

Ikegami



**3CCD Multiple-purpose
HDTV camera**

HDL-45E HDL-45E1



The HDL-45E/E1 is a 3CCD multi-purpose HDTV camera achieving superb picture quality, high stability and excellent reliability with the incorporation of Ikegami's cutting edge digital technologies.

The camera provides superior picture image with newly developed 2/3-inch 2.3 Mega pixel AIT CCDs, digital processing LSI (ASIC) and the latest 14-bit A/D converters. With its compact one-piece form factor, this camera is suitable for various applications such as a weather camera, news flash camera, POV camera, etc.

The HDL-45E1 adds support for the 1080/24psF and 1080/23.98psF formats.

3CCD Multiple-purpose HDTV camera

HDL-45E / HDL-45E1

2/3-inch 2.3 Mega pixel AIT CCDs

2/3 inch 2.3 Mega pixel AIT CCDs are employed to achieve 1000 TVL horizontal resolution, F11 sensitivity, and 56dB SNR.

By using 1920x1080 pixel sensors, there is no conversion performed within the camera. The full resolution from the sensors is maintained through to the camera output.

14-bit A/D conversion

14-bit A/D converters provide a precise picture image from dark to highlight areas, maximizing the color gradation and achieving natural color reproduction especially in the dark areas.

Low Noise Gain up

Employing a low-noise amplifier in the Master gain up circuit eliminates noticeable noise and obtains a better signal-to-noise with high gain. 3dB steps for gain up through +12dB has been realized to obtain the precise sensitivity required for a wide range scene illumination.

Various External Sync Support

In addition to HDTV PS and Tri-Sync signals, SDTV VBS and BBS signals can be used as an external sync signal for genlock.

*Note: SDTV VBS and BBS signals can not be used for 1080/24psF and 1080/23.98psF.

Multi format

Supported formats for each model as follows:

HDL-45E: 1080/59.94i, 1080/50i, 1080/29.97psF, 1080/25psF
HDL-45E1: 1080/59.94i, 1080/50i, 1080/29.97psF, 1080/25psF, 1080/24psF, 1080/23.98psF

Advanced Full Digital Processing ASIC

Incorporating Ikegami's advanced full digital processing ASIC, precision designed at 0.18um rule, the video signals are digitized with 14-bit A/D conversion and up to 38-bit internal digital process circuits.

Digitizing white shading, gamma and other correction process in the camera head achieves superb picture quality and high stability.

Chip C4 DSP ASIC, originally developed for HDK-series cameras, provides advanced color reproduction and detail enhancement features, including Skin DTL.

Built-in Servo Filter / ECC (Electronic Color Compensation) Filter

The 4-position Optical Filter can be remotely controlled from various remote control panels. Adopting ECC filter (3200k/5600k) gives proper white balance without reducing sensitivity, a benefit under high color temperature but low light conditions such as dawn and dusk. The ND and ECC filter can be independently controlled.

Full Remote Control

The HDL-45E/E1 has full remote control capability from the complete range of Ikegami remote control panels. With matching pictures, the HDL-45E/E1 works with the same OCPs and control systems as Ikegami's HDK studio cameras.

And the camera supports ISCP (Ikegami Simple Command Protocol) by menu switching for third party camera control such as PC control integrated with the remote pan and tilt system.



Rear panel



ATW (Auto Tracking White balance) Function

In addition to conventional one-push style AWB, incorporating the ATW function adjusts white balance automatically for outdoor shooting with color temperature changes.

* Note: The ATW function is only recommended for outdoor shooting.

Digital Extender

The built-in digital extender expands the center of picture. The expansion can be selected as 1.5X, 2X, 3X, 4X, 6X, 8X, 10X by the camera menu.

* Note: When the digital extender is used, resolution is reduced as the expansion rate is increased.

Frame Accumulation

Frame Accumulation from 1/15 sec. to a maximum of 4sec. is available, increasing sensitivity up to 120 times without losing S/N ratio.

*Note: Trade off of increased motion blur and noticeable appearance of white spot pixels as exposure time is increased.

Column Adding

Column adding achieves four times the standard sensitivity by using 2 horizontal and 2 vertical columns for each pixel. Sensitivity is increased without losing S/N ratio. The Column Adding function is controlled by the gain up switch, and it is possible to set the operation of column adding by the camera menu.

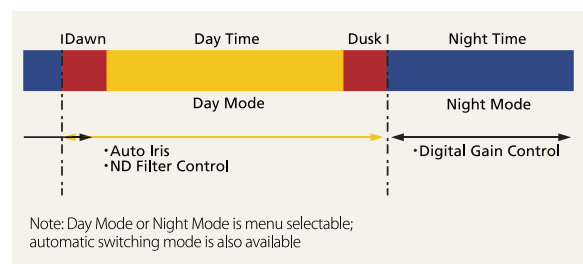
* Note: Trade off of reduced horizontal and vertical resolution, and increased motion blur for vertical.

AVC (Auto Video Level Control) Function

By synchronized control of Auto Iris, Auto Gain and Servo Filter, video maintains the same level automatically even though lighting conditions change. Especially for continuous outdoor shooting such as a weather camera application, the camera provides stable video level all day long.

Day Mode: Synchronized Auto Iris and ND Filter control

Night Mode: Continuous digital gain control



3D Application Ready

Built-in Horizontal Flip and Line Delay features to support 3D video production when using a beam split type rig.

Sample Applications

3D video rigs

Law enforcement

Pole camera

Surveillance

3CCD Multiple-purposeHDTV camera
HDL-45E/HDL-45E1

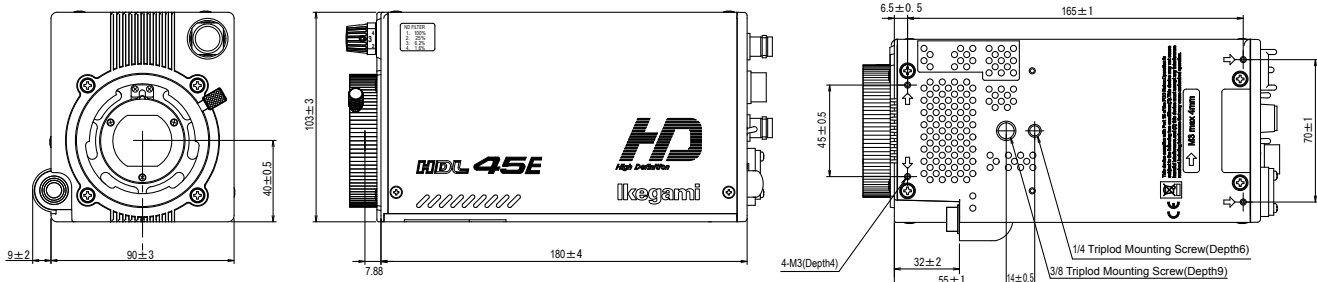
Ratings

Scanning System 【HDL-45E】	1080/59.94i, 1080/50i, 1080/29.97psF, 1080/25psF * psF is the Segmented Frame format										
【HDL-45E1】	1080/59.94i, 1080/50i, 1080/29.97psF, 1080/25psF, 1080/24psF, 1080/23.98psF * psF is the Segmented Frame format										
Image Sensor	2/3-inch 2.3 million pixel AIT CCD										
Effective Pixels	1920 (H) × 1080 (V)										
Sensitivity	F11 * at 2000lx White Reflection 89.9%										
Optical System	2/3-inch R,G,B 3CCD F1.4										
Lens Mount	BTA S-1005B										
Optical Filter w/Full Servo	<table border="1"> <tr> <td></td> <td>1</td> <td>2</td> <td>3</td> <td>4</td> </tr> <tr> <td>ND</td> <td>100%</td> <td>25%</td> <td>6.2%</td> <td>1.6%</td> </tr> </table>		1	2	3	4	ND	100%	25%	6.2%	1.6%
	1	2	3	4							
ND	100%	25%	6.2%	1.6%							
Electronic Color Compensation	3200K/5600K selectable										
Sampling Frequency	74.1758MHz and 74.25MHz										
Quantization	14bit										
Power Requirement	DC +11 to +16V										
Operating Temperature	-10°C to +45°C										
Storage Temperature	-20°C to +60°C										
Operating Humidity	30% to 90%(Non-condensing)										
Dimensions	approx. W90×H103×D180 (mm) *Excluding projection										
Weight	approx. 1.7kg										

Performances

S/N Ratio	56dB
Limiting Resolution	1000TVL
GAIN	[1080i format] -6,-3, 0, +3,+6,+9,+12,+18,+24,+30,+36,+42, +48,+54dB [1080psF format] -6,-3, 0, +3,+6,+9,+12dB * Gain-up up to +12dB is available in 1080psF format.
GAMMA	OFF, 0.35, 0.40, 0.45
Minimum Illumination (w/o Frame Accumulation)	0.065 lx * Iris;F1.4, +54dB gain up 100% video level, value in theory
Minimum Illumination (w/ Frame Accumulation)	0.00054 lx * Iris;F1.4, +54dB gain up 4 sec of frame accumulation, 100% video level, value in theory
Electronic Shutter	1/100, 1/120, 1/250, 1/500,1/1000, 1/2000 * in Electronic Shutter mode 1/15, 1/10, 1/8, 1/6, 1/5, 1/4, 1/3, 1/2, 1s, 2s,4s * in Frame Accumulation mode
Digital Extender	1.5X, 2X, 3X, 4X, 6X, 8X, 10X
Power Consumption	approx. 20W
Output Signals	HD-SDI x2 ch (SMPTE292M) (75Ω BNC Connector). *Character can be embedded by camera menu. G,B,R / Y, Pb, Pr selectable (Multi-pin Connector)
External Sync Input	HDTV: PS 1Vp-p, SYNC 0.6Vp-p *±6dB (75Ω BNC Connector) SDTV: VBS 1Vp-p, BBS 0.3Vp-p *In 1080/24psF, 1080/23.98psF formats, the signal can not be synchronized correctly with SDTV VBS/BBS. HDTV sync signal corresponding with the scan format should be input.

Dimensions:mm



Design and specifications are subject to change without notice.



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