Ikegami

4K/HD PORTABLE
CAMERA SYSTEM

UHK-X700

## Reach for Reality

UNICAM XE 4K

REACH FOR REALITY

4K/HD PORTABLE CAMERA SYSTEM
UHK-X700

The new UHK-X700 4K/HD Portable Camera System marks a significant leap forward in reaching for reality. A newly developed CMOS sensor combined with the latest digital signal processing technology from Ikegami brings even greater naturalness to the uncompromising 4K image quality of the UHK-X700.

EXPRESSION

Flawless Image, Unabridged Beauty

Photo by JRA

Natural Image Expression

A 3-CMOS optical system using a newly developed 2/3-inch CMOS sensor boasts an S/N of 62dB and a sensitivity of F11 (2160/50p)/ F10 (2160/59.94p) in 4K. The high dynamic range of the sensor produces high-quality images with excellent color reproduction. The CMOS sensor incorporates a global shutter pixel architecture, enabling the camera to capture natural images even under challenging situations. Still frame replay of fast-moving objects is free from geometric distortion. And there are no flash bands when the camera is shooting under strobe lights or flashes from still cameras.

Rolling Shutter CMOS	Global Shutter CMOS
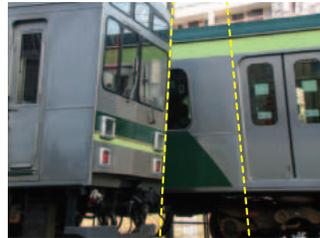
Geometric Distortion

No Rolling Shutter Artifacts with Global Shutter

Flash-Band

HDR and Wide Color Gamut

HDR is supported by the HLG (Hybrid Log Gamma) system as standard. Wide color gamut shooting conforms to ITU-R BT.2020, enabling natural and rich color expression. The camera is equipped with customizable preset gamma curves and preset matrices for BT.2020 and BT.709 color reproduction, enabling optimal adjustment of the camera image to match the requirement of the current production.

Standard Dynamic Range   High Dynamic Range

16-axis Color Corrector

This function independently adjusts the hue and saturation of specific colors. It permits subjective manipulation of one color without affecting the other colors in the scene.

Multi Standard

In addition to 4K 2160p, the UHK-X700 supports various HDTV video formats such as 1080p, 1080i, and 720p.

4K	3840×2160	59.94p, 50p
HD	1920×1080	59.94p, 50p
	1920×1080	59.94i, 50i, 29.97p, 25p, 24p, 23.98p
	1280×720	59.94p, 50p

* Simulated Images

FUNCTIONALITY

Pursuit of Functionality and Operability

High Frame Rate Capturing (Option)

With the HFR option, up to 2x speed in 4K and up to 8x speed in HD* is supported.
This is effective when shooting fast-moving subjects such as sports.

* with BSX-100
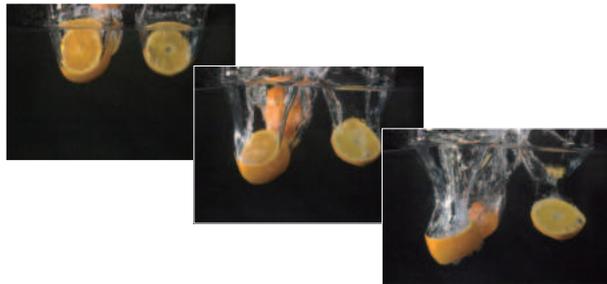
4K Video Output Direct from the Camera Head

The integrated video processor enables self-contained operation in 4K.
With 4K 12G-SDI and 3G/HD-SDI output, the UHK-X700 can utilize a wide range of video devices as accessories to enhance its operational capabilities.

Example of System: Camera Head

HD-SDI

D-TAP DC12V

Monitor/Recorder

Wireless Unit

12G-SDI/3G-SDI/HD-SDI

4K Recorder

4K 12G-SDI Video Trunk (Option)

Utilizing a wide transmission bandwidth, the bi-directional 12G-SDI trunk line is available between the UHK-X700 and the BSX-100. Besides a main 4K image, the 4K Video Trunk (UHK-X700 to BSX-100, asynchronous signal) and the 4K QTV (BSX-100 to UHK-X700) can be transmitted at the same time on a Hybrid Fiber Optic cable.

SMPTE Hybrid Fiber Cable

12G/3G/1.5G Out

4K Trunk in

GbE Trunk

Ethernet (Camera Control)

UHL-43 4K/HD Camera

BSX-100 Base Station

4K Trunk out

GbE

Ethernet (Camera Control)
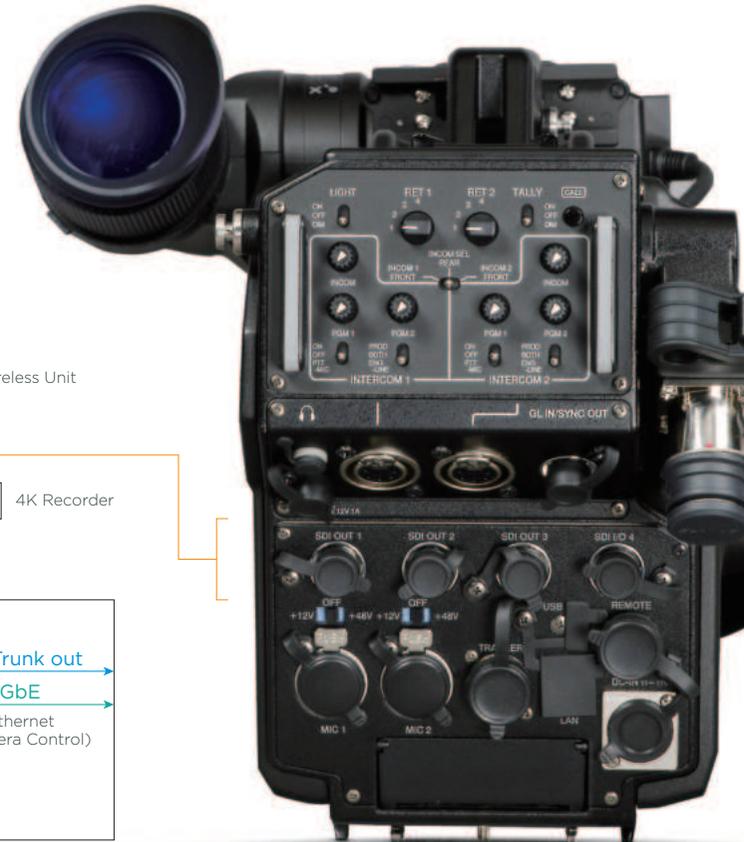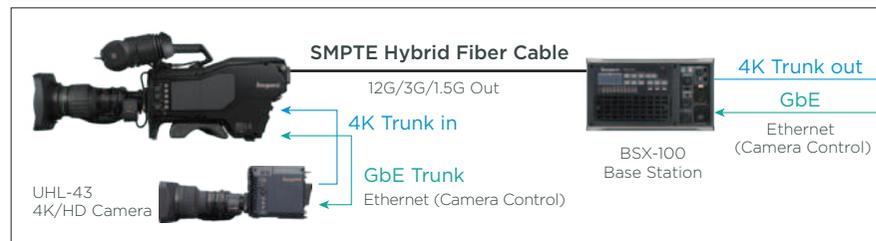
Remote Backfocus Adjustment

The OCP-300 can remotely adjust the backfocus of a zoom lens. The adjustment is accurate and easy with a large display for the video engineer, even when the camera head is located in an environment where it is hard to clearly see the VF or reach the backfocus on the lens.
* with supported lenses

Optical Vignetting Correction (OVC)
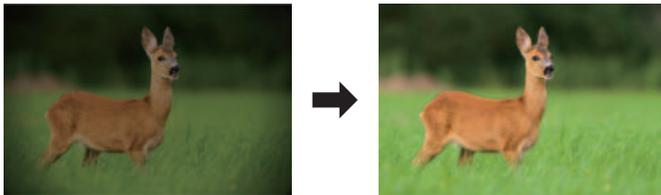
Automatic electronic compensation of F-drop and vignetting.
* with supported lenses

Ergonomic Design

As the UHK-X700 is a portable camera, the weight distribution ratio has been totally refined from its predecessor model. A lower center of gravity and a well-balanced body help to reduce operator fatigue.

Wide adjustable range of shoulder pad

Shoulder pad is placed 30mm forward of the previous model

Improved field-of-view over the camera

ICCP・Ethernet

The system supports not only Ikegami's conventional one-by-one ICCP control, but also an Ethernet based control system, allowing customers to choose the camera control system based on their needs.

GbE Ethernet Trunk

An Ethernet data trunk line between the UHK-X700 and the base station supports the vast capacity of 1 Gbps. Hybrid Fiber Optic cable can be used as a part of an installation of the IP infrastructure.

Various Viewfinder Functions

■ **Focus Assist and other viewfinder functions**
Contour extracted from the 4K image is displayed in the viewfinder to assist precise focusing. The size and color of the focusing area, and the color of the indicator, can be optimized by menu settings.
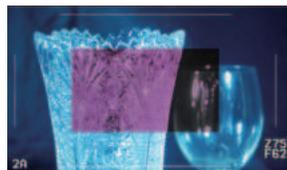
■ **Function Reminder (VFL201D)**
Don't be afraid of the assignable function switches. A gentle touch to the control lever will display the name of the assigned function on the VF screen.

■ **Status Information on VF Screen:**
- Markers
- Magnifying ratio of Digital-Extender
- Zoom and Focus Position
- Filter, AWB Memory, Etc.
- Optical Communication Status

* Simulated Images

BSX-100

4K / HD BASE STATION

The BSX-100 is a base station that enhances the functions, performance, and operational capabilities of the UHK-X700. It is compact and light weight, with 3U height and half-rack width. Supporting both 4K and HD formats, it is ideal for simulcast production and smooth transition from HD to 4K environments.

Front

Rear

Compatible with 4K & HD Cameras (Option)

The BSX-100 can support both the UHK-X700 and "Unicam HD" HDTV camera models, HDK-99 and HDK-73 (4K/HD Multi type).

4K & HD Simulcast

The BSX-100 has a total of 11 outputs as standard, including 4K output via 12G-SDI and 3G-SDI/HD-SDI output.

Maximum Transmission Distance

The BSX-100 extends the UHK-X700 up to 3.5 km (11,483 ft.) with a Hybrid Fiber Optic cable. In the Single Fiber mode, the cable length reaches up to 10 km (32,808 ft.).
*Depends on operating conditions.

Compact and Light Weight

3U height and half-rack width.

MoIP Interface (Option)

By replacing the standard 12G-SDI output module, an optional MoIP interface compliant with SMPTE ST2110 is supported. A dedicated Ethernet port compliant with JT-NM TR-1001 is provided for out-of-band MoIP control.
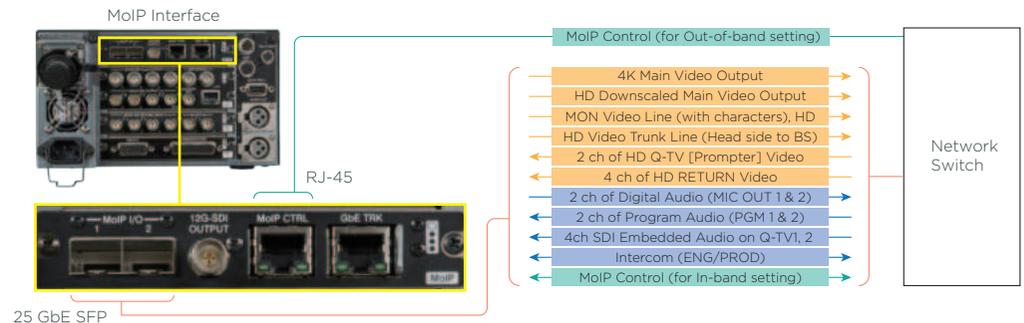
Front Information Display

LED indicators can monitor the communication status between the camera head and the BS as well as the operational status. In the 7-segment LED display, the status of the device can be checked without entering the OSD menu, including system format, IP address (divided into octets), software version, and error information.

MoIP Interface

RJ-45

25 GbE SFP

MoIP Control (for Out-of-band setting)
4K Main Video Output
HD Downscaled Main Video Output
MON Video Line (with characters), HD
HD Video Trunk Line (Head side to BS)
2 ch of HD Q-TV [Prompter] Video
4 ch of HD RETURN Video
2 ch of Digital Audio (MIC OUT 1 & 2)
2 ch of Program Audio (PGM 1 & 2)
4ch SDI Embedded Audio on Q-TV1, 2
Intercom (ENG/PROD)
MoIP Control (for In-band setting)

Network Switch

* Simulated Images

ACCESSORIES

Viewfinder

VFL701D
7-inch Full HD LCD Color Viewfinder

VFL201D
2-inch LCD Color Viewfinder

Control Panel

MCP-300
Master Control Panel

OCP-300
Operation Control Panel

VCP
Virtual Control Panel

VMP
Virtual Master Control Panel

System Expander

SE-U430
System Expander

Tripod Plate

T-430
Tripod Plate

SYSTEM DIAGRAM

Camera Control System

BSX-100
Base Station

Head Set

Ethernet HUB (PoE+)

Ethernet Cable

AC

PM

WFM

Optical Composite
Camera Cable

OCP-300 MCP-300

VF System

Studio Hood   Field Hood

7.4-inch OLED VF (VFE741D)
7.0-inch LCD VF (VFL701D)

Mounting Bracket

2-inch VF
(VFL201D)   Mic Holder

UHK-X700

Mic

Head Set
(PROD/ENG)

SDI
Monitor

Coaxial Cable

**SE-U430
System Expander**

Script Light

Tally Box

SE (Main Body)

Return Switch Box

Lens

LS (lens supporter)

Specifications

UHK-X700

Camera Head

Image Sensor	2/3-inch CMOS Sensor with Global Shutter Architecture
Optical System	2/3-inch 3-sensor, RGB Prism
Lens Mount	B4
Effective Resolution	3840 (H) x 2160 (V)

Optical Filters (Servo Controlled)		1	2	3	4	5
	ND	CLR	1/4	1/8	1/16	1/64
	CC	3200 K	4300 K	6300 K	Cross	Option

S/N Ratio	4K: 62 dB or better HD: 62 dB or better
Limiting Resolution	4K: 2000 TVL or more HD: 1000 TVL or more
Sensitivity (2000 lux, 89.9% Reflection)	4K: F10 / 59.94p F11 / 50p HD: F10 / 59.94p F11 / 50p
Gain-up	-6, -3, 0, +3, +6, +9, +12 dB
Gamma Curves	OFF, 0.35, 0.4, 0.45, HLG, Custom 1-5
Electronic Shutter	1/100, 1/120, 1/250, 1/500, 1/1000, 1/2000 and Variable Shutter

Video I/O (Rear Panel) — Designation

Video Out	SDI OUT 1-3	3x BNC	12G / 3G / HD SDI	SMPTE ST2082, SMPTE 424 / 425M (Lv-A / B) SMPTE 372M, SMPTE292M
Video In / Out	SDI I/O 4	1x BNC	12G / 3G / HD SDI	SMPTE ST2082, SMPTE 424 / 425M (Lv-A / B) SMPTE 372M, SMPTE292M
Reference Video In / Out	GL IN / SYNC OUT	1x BNC	In:	Tri-Sync SMPTE ST274, 0.6 V p-p, 75 Ω BB NTSC 0.286 V p-p, 75 Ω / PAL 0.3 V p-p, 75 Ω
			Out:	Tri-Sync SMPTE ST274, 0.6 V p-p, 75 Ω

I/O (Top Handle) — Designation

Video Out	SDI OUT	1x BNC	3G / HD SDI	SMPTE 424 / 425M (Lv-A / B) SMPTE 372M, SMPTE 292M

Other I/O — Designation

Hybrid Fiber Camera Cable	-	LEMO 3K Type		SMPTE 304M
Microphone	MIC 1	XLR-3F	Input Level:	-60 to +4 dBu
	MIC 2	XLR-3F	Phantom Power	Off / +12 V / +48 V
Audio Out	PGM	XLR-3	Option	
Tracker	TRACKER	20-pin	for an optional Breakout Box	
USB 2.0	USB	1x Type-A	for USB Stick	
Ethernet Trunk	LAN	1x RJ-45		
System Expander	-		for SE-U430	

General Specifications

Input Voltage	+11 to 17 V DC
Ambient Temperature	Operation: -20 °C to +45 °C (-4 °F to +113 °F) Storage: -30 °C to +60 °C (-22 °F to +140 °F)
Operation Humidity	30 % to 90 % *non condensation
Dimensions (Excluding protrusion)	W 148.5 x H 243 x D 340 mm W 5.9 x H 9.6 x D 13.4 inches
Weight (Camera Head)	Approx. 5 kg Approx. 11 lb
Power Consumption (Camera Head)	85W Max. in self-contained operation

BSX-100

Video I/O — Designation

Video In	RET	4x BNC	4-input or 2-input with Active Loop-through
	HD QTV	2x BNC	2-input or 1-input with Active Loop-through
	4K QTV	1x BNC	12G-SDI, OUT 3-4 of 12G OUT *
	MoIP (RET, QTV)	2x SFP	Option, 10G (HD) / 25G (4K) SMPTE ST2110 Compliant
Video Out	OUT 1-4	4x BNC	4K 3G-Quad Link (2SI) or HD
	OUT 5-8	4x BNC	HD, OUT 8 is for MON Video
	12G OUT 1-4	4x BNC	4K 12G-SDI or 3G-Quad Link (2SI)
	MoIP (4K / HD Main)	2x SFP	Option, 10G (HD) / 25G (4K) SMPTE ST2110 Compliant
	HD TRUNK	1x BNC	HD-SDI, OUT 5-7
	4K TRUNK	1x BNC	12G-SDI, OUT 3-4 of 12G OUT *
	REFERENCE	2x BNC	Tri Level Sync or BB, Active Loop-through
	SYNC / AES	1x BNC	Tri Level Sync or Digital Audio out (AES / EBU)
			* Configurable by menu setting

Other I/O — Designation

Hybrid Fiber Camera Cable	-	LEMO 3K Type	SMPTE 304M
System I/F	COMMUNICATION	D-Sub 25-pin	Intercom, PGM Audio & Tally In
Mic Gain Remote	REMOTE	D-Sub 15-pin	Enable / Fine Gain / Step Gain
Data Trunk CH-1	DATA TRK-1	D-Sub 9-pin	RS-422
Data Trunk CH-2	IF	12-pin	RS-422, Preview, etc.
Ethernet Trunk	GbE TRK	1x RJ-45	Gigabit Ethernet Trunk
Tally Out	TALLY OUT	5-pin	
Audio Out	AUDIO OUT-1	XLR-3M	Analog Microphone Output
	AUDIO OUT-2	XLR-3M	Analog Microphone Output
Command Control	OCP	8-pin	CP Connector
	LAN	1x RJ-45	ICCP on Ethernet
NMOS Control (MoIP Option)	MoIP CTRL	1x RJ-45	JT-NM TR-1001

General Specifications

Input Voltage		100 to 240 V AC ±10 %
Power Consumption		Max. 100 VA (4K-STD type, BS only)
Ambient Temperature	Operation: Storage:	0 °C to +40 °C (32 °F to +104 °F) -30 °C to +60 °C (-22 °F to +140 °F)
Operation Humidity		30 % to 90 % *non condensation
Dimensions (Excluding protrusion)		W 216 x H 123.6 x D 417.2 mm W 8.5 x H 4.9 x D 16.4 inches
Weight		Approx. 7 kg / Approx. 15.5 lb

Design and specifications are subject to change without notice

CE