

❖ **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*
- *Vairable partial scanning with user-definable height and starting line*
- *Programmable exposure from 11.49μs 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*

GiGE[™]
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) μm
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 μs) to 982L (31.761 ms) in 1L steps (28.725 μs)
	Pulse Width Control GPIO plus Pulse Width Auto shutter	1/13,000 sec. (2.4L) to 2 sec. Fine adjustment via GPIO 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 (GenICam 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 ± 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

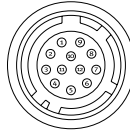
High Dynamic Range Output

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

* Select by SW700

GPIO

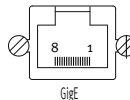


HIROSE 6-pin

- 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

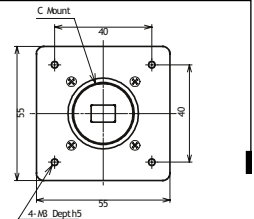
GigE Vision Interface RJ-45 with locking screws



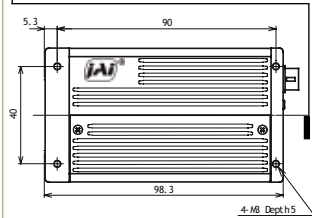
- | Pin | Pin |
|-----------|-----------|
| 1 TRD+(0) | 5 TRD-(2) |
| 2 TRD-(0) | 6 TRD-(1) |
| 3 TRD+(1) | 7 TRD+(3) |
| 4 TRD+(2) | 8 TRD-(3) |

Dimensions

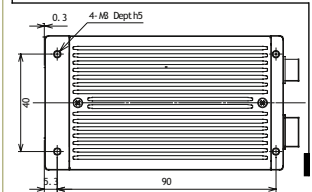
Front view



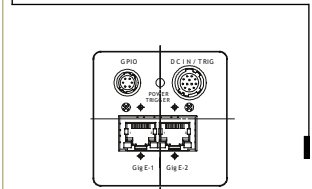
Side view



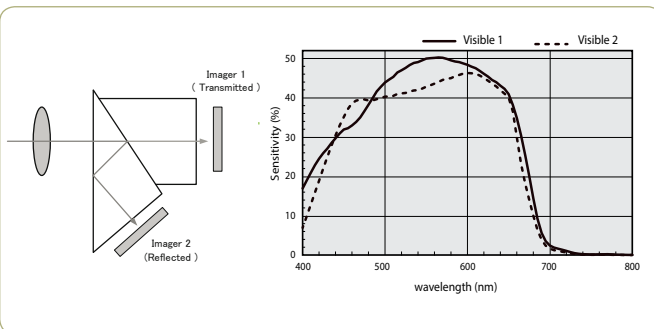
Bottom view



Rear view



2CCD Prism



Ordering Information

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See the possibilities

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