Sales information

1920 x 1080 FULL HD

CMOS Hi-Definition Camera

Camera Control Unit **IK-HD3D**

3CMOS Head **IK-HD3H** 1CMOS Head **IK-HR3H**

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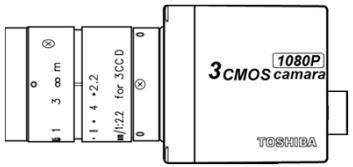
The debuting IK-HD3 has new CMOS sensor device.

Both 3CMOS Head (IK-HD3H) and 1CMOS Head (IK-HR3H) can be connected with Camera Control Unit (IK-HD3D).
IK-HD3D have DVI-D (single link format) which is possible to transmit the high-speed signal for HD progressive image.

3CMOS Camera Head

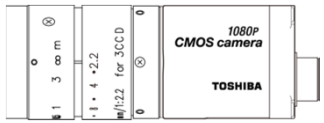
IK-HD3H



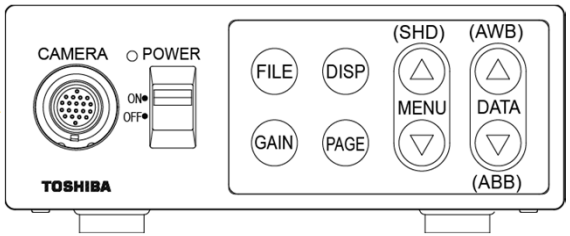
- **Very high Color fidelity**
- **High resolution H: 1000TV line V: 1000TV line**
- **High sensitivity F10 (59.94 Mode) F11 (50 Mode)**
- **Minimum Illumination 9.6lx (59.94 Mode) 8.0lx (50 Mode)**

1CMOS Camera Head

IK-HR3H



- **Very small 27.4(W) x 27.4(H) x 33(D) mm**
- **Middle sensitivity F7 (59.94 Mode) F7.7 (50 Mode)**
- **Minimum Illumination 19.8lx (59.94 Mode) 16.3lx (50 Mode)**



Camera Control Unit

IK-HD3D

- **DVI-D (Single link) output**
- **Vertical frequency 50Hz/59.94Hz**

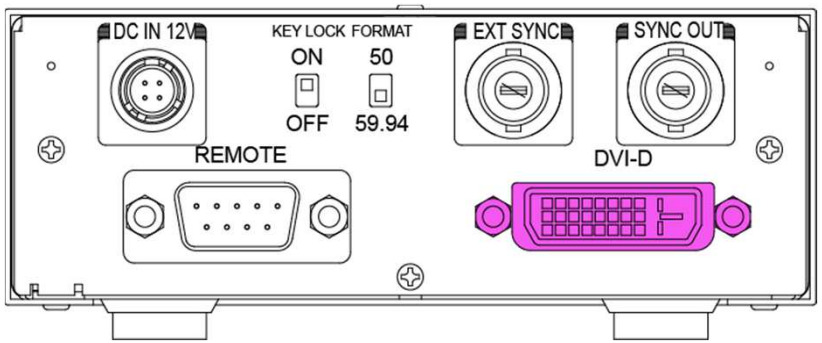
Camera Cable

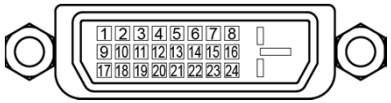
EXC-3HDxx

EXC-3HD03 Approx.3m
EXC-3HD06 Approx.6m
EXC-3HD10 Approx.10m
EXC-3HD15 Approx.15m

IK-HD3D with DVI-D output

DVI-D output



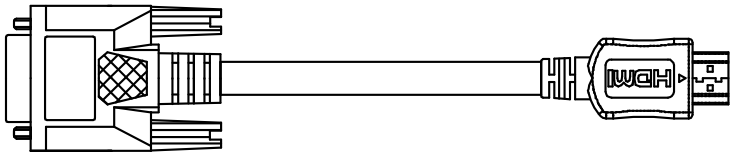


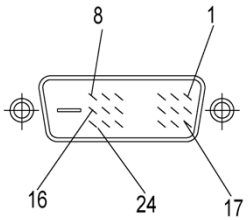
1	Data2 -	13	NC
2	Data 2+	14	+5V
3	Data 2 shield (GND)	15	GND
4	NC	16	Hot Plug Detect
5	NC	17	Data 0-
6	NC	18	Data 0+
7	NC	19	Data 0 shield (GND)
8	NC	20	NC
9	Data 1-	21	NC
10	Data 1+	22	Clock shield (GND)
11	Data 1 shield (GND)	23	Clock+
12	NC	24	Clock-

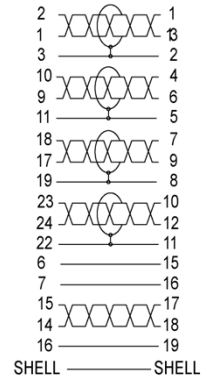
Most equipment which have HDMI input are able to received DVI-D digital format output by using a conversion cable. This is an effective means that the image can be projected even on a domestic television.

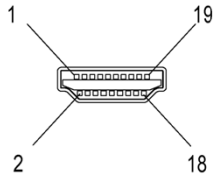
<< Note >>

However IK-HD3D doesn't have HDCP (High-bandwidth Digital Content Protection system) function. There is some equipments which require the HDCP algorithm and will not receive the output from the IK-HD3D.









Detail Gain Setting Function

Detail gain setting enlarged to 30 steps. Also Detail boost frequency adjust mode be added.

A more advanced image quality can be made.

Smooth Detail image

+ Boost Freq -

Emphasized Detail image

Detail Signal Output Function

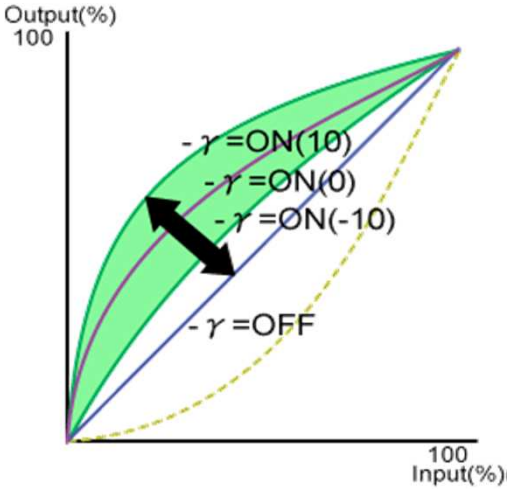
Normal image
Detail Signal setting = OFF

Detail Signal setting = ON

This function might be help when customer get the best focusing position and/or know detail edge level and width.

Gamma Correct Function

Gamma ON (LEVEL 10) image



This graph is prepared for the explanation.
So it is different from actual operation.

Gamma correction has OFF besides ON with 21 steps.

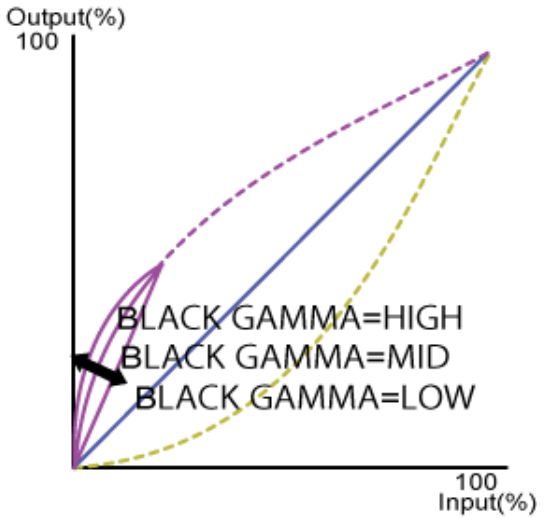
The tone curve of the favor can be obtained.

Gamma ON (LEVEL -10) image

Added function

Black Gamma Correct Function

Black Gamma LOW image



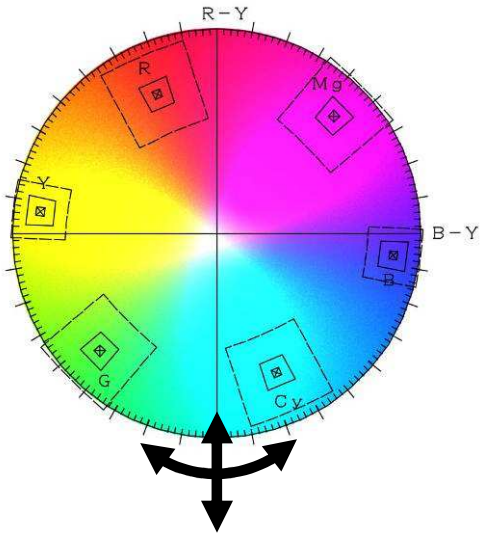
When OFF is selected in GAMMA ON/OFF selection line, the display BLACK GAMMA turns off automatically. As a result the black gamma correction level cannot be changed.

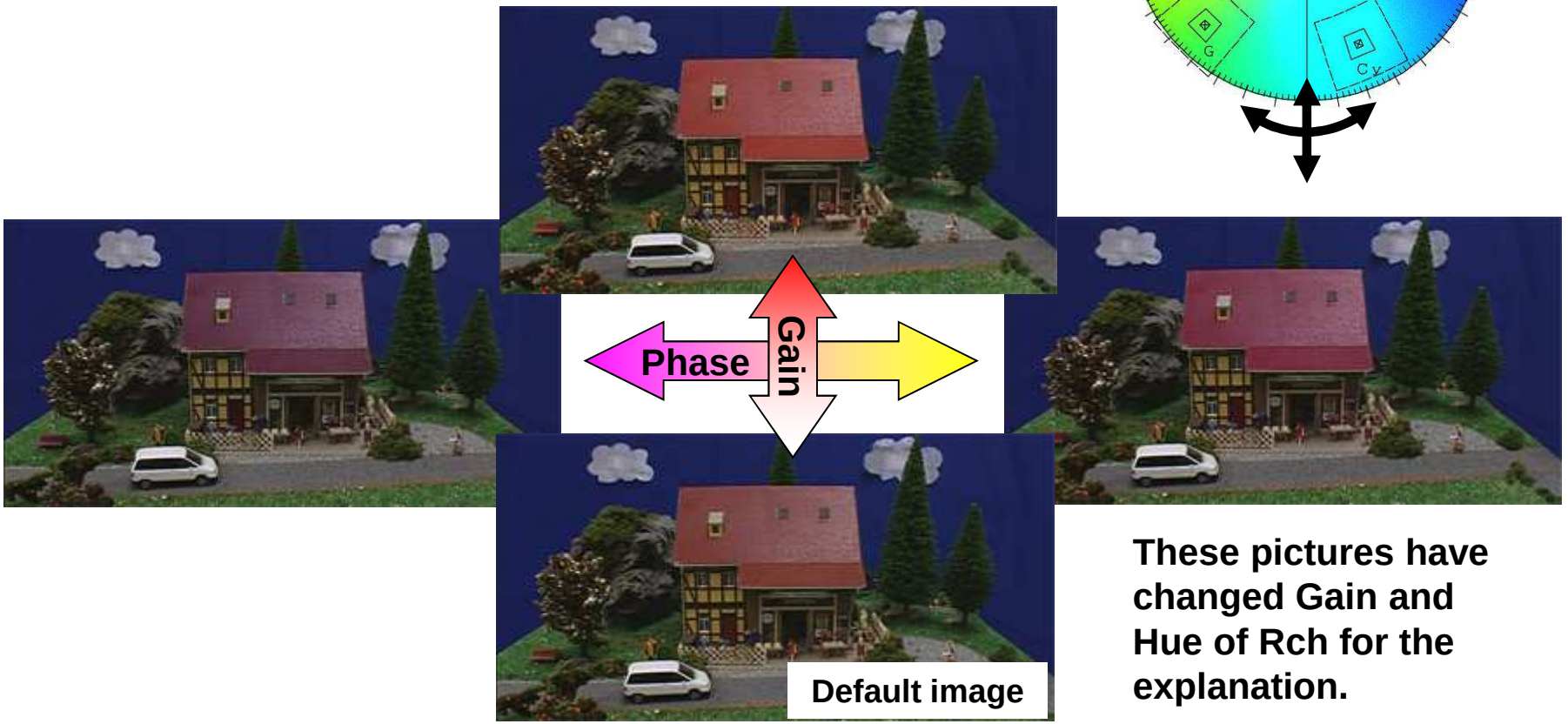
*** Note - The graph curves and images have been made by PC to assist the explanation. They are not from actual images and curves.**

Black Gamma HIGH image

Matrix Color Correction

Matrix Color Correction function are enlarged to twelve (12) channels.
Each channel can independently adjust Phase and Gain.
R, R-Ye, Ye, Ye-G, G, G-Cy, Cy, Cy-B, B, B-Mg, Mg, Mg-R



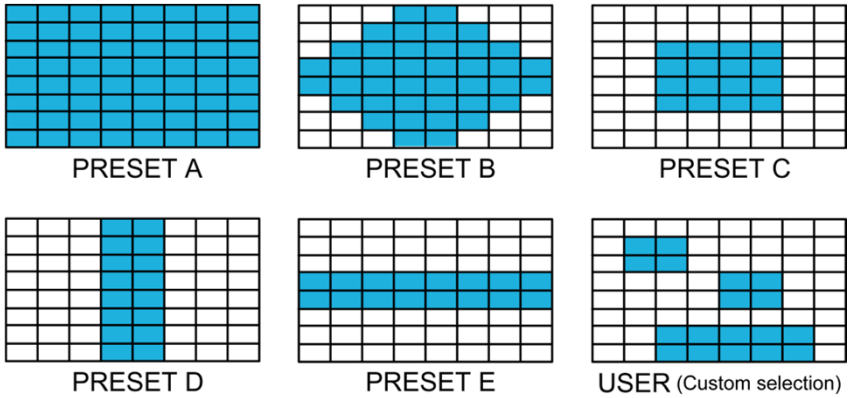


These pictures have changed Gain and Hue of Rch for the explanation.

Area zone setting

The automatic shutter area and the white balance area can be selected from among five fixed patterns and custom pattern that user can individually set.

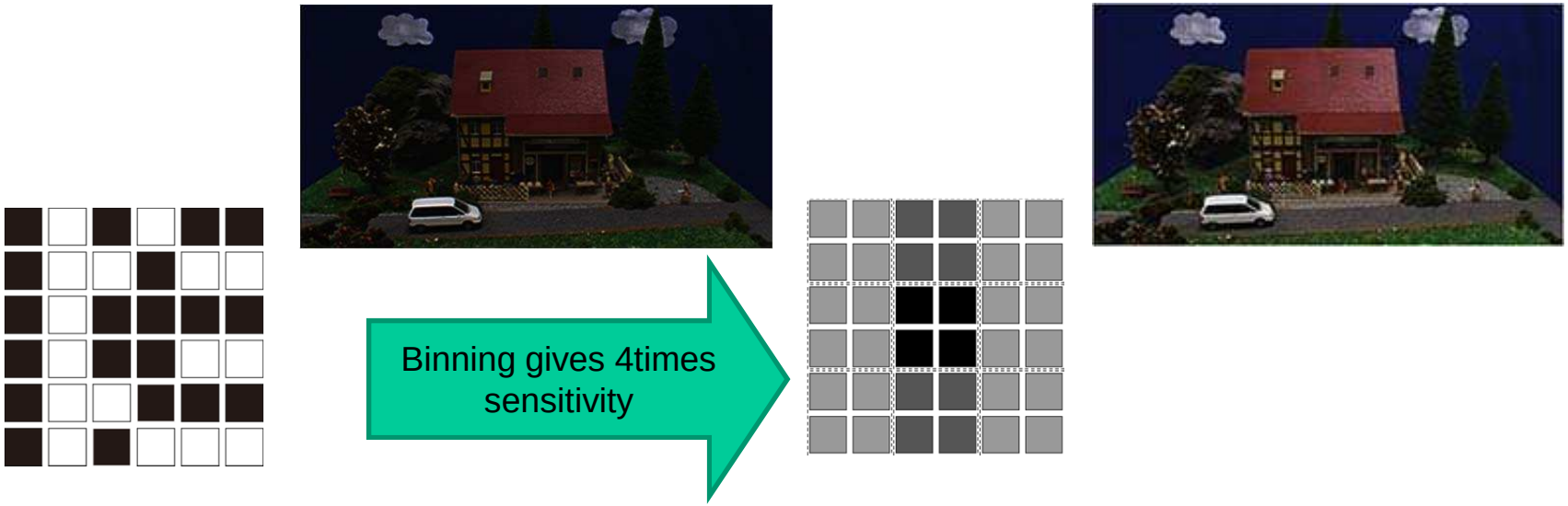
The available picture areas are shown right figures by the shading area, the minimum resolution is parted by 64, 8(H) x 8(V).



In Using preset A (all area) pattern of automatic shutter function.

In Using preset D pattern of automatic shutter function.

Binning Mode



Both 3CMOS HEAD (IK-HD3H) and 1CMOS HEAD (IK-HR3H) have the new binning function. It is very useful tool giving greater sensitivity under low lighting surroundings. CAMERA HEAD having 1944 (2.75um) x 1092 (2.75um) pixels can appear have 972 (5.5um) x 546 (5.5um) with the binning (2x2) mode.
The binning (2x2) means that an area of 4 adjacent pixels have been combined into one larger pixel, and so on. In this instance the sensitivity to light has been increased by 4 times.

Inverse function

Specifications

CCU	IK-HD3D		Others
HEAD	IK-HD3H	IK-HR3H	
Power supply	12V DC±10%		
Power consumption	Approx. 11.4W (Rating Label)	Approx. 11.4W (Rating Label)	
	(including a camera head)	(including a camera head)	
Pick-up system	RGB, 3CMOS, Micro prism system	RGB, 1CMOS system	
Image sensor	1/3inch, CMOS x3	1/3inch, CMOS x1	
Effective Pixel	H : 1944 V : 1092	H : 1944 V : 1092	
Output pixels	Horizontal : 1920, Vertical : 1080	Horizontal : 1920, Vertical : 1080	
Scanning system	Progressive / Interlace	Progressive / Interlace	
Scan frequency	H: 67.433kHz, V:59.94Hz : 1080p / 59.94Hz	H: 67.433kHz, V:59.94Hz : 1080p / 59.94Hz	
	H: 56.250kHz, V:50Hz :1080p / 50Hz	H: 56.250kHz, V:50Hz :1080p / 50Hz	
	H:33.716kHz, V:59.94Hz : 1080i / 59.94Hz	H:33.716kHz, V:59.94Hz : 1080i / 59.94Hz	
	H:28.125kHz, V:50Hz : 1080i / 50Hz	H:28.125kHz, V:50Hz : 1080i / 50Hz	
Sync system	Internal/External		
	(Automatic switching)		
Resolution : H	1000TV lines standard	900TV lines standard	
: V	1000TV lines standard	900TV lines standard	
Sensitivity	F10 standard (59.94Hz setting)	F7 standard (59.94Hz setting)	
	F11 standard (50Hz setting)	F7.7 standard (50Hz setting)	
	(at 2000lx, 3000K)	(at 2000lx, 3000K)	
Minimum illumination	4.8 lx (59.94Hz setting)	9.9 lx (59.94Hz setting)	
	4.0 lx (50 Hz setting)	8.2 lx (50 Hz setting)	
	at F2.2 , 20dB, BINNING: ON	at F2.2 , 20dB, BINNING: ON	
	9.6 lx (59.94Hz setting)	19.8 lx (59.94Hz setting)	
	8.0 lx (50 Hz setting)	16.3 lx (50 Hz setting)	

SN ratio	56 dB standard	56 dB standard	Others
	AGC:OFF Gamma: OFF Enhance: OFF	AGC:OFF Gamma: OFF Enhance: OFF	
Ambient temperature	0℃ to 40℃	0℃ to 40℃	
Ambient humidity	Less than 90%	Less than 90%	
Weight : CCU	Approx. 610 g		
: HEAD	Approx. 93 g	Approx. 34 g	
External : CCU	W : 110 mm H : 40 mm D : 186 mm		
: HEAD	W: 32.6 mm H: 38.6 mm D: 41 mm	W: 27.4 mm H: 27.4 mm D: 33 mm	
	Protruding portion is not included	Protruding portion is not included	
Scene file	A, B, C, D, E		
White balance	AWB / MANU		
Gain	AUTO (0 - 20dB)		
	MANU (-3 - 20dB), OFF		
Pedestal Adjustment	Master -200 - +200, Red -100 - +100, Blue -100 - +100		
Gamma setting	ON (-10 - +10) / OFF		
Black gamma setting	HIGH / NORMAL / LOW		
White clip adjustment	100% - 109%		
Detail function	Detail output / Detail gain 0 - 31, Detail boost freq. 1 - 16, HV Balance 8/16 - 24/16		
DNR function	DNR ON / OFF		
Color matrix adjustment	12 color (Chroma Saturation, Hue, Croma Gain)		
Output signal	DVI-D (digital RGB): DVI-D terminal		
SN ratio	56 dB standard	56 dB standard	
	AGC:OFF Gamma: OFF Enhance: OFF	AGC:OFF Gamma: OFF Enhance: OFF	
Ambient temperature	0℃ to 40℃	0℃ to 40℃	

Menu items

-- 1 SHUTTER -- (FILE A)

MODE	AUTO
LEVEL	0
PEAK AVE	05 : 05
SPEED	10
AREA	PRESET A
AREA DISPLAY	
OFF	
MAX SHUT	OFF

-- 2 GAIN -- (FILE A)

MODE	AUTO
MAX GAIN	20dB

-- 3 WHT BAL -- (FILE A)

MODE	AWB
R PAINT	0
B PAINT	0
C.TEMP	3200K
AREA	PRESET A
AREA DISPLAY	
OFF	

-- 4 PROCESS1 -- (FILE A)

GAMMA ON/OFF	
ON	
GAMMA	0
BLACK GAMMA	
NORMAL	
M.PED	0
R. PED	0
B. PED	0
WHT CLIP	109%

-- 5 PROCESS2 -- (FILE A)

DTL GAIN	10
DTL FREQ	8
HV BALANCE	16/16
DNR	OFF

-- 6 PROCESS3 -- (FILE A)

MATRIX	ON
COLOR	R
HUE	0
GAIN	0
CHROMA	0

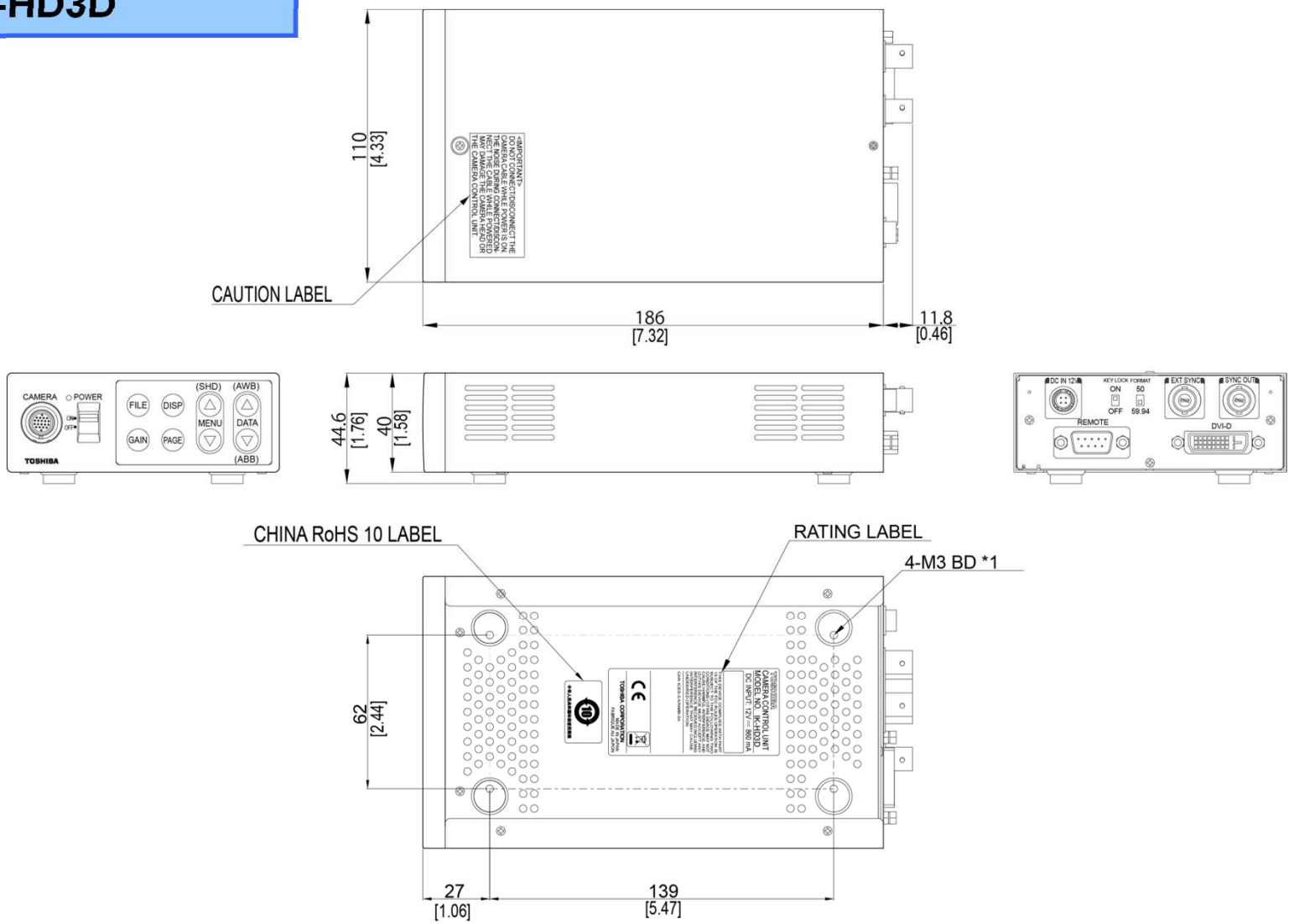
-- 7 SYNC -- (FILE A)

MODE	INT

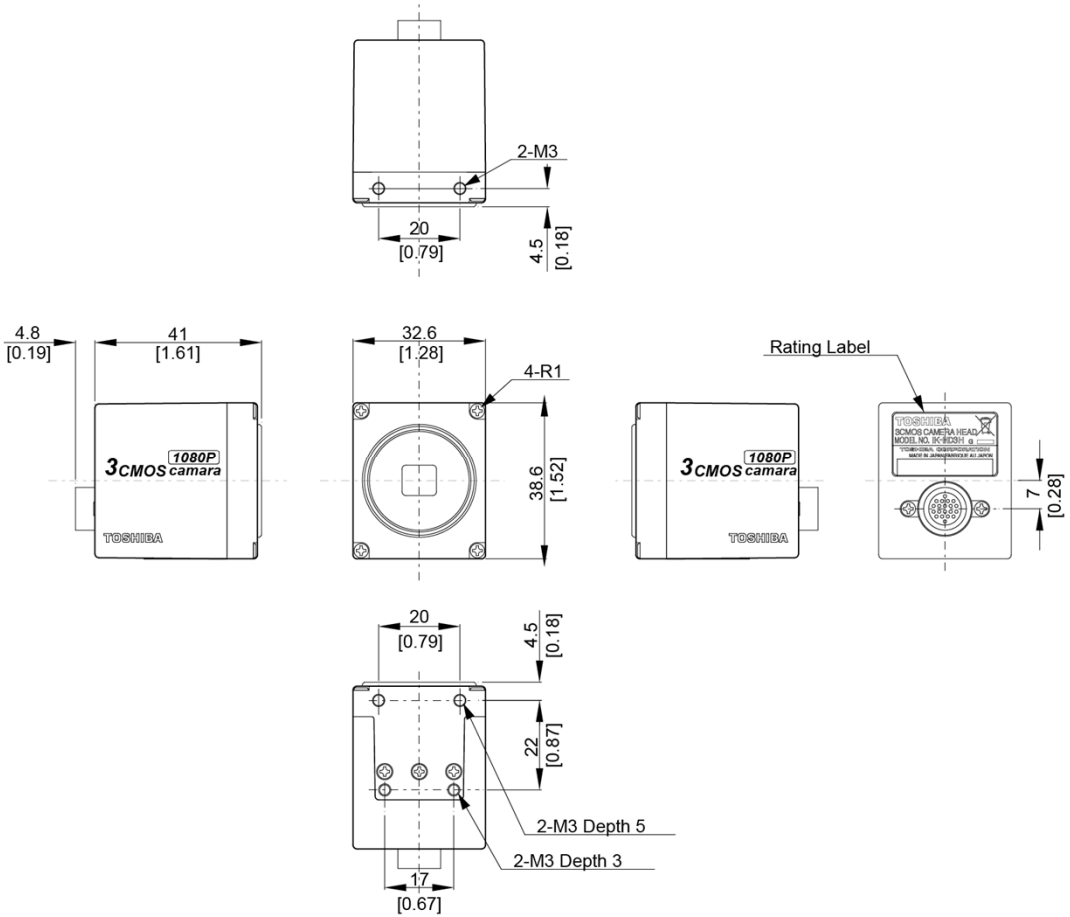
-- 8 OPTION -- (FILE A)

SHADING	OFF
DTL OUT	OFF
V REVERSE	OFF
H REVERSE	OFF
BINNING	OFF
MONITOR	PC
I/P MODE	1080p
BAUD RATE	9600bps

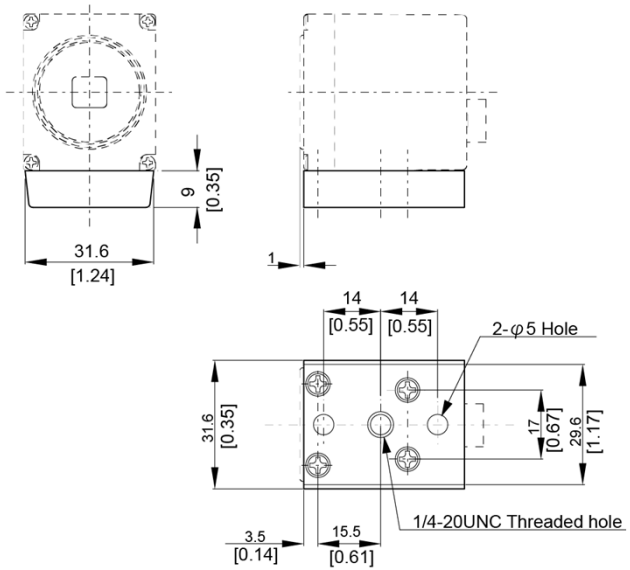
External Appearance
IK-HD3D



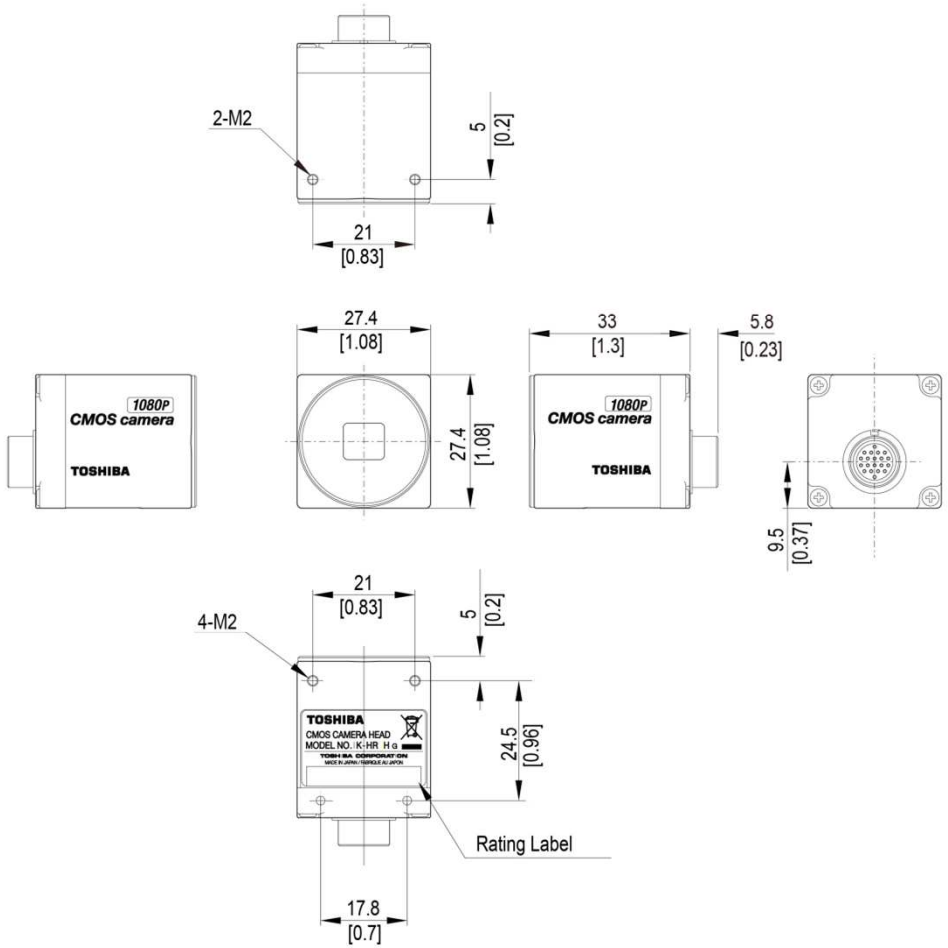
External Appearance
IK-HD3H



Tri-Pod Adaptor



External Appearance
IK-HR3H



Tri-Pod Adaptor