Ikegami

Unicam HD

Super 35mm Format HDTV Camera System

HDK-97ARRI

ARRI

Super 35 Format CMOS Sensor High Definition Camera

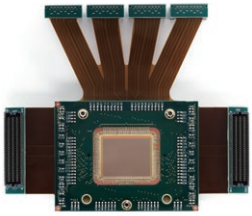
HDK-97ARRI

Unicam HD

The HDK-97ARRI is a high-end broadcast system camera equipped with a Super 35mm format CMOS sensor and PL lens mount provided from ARRI.
The camera combines the best cinema camera technology and Ikegami's latest image processing technology, with the added benefit of the optical characteristics of PL mount lenses. Wide dynamic range and SNR from the high quality large format sensor of ARRI provide cinema like images with a profound natural appearance. The large format allows artistic control of the point of focus.
Moreover, the camera can connect with a variety of system components corresponding to the Unicam HD series, allowing multi-camera shooting with real time video control, achieving flexible operation as a system camera.
Part of the Unicam HD series, the HDK-97ARRI can be used together with other standard 2/3-inch Unicam HD cameras in the same workflow,providing novel video production.

The image shot by the HDK-97ARRI in 1200% dynamic range mode

High Quality Super 35mm CMOS sensor from ARRI



The sensor has large pixels of the 8.25 µm, providing high dynamic range, high SNR, high sensitivity and wide exposure latitude.

Newly developed FPGA DSP

Using the latest digital video processing FPGA allows up to 64-bit internal signal processing with a 16-bit high resolution input signal, achieving high picture quality and functionality.

Dual Gain Architecture

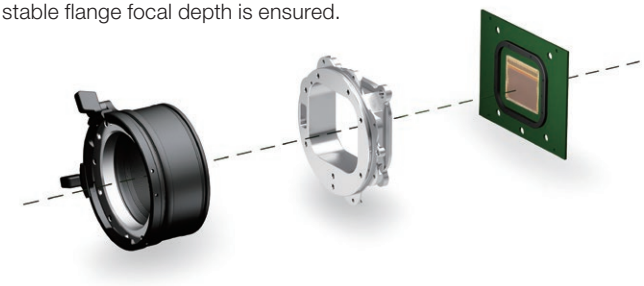
Dual Gain Architecture is a technology reading out the sensor by two amplifiers with different gain as two output signals.
It enhances low light performance and prevents the highlights from being clipped, thereby significantly extending the dynamic range of the image. With this performance, a signal with high dynamic range and high SNR is faithfully converted to a 16-bit digital signal,achieving superb image quality.

High Band 3G Transmission System

The fiber transmission system utilizes 3G in both directions, camera head to CCU/BS and CCU/BS to camera head,
supporting dual rate formats such as 1080/23.98p 4:4:4 and 1080/59.94p 4:2:2 formats.

Super Stable ARRI Lens Mount

The camera is equipped with a stable and robust ARRI lens mount system. By creating a fixed link between the lens and sensor,a super stable flange focal depth is ensured.

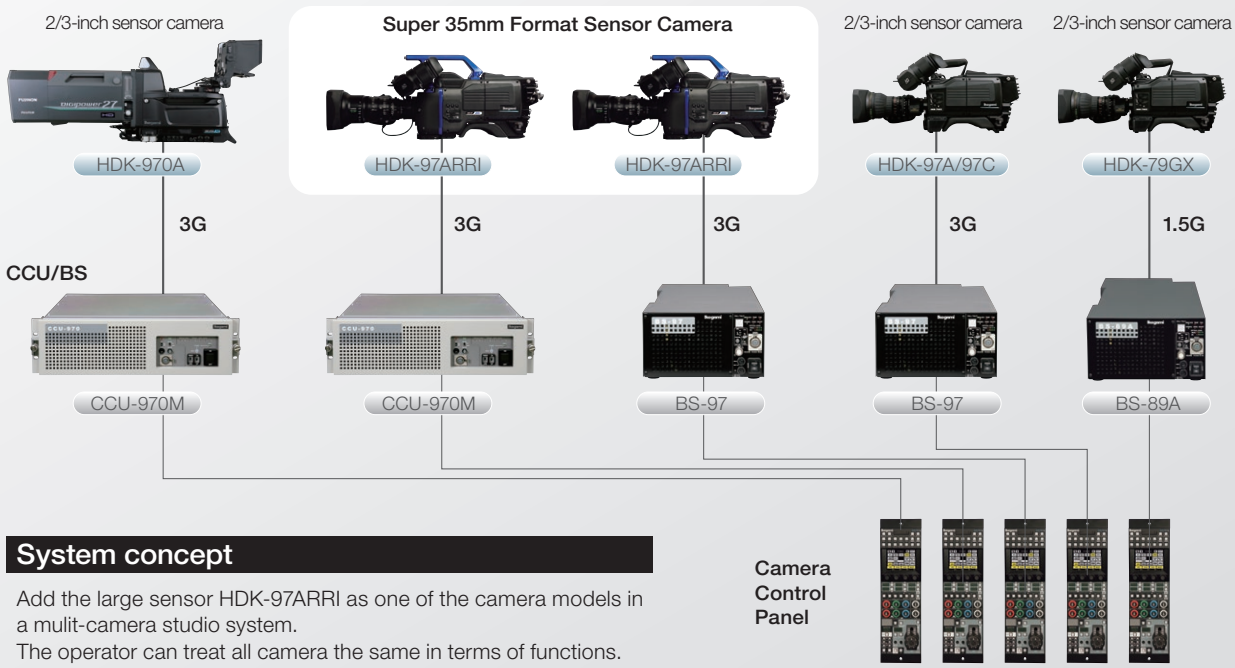


Motorized Optical ND Filter

A motorized slide type of 1/16 ND filter (OD value=1.2) is incorporated in front of the sensor, with operation from the function switch of the camera and operation from a remote control panel. For the filter, a high accuracy ultra-thin absorption type filter is used to optimize the performance of PL lens.

ND:CLEAR | In Motion | ND2:OD 1.2(1/16)

HDK-97ARRI System Concept



System concept

Add the large sensor HDK-97ARRI as one of the camera models in a mulit-camera studio system.
The operator can treat all camera the same in terms of functions.

Camera Operator Assist Functions

There are two types of camera operator assist functions incorporated in the HDK-97ARRI 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.

Normal VF image

FOCUS ASSIST ON Sample A

FOCUS ASSIST ON Sample B

Two HD-SDI outputs from the camera head

Two HD-SDI output signals (1.5G) are selectable among Camera, VF, RET and MON (monitor) for external monitoring at the camera head.

∗HD QTV is added to the line up of selectable HD SDI signals when the optional HD QTV (Video Trunk) module is installed in the CCU.

HD SDI Trunk

When the camera is operating in a conventional 1.5G format, a second 1.5G video from an external source 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.

2 Channels QTV

Two channels of QTV output (VBS) are available as an option for prompter and external monitoring purposes.

∗2 channel QTV is an option in 50Hz, and not available operating at 720p/50Hz.

HD SDI QTV (Option)

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.

Note: fitted as alternate to SDTV RET in CCU-970M.

Lens Mount Conversion Adapter

With the lens conversion adapter, the camera can be equipped with a B4 bayonet lens.

Analog and Serial Lens I/F

The camera supports the standard analog and serial lens I/F, providing the same operational functions as 2/3-inch lenses, in spite of using a PL mount lens.

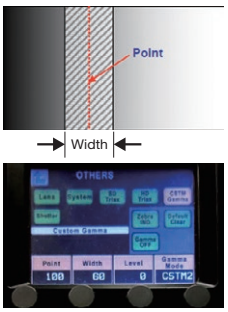
Docking Style Camera Body

With a docking style camera body, an FA (Fiber Adaptor) or alternate adapter can be mounted.

Custom Gamma Correction

The Custom Gamma Function allows operators to create their own gamma characteristic using the OCP or PC software for fine control from highlight level to dark shadow level. It will realize an image that matches the desired look and feeling for the production .
This function supports a 1200% dynamic range mode. Moreover, when used with the "Custom Gamma Editor" pc software, it allows creating a precise gamma curve managed on a PC basis and transferable to multiple cameras.

OCP



2WAY

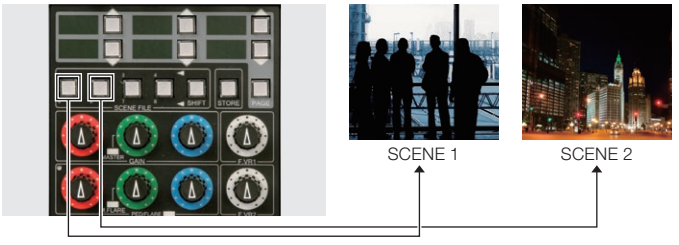
PC Software

Variable Electric Color Temperature

The electronic color temperature has continuously variable adjustment from 2,000K to 20,000K.

Scene file

It is possible to set various functions such as the gamma characteristic, color matrix, color correction, gain, detail correction, etc. in a Scene file.
8 Scene Files are available for selection at the OCP, with additional files accessed via an SD Memory Card.



SYSTEM CONFIGURATION FOR

HDK-97ARRI

Variety of viewfinders

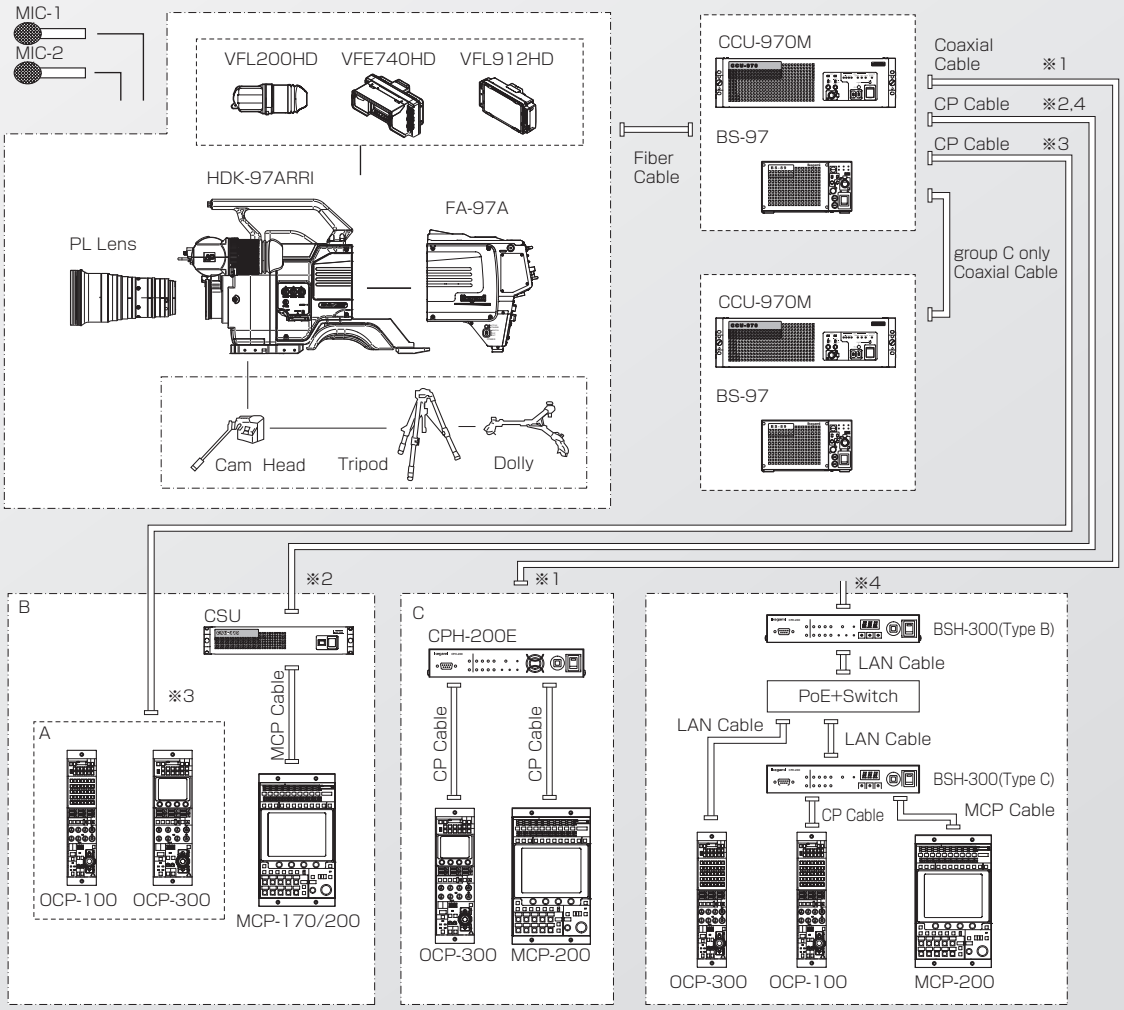
For the HDK-97ARRI, a 2-inch 16:9 high definition LCD color viewfinder for portable application is available.
In addition, 7.4-inch OLED and 9-inch LCD color studio viewfinders are available as options.

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 fine gradation provide optimum monitoring.
Especially, its superb quick motion response is helpful when shooting sports etc.



A : One by one operation with OCP and CCU
B : Operation by OCP and MCP
C : Arcnet operation
(Each cameras can be controlled flexibly from OCP-300)
D : Ethernet operation
(Each cameras can be controlled flexibly from OCP-300)

Any one shall be selected among equipments in

means the group.

Ratings

Output Formats	1080p (59.94Hz or 50Hz) Y,Pb,Pr 4:2:2 Progressive 1080i (59.94Hz or 50Hz) Y,Pb,Pr 4:2:2 Interlaced 1080i (59.94Hz or 50Hz) RGB 4:4:4 Interlaced 1080p (29.97Hz or 25Hz) Y,Pb,Pr 4:2:2 Progressive (Option) 1080p (29.97Hz or 25Hz) RGB 4:4:4 Progressive (Option) 1080p (23.98Hz) Y,Pb,Pr 4:2:2 Progressive (Option) 1080p (23.98Hz) RGB 4:4:4 Progressive (Option) 720p (59.94Hz or 50Hz) Y,Pb,Pr 4:2:2 Progressive * SMPTE425 Level B
Image Sensors	Super 35mm ALEV III CMOS sensor RGB Bayer pattern color filter array
Optical system	ARRI Optical System
Lens Mount	ARRI PL Lens mount LA-PL-2
Motorized Optical ND Filter	1 2 ND Clear 6.2%
Electrical Color Filter	A B C D E ECC 3200K 4300K 5600K 6300K 8000K Variable ECC: 2000K ～ 20000K
Dynamic Range	1200% *at Custom Gamma 1200% mode
Sensitivity	T11 at 1080p/29.97 T12 at 1080p/25 *Theoretical value T10 at 1080p/23.98 with 1/48 sec Shutter
S/N Ratio	64dB (Typical)
Limiting Resolution	1000TV lines at 800TV lines, 27.5MHz (in 1080i/59.94, 50)
Modulation Depth	60% (Typical) at 800TV lines, 27.5MHz (in 1080i/59.94, 50)
Detail Correction	
Vertical	5 lines
Horizontal	Boost frequency: 13MHz～22MHz (HDTV)
Gain	-6, -3dB, 0dB, +3dB, +6dB, +9dB, +12dB
Gamma	OFF, 0.35, 0.4, 0.45, Cine 1,2, Custom 1～5
Electric Shutter	1/100, 1/120, 1/250, 1/500, 1/1000, 1/2000 or Variable Shutter
Input Signals	
External Sync Signal	SYNC 0.6Vp-p ±6dB 75ohm BNC CN 1ch (BB/PS Signal)
Audio Signal	-60dB ～ +4dB (Variable) / -20dB (Fixed) XLR CN 2ch (600 ohm Balanced)
Intercom Signal	XLR Type or 110 Type CN 2ch (INCOM-1, INCOM-2 ENG/PROD)
Video Trunk	Serial Digital 75 ohm BNC 1ch (Option)
Output Signals	
3G-SDI/HD SDI Signal	Serial Digital 75 ohm BNC 1ch
Q-TV Signal	75 ohm VBS 2ch (2nd channel is option in 50Hz, and 1ch only in 720p/50Hz)
MON Video Signal (1.5G)	VF / RET / MON (MENU Selection) Serial Digital 75 ohm BNC 1ch OR VF / RET / MON / HD-QTV (MENU Selection) Serial Digital 75 ohm BNC 1ch (Factory Option) *Optional HD-QTV(Trunk) module should be installed in CCU.
HD QTV	Serial Digital 75 ohm BNC 1ch (Option)
Analog Output	MON / SYNC / QTV (To be selected by MENU and SW) 75 ohm VBS 1ch
Intercom Signal	0 dBs 2ch (INCOM-1, INCOM-2 ENG/PROD/PGM1/PGM2) XLR Type or 110 Type CN
Power Output (from camera head)	DTAP 1ch DC+12V (2A in Max) * The total power consumption for lens, VF and general-purpose power supply should be less than 40W when connecting to FA-97A. * Does not support typical camera lights.
Power Output (from FA-97A)	DC+12V (1A in Max) PRC05 4-pin CN * The total power consumption for lens, VF and general-purpose power supply should be less than 40W when connecting to HDK-97ARRI.
Ambient Temperature	-20℃ ～ +45℃ (-4°F ～ 113°F)
Relative Humidity	30% ～ 90% (Non-condensing)
Operating Voltage	DC+11～16V * DC input cable should be less than 3m.
Weight	Approx 9.5kg (20.94lbs) (Head + FA)
Dimensions	W180.7 x H299 x D476.6mm (W7.11 x H11.77 x D18.76 inches)
Power Consumption	Less than 80W (in 1080p/59.94, 50) Less than 75W (in 1080p/29.97, 25)

Design and specifications are subject to change without notice.

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Ikegami **IKEGAMI ELECTRONICS (U.S.A.), INC.** ■ **URL** http://www.ikegami.com

HEADQUARTERS 37 BROOK AVENUE, MAYWOOD, NJ 07607
Phone:(201) 368-9171 Fax:(201) 569-1626

WESTCOAST OFFICE Phone:(310) 297-1900
SOUTHWEST OFFICE Phone:(972) 869-2363
MIDWEST OFFICE Phone:(630) 372-8777
SOUTHEAST OFFICE Phone:(954) 571-7177