



### Main Features:

Toshiba miniature remote head system consisting :

- IK-HD5H Full HD 3-CMOS camera head
- IK-HD5E Camera Control Unit with **3G-SDI / HD-SDI & DVI outputs**
  - Ultra compact camera head 33 x 39 x 41 mm
  - 3G-SDI HD-SDI & 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
  - Binning
  - Monitor output - PC / TV
  - I/P mode 1080p / 1080i
  - Removeable IR Cut Filter
  - C-mount 17.526mm (in air)
  - 2 years warranty

Fujinon TF4XA-1 HD 3-CCD lens for illustration purposes only

# TOSHIBA

Introducing Toshiba's NEW top of the range IK-HD5 High Definition 3-CMOS camera system

### Main Features:

- Full Native HD Resolution at 1920 x 1080
- Higher resolution 1,000 TVL
- 3G-SDI, HD-SDI** and DVI output in 1080 p/i
- Sensitivity f11 @ 2000 Lux 3000K (50 Hz)
- Knee & Clip
- Improved Signal / Noise ratio
- Increased Exposure control -15 to +20dB
- More flexible camera to CCU cable
- Vertical & Horizontal Image Inversion

\* Figures compared with the Toshiba IK-HD1

As with all Toshiba cameras the IK-HD5 system delivers high quality High Definition imagery working straight from the box.

### Additional Features include:

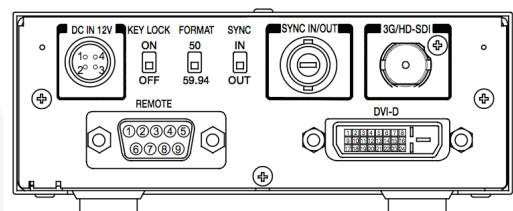
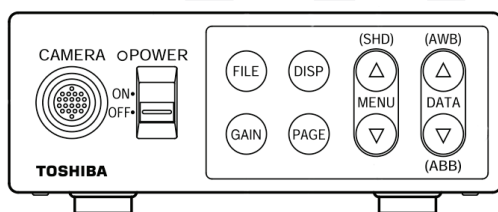
- Manual Red & Blue black balance adjustment
- Black pedestal range - (negative expanded)
- Edge detail output - great for focus assist
- Black Gamma level set
- Manual User mask setting for Auto-Shutter (Exposure) and White Balance
- Removeable IR cut filter

### Applications:

Ideal for applications in industries including:

- Medical Endoscopy, Microscopy, etc.
- Broadcast - POV, In-Car, Sport, Natural History, etc
- Scientific imaging / diagnostics
- Industrial video / inspection

Please contact SeeSense for further information.



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### Camera Specification:

Image Sensor	3 x 1/2.9-inch CMOS sensors RGB f2.2 Micro Prism
Effective Pixels	H: 1944 V: 1104
Output Pixels	<b>1920H x 1080 P/I</b> 50 / 59.94Hz (switchable)
Scanning System	Progressive / Interlaced
Scan Frequency	1080p [50 Hz] H: 56.250kHz, V: 50Hz
	1080p [59.94 Hz] H: 67.433kHz, V: 59.94Hz
	1080i [50 Hz] H: 28.125kHz, V: 50Hz
	1080i [59.94 Hz] H: 33.716kHz, V: 59.94Hz
	Adjust by switches 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	8.0 lux @ +20dB / 50 Hz / F2.2 / 100% video Level (4.0 lux @ 20dB, Binning ON)
	9.6 lux @ +20dB / 59.94 Hz / F2.2 / 100% Video Level (4.8 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 Signals	<b>3G-SDI (SMPTE 424 M), HD-SDI (SMPTE 292 M) DVI-D Digital</b>
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 (GAIN 0dB, DTL GAIN 0, DNR, GAMMA, & MATRIX ALL OFF). Colour Temperature : 5600K lens closed
Sync. System	Internal / External (Automatic Switching)
Sync. Level	±0.3V ± 0.1 volts
Colour Temperature	3,200K, 5,600K
Shutter Modes	MAN: Manual Shutter OFF - 1/10,000S
	AUTO: - Level 100 - 0 - 100. Metering peak, average value ratio, response speed, area (5 preset & 64 user defined zones)
	SS: Synchro Scan 1/1125H - 1124/1125H, OFF
Gain Mode	AUTO (AGC), MANUAL, OFF (0dB) -15 ~ 20dB (1 dB step) User Selectable
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), MANUAL R paint -10 ~ +10, B paint -10 ~ +10 MAN: Manual (RED and BLUE adjust -100~+100)

### Control Unit Specification Continued:

	Gamma Correction ON / OFF, -10 ~ +10 Black Gamma HIGH / NORMAL / LOW <b>Knee Correction Point 70% - 100% (5% steps) Slope 1-8-16</b>
Image Signal Settings	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 8/16 - 16/16 - 24/16 (ratio of V/H) Digital Noise Reduction ON / OFF
Shading Correction	SET / MANUAL (-128 ~ +127) / OFF
Binning	ON / 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	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	Approximately 10.3 watts
Dimensions	IK-HD5H: 31.6mm (W) x 38.6mm (H) x 41mm (D) IK-HD5E: 110mm(W) x 40mm(H) x 186mm(D)
Weight	IK-HD5H: 70g (Head), K-HD5E 600g (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

**TF4XA-1 4mm F2.2-16 71° FULL HD 3-CCD / CMOS lens**

Other lenses available.

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

### Power Supply

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

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