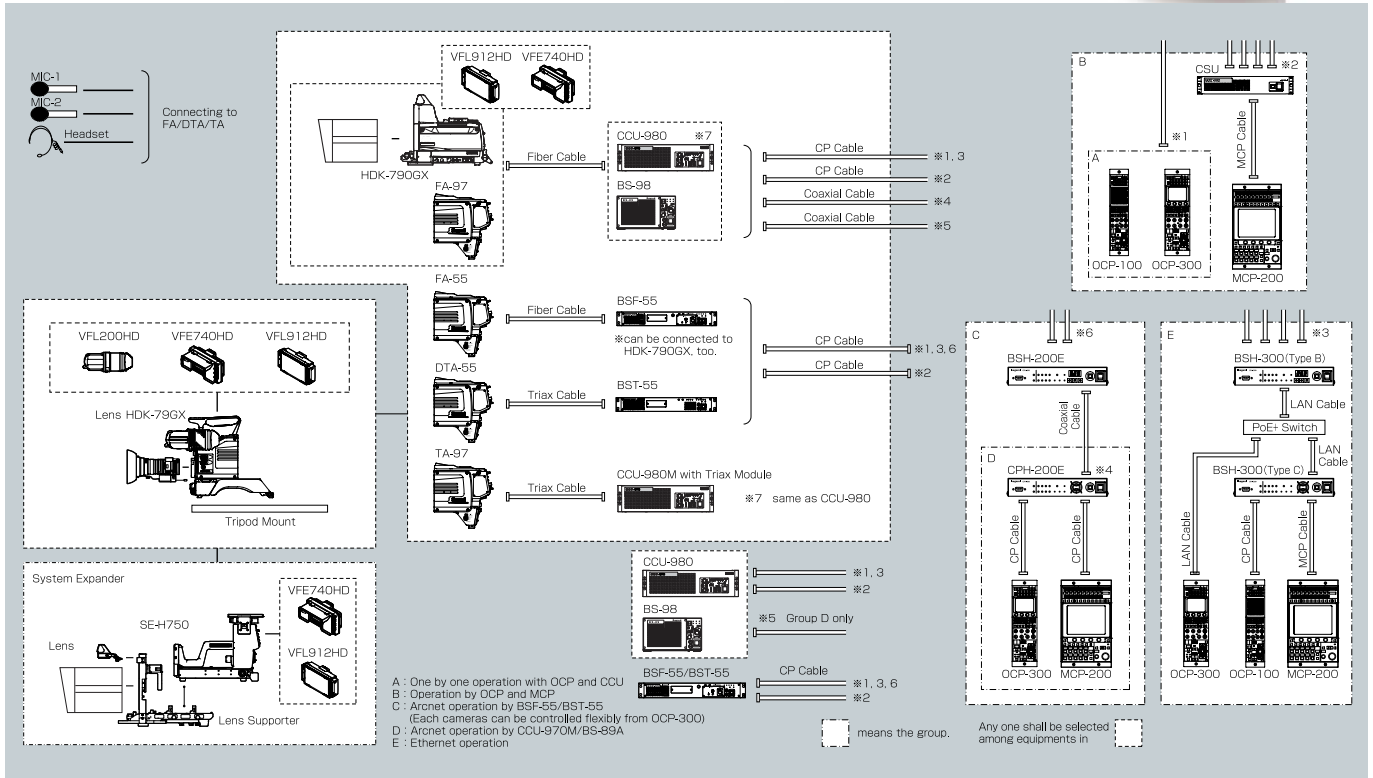
9-inch LCD

VFE740HD 7.4-inch OLED Color Viewfinder

The VFE740HD is an OLED Color Viewfinder, employing a 7.4-inch QHD OLED panel, achieving high resolution, high brightness, high contrast and wide viewing angle. Its true color reproduction and high quality gradation provide optimum monitoring in the full range of uses. Especially its fast response achieves superb fast motion images for shooting sports, etc.



SYSTEM CONFIGURATION FOR HDK-790GX/79GX



HDK-790GX/79GX

Ratings

Supporting Formats	1080i (59.94Hz or 50Hz) Y,Pb,Pr 4:2:2 Interlaced 1080psf (29.97Hz or 25Hz) Y,Pb,Pr 4:2:2 Interlaced (Option)					
Image Sensors	2/3-inch 2.3 million pixel AIT CCD					
Optical system	2/3-inch RGB prism, f1.4					
Lens Mount	BTA- S1005B (B4)					
Filter	Optical Filter (servo)	1	2	3	4	5
		ND	100%	25%	6.2%	1.6%
	Electronic Color Compensation	A	B	C	D	E
Sensitivity	F10 (1080/59.94) / F11 (1080/50) typical at 2000 lx (White reflection 89.9%)					
S/N	61dB typical (HDTV)					
Limiting Resolution	1000TV lines					
Variable Color Temperature	2,000K to 20,000K variable					
Electric Shutter	1/100, 1/120, 1/250, 1/500, 1/1000, 1/2000					
Detail Correction						
Vertical	5 lines					
Horizontal	Boost frequency: 13MHz to 22MHz (HDTV)					
Gamma	OFF, 0.35, 0.4, 0.45					
Gain	-6, -3dB, 0dB, +3dB, +6dB, +9dB, +12, +18dB					
Ambient Temperature	-20°C to +45°C (-4°F to 113°F)					
Relative Humidity	30% to 90% (Non-condensing)					
Operating Voltage						
HDK-790GX	AC100/110/117/220/240V ±10%					
HDK-79GX	+11 to 16V					
Weight						
HDK-790GX	approx 24kg (52.9lbs)					
HDK-79GX	approx 4.6kg (10.1lbs) (Head + FA or TA, excluding VF)					
Dimensions						
HDK-790GX	W315 x H328 x D398mm (excluding VF) (W12.37 x H12.87 x D15.62 inches)					
HDK-79GX	W138.5 x H270 x D337mm (Head + FA or TA, excluding VF) (W5.5 x H10.62 x D13.25 inches)					

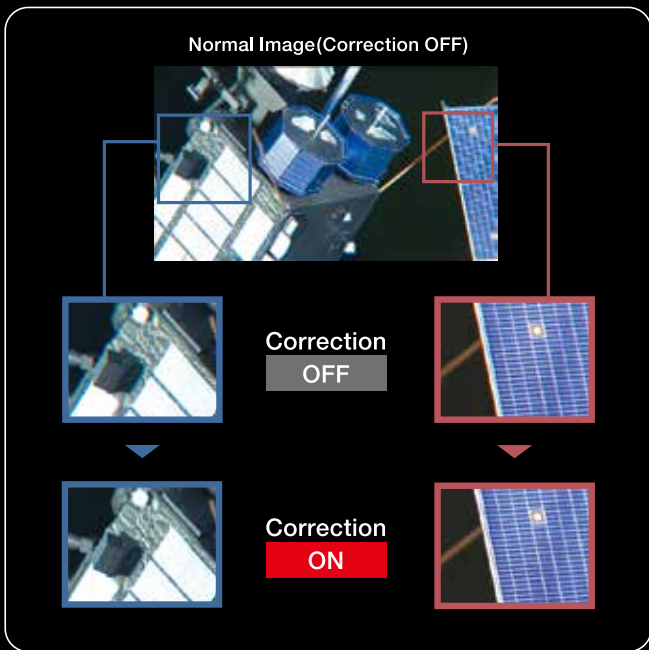
Input Signals	
External Sync Signal	SYNC 0.6Vp-p ±6dB 75ohm 1ch * DTA-55 does not have external sync signal input in self-contained operation.
Audio Signal	-60dB to +4dB (Variable) / -20dB (Fixed) 2ch (600 ohm Balanced)
Intercom Signal	XLR Type or 110 Type CN 2ch
Video Trunk	Serial Digital 75ohm 1ch (factory option with FA-97)
Output Signals	
Analog Video Signal	R, G, B D-Sub CN 1ch (for System Expander)
HD SDI Signal	
HDK-790GX	Serial Digital 75ohm 1ch
HDK-79GX with FA-97A/FA-55	Serial Digital 75ohm 1ch
HDK-79GX with DTA-55	Serial Digital 75ohm 1ch * The output signal should be fixed with main video signal in self-contained operation and fixed to RET signal in triax operation.
Q-TV Signal	
HDK-790GX	VBS signal 1ch (2ch as option with applicable CCU)
HDK-79GX with FA-97A	VBS signal 1ch (2ch as option with applicable CCU)
HDK-79GX with FA-55	VBS signal 1ch
HDK-79GX with DTA-55	SD-SDI signal 1ch
AUX OUT Signal (FA-55)	VBS signal 1ch (QTV-1, QTV-2, or Main video selectable by menu)
MON Video Signal	VF / RET / MON (MENU Selection) Serial Digital 75ohm BNC 1ch OR VF / RET / MON / HD-QTV (MENU Selection) Serial Digital 75ohm BNC 1ch (Factory Option)
HD QTV (FA-97 + BS-98/CCU-980)	Serial Digital 75ohm 1ch (Option) * FA-97A+CCU-980 are needed for HD-QTV output.
Intercom Signal	0 dBs 4ch (ENG/PROD/PGM1/PGM2) XLR Type or 110 Type CN
DC Output	+12VDC 500mA (max), 4-pin type 1ch * Option for DTA-55 * Not available with HDK-790GX

Unicam HD



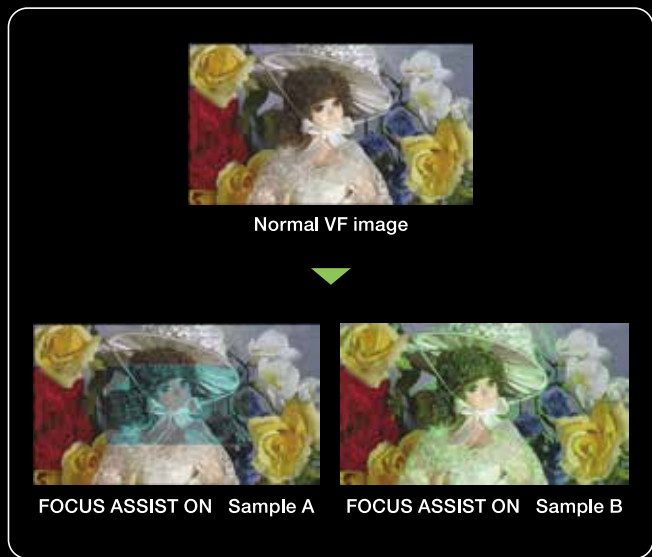
Lens Aberration Correction Function

The Lens Aberration Correction Function is newly incorporated for minimizing the loss of resolution and colored edges caused mainly by lens chromatic aberration.



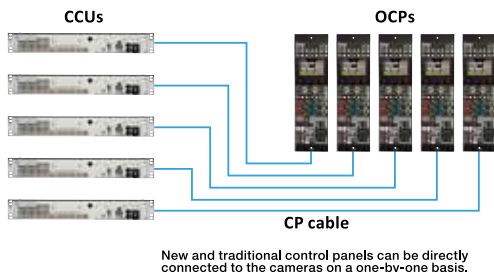
Camera Operator Assist Functions

There are two types of camera operator assist functions incorporated in the HDK-790GX and HDK-79GX camera head. The viewfinder detail (VF DTL) function allows the camera operator to increase the detail edges to the viewfinder video for easy-focusing. In addition, the Quick EZ Focus (Focus Assist) function is a newly incorporated useful tool, providing very distinct enhancement to the viewfinder signal to enable the camera operator to make critical focus adjustment.



Sophisticated Camera Control Panel System

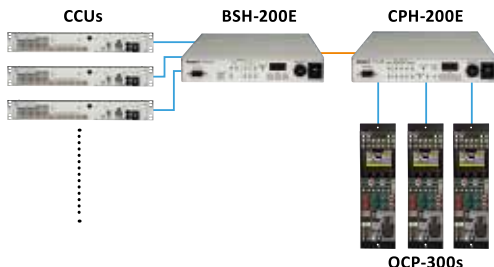
Conventional one by one camera control connection



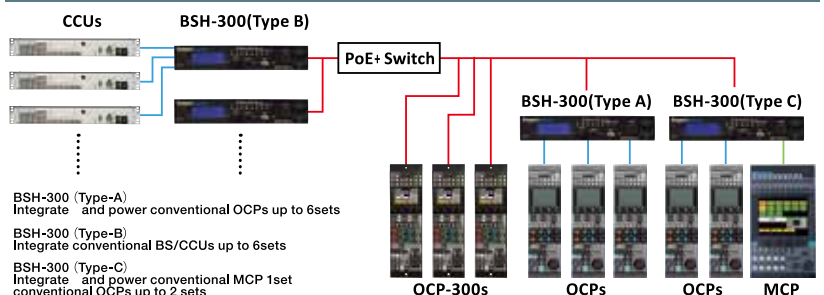
Three different control architectures are supported by the new OCP-300 Operation Control Panel and BSH-300 Ethernet/ICCP command converter, each with a wide range of camera control capability. The OCP-300 supports not only Ikegami's conventional one-by-one ICCP control and Arcnet based control systems, but also an Ethernet based control system, allowing customers the flexibility to choose the camera control system based on their needs. The OCP-300 includes a touch screen LCD with rotary encoders, and SD Memory Card slot for full camera setup and filing capability. The depth-of-control feature allows the OCP-300 control to be selected from basic to complete to fit the customer's operating discipline. The OCP-300 also supports PoE, Powering over Ethernet, so separate power supplies are not necessary. The BSH-300 is used for converting command between Ethernet and ICCP, allowing previous control panels such as the OCP-200 and MCP-200, to be integrated into the Ethernet network system.

* There are three types of BSH-300, Type-A, Type-B and Type-C, each with a different type and number of connectors.

Arc net based camera control system



Ethernet based camera control system



BS-98/CCU-980/BSF-55/BST-55

Ratings/Performances

Dimensions	
BS-98	W218.6 x H125 x D457mm (W8.63 x H4.92 x D18.00 inches) (excluding protrusions)
CCU-980	W483 x H133 x D454mm (W19.00 x H5.25 x D17.88 inches) (excluding protrusions)
BSF-55/BST-55	W483 x H66.4 x D405 mm (W19.00 x W2.63 x D16.00 inches) (excluding protrusions)
Weight	
BS-98	approx. 9kg (20 lbs)
CCU-980	approx. 28kg (62 lbs)
BSF-55	approx. 7kg (15.43 lbs)
BST-55	approx. 8kg (17.64 lbs)
Ambient Temperature	0°C to +40°C (32°F to 104°F) (CCU-980 : 0°C to +45°C (32°F to 113°F))
Relative Humidity	30% to 90% (Non-condensing)
Operating Voltage	
BS-98/CCU-980	AC100/110/117/220/240V ±10%
BSF-55/BST-55	AC100V to 120V / 200V to 240V ±10%
Power Consumption	
BS-98	approx. 80VA (BS only)
CCU-980	approx. 110VA (CCU only)
BSF-55	approx. 55VA (BS only)
BST-55	approx. 80VA (BS only)
Maximum Cable Distance	
CCU-980	2000m with 9.2mmφ Fiber Cable
FA-97A/BS-98	2000m with 9.2mmφ Fiber Cable
FA-55/BSF-55	2000m with 9.2mmφ Fiber Cable
DTA-55/BST-55	800m with Fujikura 8.8mmφ Triax Cable
Input Signals	
External Sync Signal	
BS-98/CCU-980	GENLOCK : Tri-level sync on BBS 75 ohm BNC x2 (Loop Through) (HDTV/SDTV automatic detection) SUB REF : 10 Field ID 75 ohm BNC x2 (Loop Through)
BSF-55/BST-55	GENLOCK : Tri-level sync or BBS 75 ohm BNC x2 (Loop Through) (HDTV/SDTV automatic detection)
Return Video Signal	
BS-98/CCU-980	75 ohm HD/SD-SDI Single End 4ch or 2ch Active-Through (Menu Selection)
BSF-55/BST-55	HD/SD-SDI: 75ohm single end 2ch (HD/SD SDI Selectable) VBS: 75ohm single end 2ch
Q-TV Signal	
BS-98/CCU-980	HD-QTV: HD-SDI 75 ohm single end 1ch (require 3G bandwidth fiber adaptor) SDTV: VBS 75 ohm single end 2ch
BSF-55	VBS 75ohm single end 1ch
BST-55	SD-SDI 75ohm single end 1ch
Intercom (ENG/PROD)	4-wire or Clearcom or RTS
4-wire	0dBm 600ohm 2ch
Clearcom	-15dBs 200ohm 2ch
RTS	0dBs 200ohm 2ch

PGM (Program Sound)	
BS-98/CCU-980	+4dBs, 0dBs or -20dBs 3 channels 600 Ω / 10k Ω
BSF-55/BST-55	0dBs 600ohm/10k ohm switchable 2ch
Tally	
BS-98/CCU-980	Red / Green / Yellow
	Selected from the make contact / power supply
BSF-55/BST-55	R/G 2ch
Output Signals	
【Main Video Signal】	
BS-98/CCU-980	
HDTV signals	Serial Digital 75 ohm BNC 2ch 4 outputs (OUT1/OUT2) SMPTE 425M, SMPTE 372M, SMPTE292M standard
SDTV signals	Serial Digital 75ohm BNC 1ch 2outputs (OUT3)
VBS Signal	1.0Vp-p 75ohm 1ch 2outputs
BSF-55/BST-55	
HD-SDI/SD-SDI Signal	HD-SDI (SMPTE292M) /SD-SDI (SMPTE259M) 75ohm 2ch 4outputs (HD-SDI/SD-SDI selectable)
VBS Signal	1.0Vp-p 75ohm 1ch 2outputs
【Picture Monitor Signal】	
BS-98/CCU-980	
HD/SD-SDI Signal	Serial Digital 75 ohm BNC 1ch 1 output *SMPTE 425M, SMPTE292M standard
BSF-55/BST-55	
HD-SDI/SD-SDI Signal	Serial Digital 75ohm BNC 1ch 1output (MENU SELECTION)
SDTV Analog Signal	1.0Vp-p 75ohm BNC type 1ch 1output
【WFM Signal】	
BS-98/CCU-980	Serial Digital 75 ohm BNC 1ch 1 output *SMPTE 425M, SMPTE292M standard (Selectable WFM or PM)
BSF-55/BST-55	Serial Digital 75ohm 1ch (HD-SDI/SD-SDI selectable)
Phase Reference Signal	75ohm single end Analog 1ch HDTV: Tri-Sync (0.6Vp-p) / SDTV: HV (2Vp-p) (MENU SELECTION)
Intercom(ENG/PROD)	4-wire or Clearcom or RTS
4-wire	0dBm 600ohm 2ch
Clearcom	-15dBs 200ohm 2ch
RTS	0dBs 200ohm 2ch
AUDIO (MIC)	
BS-98/CCU-980	0dBs/+4dBs 2ch 2outputs Low impedance (MENU SELECTION)
BSF-55/BST-55	0dBs/+4dBs 2ch 2outputs Low impedance (MENU SELECTION)
Tally	BS-98/CCU-980:Red/Green/Yellow, BSF-55/BST-55:Red/Green
Data Trunk	BS-98/CCU-980:RS-422 2ch, BSF-55/BST-55:RS-422 1ch * In case of the BST-55, the data trunk channel is not supported as standard.
Video Trunk	
HD-SDI Signal	HD-TRUNK : HD-SDI 75 ohm single end 1ch (require 3G bandwidth fiber adaptor) * Not available with BSF-55/BST-55.
Digital Audio	
	75ohm Digital Format BNC 1ch 1output 48kHz Sampling, 24bit Pro,2-pair ch's (AES3 Compliant) * Not available with BSF-55/BST-55.

* BST-55 can not be used for HDK-790GX.

Design and specifications are subject to change without notice.



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