

AD-o81 CL

2 CCD High dynamic range camera

C₃ Camera Suite
Unlimited
Digital
Switchability



- 2-monochrome prism-mounted progressive scan CCDs (1/3")
- Member of the C₃ Advanced series
- 1024 (h) x 768 (v) active pixels per channel
- 4.65 μ m square pixels
- 30 frames/second with full resolution
- 60 frames/second for interleaved high frame rate operation
- Increased frame rates with partial scan or vertical binning
- Programmable exposure from 20 μ s to 33ms
- 11-step preset shutter from 1/60s to 1/50000s
- Pre-select and pulse width trigger modes
- PIV (Particle Image Velocimetry) mode available
- LVAL synchronous/asynchronous operation (auto-detect)
- Analog video output for auto-iris lens control
- 10- or 8-bit Camera Link output
- Two I/O connectors configurable for separate or combined output
- Setup by Windows NT/2000/XP via serial communication

CAMERA
Link

iAi[®]

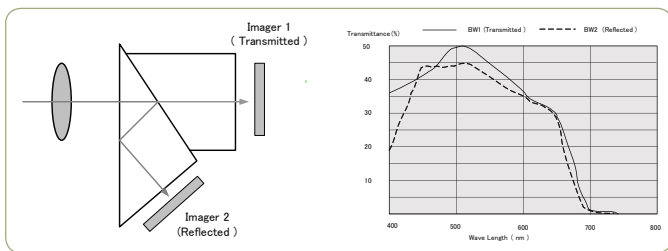
www.jai.com

See the possibilities

Specifications for AD-o81 CL

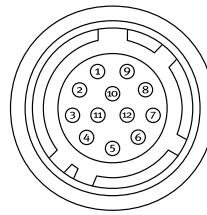
Specifications		AD-o81 CL
Sensor	Sensor 1 Sensor 2	1/3" Monochrome IT CCD (ICX204AL) 1/3" Monochrome IT CCD (ICX204AL)
Pixel Clock		33.75 MHz
Frame rate (HDR mode)		30 frames/sec.
Frame rate (interleaved)		60 frames/sec.
Active area		4.76 (h) x 3.57 (v) mm
Cell size		4.65 (h) x 4.65 (v) μm
Active pixels		1024 (h) x 768 (v)
Read-out modes	Full 1/2 partial scan 1/4 partial scan 1/8 partial scan V binning	1024 (h) x 768 (v) 30/60 fps 1024 (h) x 384 (v) 48/96 fps 1024 (h) x 192 (v) 68/136 fps 1024 (h) x 96 (v) 86/172 fps 1024 (h) x 384 (v) 49.5/99 fps
Sensitivity		1.1 Lux (On sensor, max. gain, shutter off, 50% video)
S/N ratio		>54dB (Gain 0 dB, shutter off)
Video output		Dual monochrome 8 or 10 bit, synchronized or separate timing. Output selectable to one or both CL connectors
Auto-iris lens video		0.7 Vp-p
Gain		-3dB to +12dB
Synchronization		Int. X-tal
Inputs	Camera Link TTL (Hirose 12P)	Ext. trigger, LVDS, (CC 1) Ext. Trigger 4V ±2V
Outputs	Camera Link TTL (Hirose 12P)	EEN, FVAL, LVAL, DVAL, PCLK XEEN (x 2)
Trigger modes		Pre Select, Pulse Width and PIV mode
Electronic shutter	Pre-set shutter Programmable exposure Pulse Width Control	1/60 to 1/50,000 sec. in 11 steps 0.5L to 792L (1LVAL unit) 1.5L to 60 frames
Auto luminance balance		Gain setting range: -3 to +6 dB (HDR mode) Detection area is selectable from 9 divisions
Knee compensation		Knee point, Knee slope (10 or 8 bit)
Control interface		Camera Link x 2
Indicators on rear panel		LED for power and trigger input
Operating Temperature		-5°C to +45°C
Humidity (operation)		20 - 80% non-condensing
Storage temp./humidity		-25°C to +60°C / 20 to 80%
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		12V DC ± 10%, 3.8 W
Lens mount		C-mount (use 3CCD type, rear protrusion <4mm)
Dimensions (H x W x L)		55(H) x 55(W) x 80(D) mm
Weight		400 g

2CCD Prism



Connector pin-out

DC In / Trigger



HIROSE HR10A-10R-12PB-01

- | | |
|--------|-----------------------------|
| Pin 1 | Ground |
| Pin 2 | +12V DC |
| Pin 3 | Ground |
| Pin 4 | Auto Iris lens video output |
| Pin 5 | Ground |
| Pin 6 | XEEN 1 out |
| Pin 7 | XEEN 2 out |
| Pin 8 | Ground |
| Pin 9 | Not used |
| Pin 10 | Trigger 1 in |
| Pin 11 | Trigger 2 in |
| Pin 12 | Ground |

Camera Link Interface

26 pin MDR connector 3M 10226-1A10JL

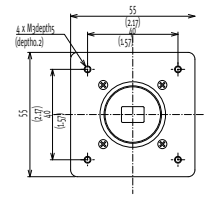


- | Pin | Signal | Function |
|-------|-----------------|-------------|
| 1 14 | GND | |
| 2 15 | -/+Tx0 | CL Data |
| 3 16 | -/+Tx1 | CL Data |
| 4 17 | -/+Tx2 | CL Data |
| 5 18 | -/+Txclk | CL clk |
| 6 19 | -/+Tx3 | CL Data |
| 7 20 | SerTC+/SerTC- | Serial in* |
| 8 21 | SerTFG-/SerTFG+ | Serial out* |
| 9 22 | CC1-/CC1+ | Ext. trig* |
| 10 23 | CC2+/CC2- | Not used |
| 11 24 | CC3-/CC3+ | Not used |
| 12 25 | CC4+/CC4- | Not used |
| 13 26 | GND | |

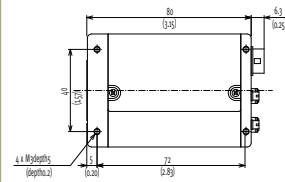
Camera Link medium configuration.
* Camera Link

Dimensions

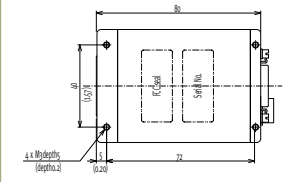
Front view



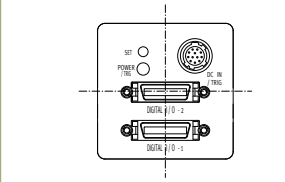
Side view



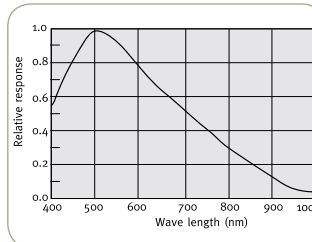
Bottom view



Rear view



AD-o81 CL



High Dynamic Range Output

By altering the shutter/gain settings of the two CCDs and fusing the two synchronized video streams during post-processing, the AD-o81CL 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

Ordering Information

AD-o81CL 2CCD High dynamic range Camera