



TOSHIBA

A NEW two camera, one CCU system including **TOSHIBA'S SMALLEST HD CAMERA HEAD YET.**

IK-HD3 High Definition 3-CMOS or 1-CMOS camera system with the following new features :

Full Native HD Resolution at 1920 x 1080

Higher resolution 1,000 TVL

Higher Sensitivity

Super flexible camera to CCU cable

Vertical Image Inversion

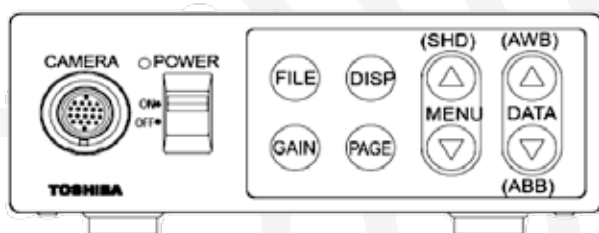
Horizontal Image Inversion

Binning

Monitor PC / TV

I/P mode 1080p / 1080i

The IK-HD3 system delivers High Definition imagery from a choice of two remote compact camera heads with CCU cable length options from 3 to 15 metres.



TWO HIGH DEFINITION CAMERAS - ONE CAMERA CONTROL UNIT

Miniature remote head system consisting of:

- IK-HD3D Camera Control Unit with DVI output
- Either IK-HD3H HD 3-CMOS camera head
OR IK-HR3H HD 1-CMOS camera head

Main Features:

- Ultra compact camera heads :
 - IK-HD3H 3-CMOS 33 x 39 x 41mm
 - IK-HR3H 1-CMOS 28 x 28 x 33mm
- DVI-D Output 1080i / 1080p
- High Resolution 1,000 TVL
- High Sensitivity
- Auto and manual white balance
- Auto and manual electronic shutter
- Standard cable lengths 3, 6, 10 & 15 metres
- C-mount 17.526mm (in air)
- 2 years warranty

Additional Features include:

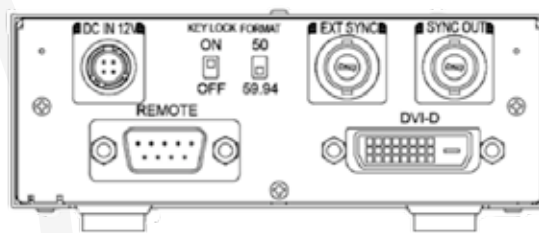
- Manual Red & Blue black balance adjustment
- Black pedestal range - (negative expanded)
- Edge detail output - great for focus assist
- Black Gamma level set
- Manual User mask setting for Auto-Shutter (Exposure) and White Balance

This camera has many suitable applications in many different industries including:

- Medical Endoscopy, Microscopy, etc.
- Scientific imaging / diagnostics
- Industrial video / inspection
- Broadcast - works well with Convergent Design nanoFlash & Sound Devices Pix Recorders

SeeSense are able to provide full technical assistance and back up for this camera.

Please contact SeeSense for further information.



Rev: 3.004.1013 E.&O.E.

Camera Specification:

Image Sensor	IK-HD3H 3 x 1/3-inch CMOS sensors RGB f2.2 Prism IK-HR3H 1 x 1/3-inch CMOS sensor
Effective Pixels	H: 1944 V: 1092
Output Pixels	1920H x 1080 p/i 50 / 59.94Hz (switchable)
Scanning System	Progressive / Interlaced
Scan Frequency	1080p [59.94 Hz] H: 67.433kHz, V: 59.94Hz
	1080p [50 Hz] H: 56.250kHz, V: 50Hz
	1080i [59.94 Hz] H: 33.716kHz, V: 59.94Hz
	1080i [50 Hz] H: 28.125kHz, V: 50Hz
	Adjust by switch on rear of CCU panel
Resolution	1,000 TV lines standard (vertical and horizontal) Full Native HD Resolution at 1920 x 1080
Sensitivity	f11 @ 2000 Lux 3000K (50 Hz)
	f10 @ 2000 Lux 3000K (59.94 Hz)
Min. Illumination	80 lux @ 0dB / 50 Hz / F2.2 / 100% video Level (10 lux @ 20dB, Binning ON)
	96 lux @ 0dB / 59.94 Hz / F2.2 / 100% Video Level (8 lux @ +20 dB Binning ON)
Frame Rate	50 Hz and 59.94 Hz
Camera Mount	C-mount 17.526mm (in Air)

Control Unit Specification:

Output Signal	DVI-D Digital Output to 1 x DVI-D Connector
External Sync Input	±0.3 volts: ±6dB 75 Ω Unbalanced, Tri-level BNC
Sync. Signal Output	±0.3V ± 0.1 volts Tri-Level Load Impedance 75 Ω Unbalanced (BNC Connector)
Signal/Noise Ratio	56dB Standard AGC, Gamma, Edge Enhancement, 12 Colour Matrix ALL OFF Col.Temp : 5000K lens closed
Sync. System	Internal / External Automatic Switching
Sync. Level	±0.3V ± 0.1 volts
Colour Temperature	Minimum correction range: 2400K~8500K
Shutter Modes	MAN: Manual Shutter OFF - 1/10,000S AUTO: Level peak, average value ratio, response speed, area
	SS: Synchro Scan 1/1125H - 1122H/1125H
Gain Mode	-3 ~ 20dB (1 dB step) User Selectable
Image Signal Settings	Gamma ON / OFF, -10 ~ +10
	Black Gamma HIGH / NORMAL / LOW
	Pedestal Setting : Master level, R / B level
	White Clip : 100 - 109%
	Edge enhancement GAIN 0 - 31
	Edge enhancement Boost Frequency 1 - 16
H / V Balance 10:0 - 0:10	
Digital Noise Reduction ON / OFF	

12 Colour Matrix	Adjustable 12 point colour matrix circuit ON / OFF
	Chroma Saturation & Hue Both -15 ~ +15 Chroma Gain -31 ~ +31
White Balance	AWB: Auto White Balance (Push to Set White)
	R paint -10 ~ +10, B paint -10 ~ +10
	MAN: Manual (RED and BLUE adjust -100~+100)
Auto-Shutter & White Bal. Mask	64 split area switching PRESET A / B / C / D / E / User Defined
Black Balance	AUTO / MANUAL
Shading Correction	SET / MANUAL (-128 ~ +127) / OFF
Scene File Setting	5 Files A, B, C, D, E
Colour Bars	YES Set by front panel switch
Remote Control	RS-232C Serial Data Control Interface (D-sub 9-pin)
Baud Rate Switch	9,600 bps / 19,200 bps
Mirror Function	ON / OFF Horizontal / Vertical
Binning Mode	ON / OFF
Monitor Select	PC / TV

System Information

Power Requirements	12 V DC ± 10% DCIN connector (Hirose HR10A-7P-4S 4pin Connector)
Power Usage	11.4 watts
Dimensions	IK-HD3H: 32.6mm (W) x 38.6mm (H) x 41mm (D)
	IK-HR3H: 27.4mm (W) x 27.4mm (H) x 33mm (D)
	IK-HD3D: 110mm(W) x 40mm(H) x 186mm(D)
Weight	IK-HD3H: 93g (Head) IK-HR3H: 34g (Head)
	K-HD3D 610g (CCU)
Operating Temp.	0°C ~ 40°C
Ambient Temp.	-20°C ~ + 60°C
Humidity	Less than 90% (non-condensing)

Cables

Original Toshiba Cables (CCU - Camera head) Use no imitations

EXC-3HD03	3 metre Camera Cable
EXC-3HD06	6 metre Camera Cable
EXC-3HD10	10 metre Camera Cable
EXC-3HD15	15 metre Camera Cable

Lenses

SS-4F1.8	4mm	F1.8-16	64°	Ideally operate lens at F4 or above
SS-6F1.8	6mm	F1.8-16	34°	Ideally operate lens at F4 or above

If you have a specific requirement please contact SeeSense for advice.

Power Supply

Toshiba	ACM-601E	Medical grade power supply
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SeeSense Power Supplies also available - please contact us

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