

❖ AD-131 GE

2 CCD High Dynamic Range camera

C3 Camera Suite
Unlimited
Digital
Switchability



- Two monochrome prism-mounted progressive scan CCDs (1/3")
- Choice of high dynamic range, high frame rate, high S/N, or PIV mode
- 1296 (h) x 966 (v) active pixels per channel
- 3.75 μm square pixels
- 12-bit, 10-bit or 8-bit output – single or dual-channel
- 31 frames per second with full resolution
- Variable partial scanning with user-definable height and starting line
- Programmable exposure from 11.49 μs to 31.761ms
- GenICam Exposure Time Abs, pulse controlled, and auto shutter modes
- Sequence trigger mode for on-the-fly change of gain, exposure and ROI
- Built-in blemish compensation and shading compensation
- Look-up table (LUT) for gamma adjustment
- Separate AGC (automatic gain control) for each channel
- LVAL synchronous/asynchronous operation (auto-detect)
- Programmable GPIO with opto-isolated inputs and outputs
- Comprehensive control tool and SDK for Windows XP/Vista/7

GiGETM
VISION



Specifications for AD-131 GE

Specifications		AD-131 GE
Sensor	# 1 # 2	1/3" monochrome IT CCD (ICX447) 1/3" monochrome IT CCD (ICX447)
Pixel Clock		51.324 MHz
Frame rate full frame		31 frames/sec.
Active area		4.86 (h) x 3.63 (v) mm
Cell size		3.75 (h) x 3.75 (v) μ m
Active pixels		1296 (h) x 966 (v)
Read-out modes		
	Full	1296 (h) x 966 (v) 31.484 fps
	Full - High frame rate	1296 (h) x 966 (v) 62.9 fps
	Variable partial scan	Programmable start line: 0 to 958 Programmable height: 8 to 966 lines
	Vertical binning	1296 (h) x 483 (v) 53 fps
Sensitivity		0.1 Lux (max. gain, shutter off, 50% video)
S/N ratio		>54dB (0 dB gain, 10-bit)
Video output		8, 10 or 12-bit - single or dual-channel
Auto-iris lens video		0.7 Vp-p, w/o sync
Gain	Master gain AGC	0 dB to +21 dB 0 dB to +21 dB (range adjustable)
Synchronization		Int. X-tal
GPIO Module		
	Input/output switch	Configurable 25-in/14-out switch
	Clock generator (one)	12-bit counter based on pixel clock
	Pulse generator (four)	20-bit counters with programmable length, start point, stop point, repeat
Hardware trigger modes		Edge Pre-select, Pulse Width Control, Reset Continuous, Frame Delay, Sequence, PIV
Electronic shutter		
	Exposure time Abs	0.4L (11.49 μ s) to 982L (31.761 ms) in 1L steps (28.725 μ s)
	Pulse Width Control	1/13,000 sec. (2.4L) to 2 sec.
	GPIO plus Pulse Width	Fine adjustment via GPIO
	Auto shutter	1/31 to 1/366 sec. (982L to 95L)
LUT/Gamma		8 presets (1.0 to 0.45) or LUT
Functions controlled via GigE Vision interface		Shutter, gain, black level, trigger mode, read-out mode, GPIO setup, ROI (GenlCam mandatory functions)
GigE streaming protocol		Packet size (1476 to 16020 bytes), delayed (frame) read-out, inter-packet delay
Indicators on rear panel		Power/hardware trigger, GigE link / activity
Operating Temperature		-5°C to +45°C
Humidity (operation)		20 to 80% non-condensing
Storage temp./humidity		-25°C to +60°C / 20 to 80% non-condensing
Vibration		3 G (15Hz to 200 Hz XYZ)
Shock		50G
Regulations		CE (EN 61000-6-2, EN-61000-6-3), FCC part 15 class B, RoHS
Power		12-24V DC $\pm$ 10%. 8.0 W typical (full frame @ 12V)
Lens mount		C-mount (Max 4.0 mm thread)*
Dimensions (H x W x L)		55(H) x 55(W) x 98.3(D) mm
Weight		340 g

* Use 3CCD-type lens

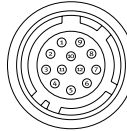
High Dynamic Range Output

By altering the shutter/gain settings of the two CCDs and fusing the two synchronized video streams either in-camera or during post-processing, the AD-131GE can provide more than double the dynamic range of standard CCD cameras (up to ~120 dB) but

in a linear fashion that avoids the noise, shutter, and compression issues found in typical CMOS-based logarithmic or LinLog™ high dynamic range cameras. For more information, read the HDR tech note available at www.jai.com

Connector pin-out

DC In / GPIO



HIROSE HR10A-10R-12PB-01

- Pin
- 1 Ground
 - 2 +12V DC input
 - 3 OPT In 2 (-)/GND (*)
 - 4 OPT In 2 (+)
 - 5 Auto Iris video out (*)
 - 6 OPT In 1 (-)
 - 7 OPT In 1 (+)
 - 8 OPT Out 1 (-)
 - 9 OPT Out 1 (+)
 - 10 OPT Out 2 (-)
 - 11 OPT Out 2 (+)
 - 12 +12V DC input

* Select by SW700

GPIO

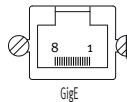


HIROSE 6-pin

- Pin
- 1 LVDS In 1 (-)
 - 2 LVDS In 1 (+)
 - 3 TTL In 1 / 75 Ω terminator*
 - 4 TTL Out 1 / open collector*
 - 5 TTL In 2 / 75 Ω terminator*
 - 6 GND

* See manual for details

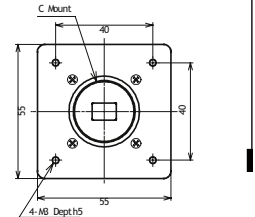
GigE Vision Interface RJ-45 with locking screws



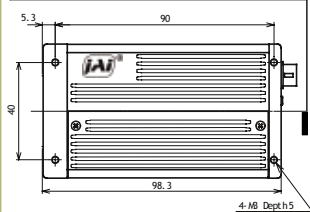
- | Pin | Pin |
|-----------|-----------|
| 1 TRD+(o) | 5 TRD-(2) |
| 2 TRD-(o) | 6 TRD-(1) |
| 3 TRD+(1) | 7 TRD+(3) |
| 4 TRD+(2) | 8 TRD-(3) |

Dimensions

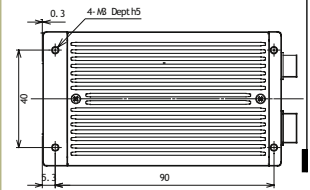
Front view



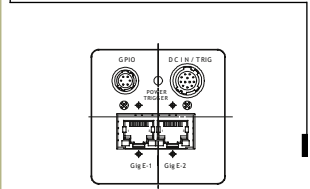
Side view



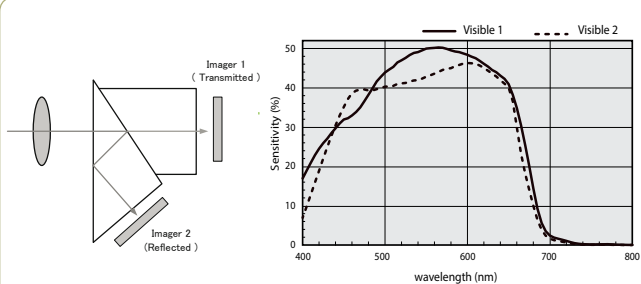
Bottom view



Rear view



2CCD Prism



Ordering Information

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See the possibilities

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