



CV-A1

Compact Megapixel Progressive Scan Camera



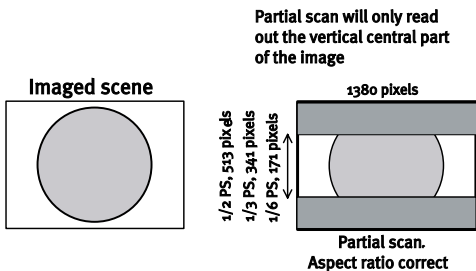
- *Compact size 1/2" progressive scan monochrome CCD camera*
- *1392 (h) x 1040 (v) 4.65 μm square pixels*
- *28.64 and 20 MHz versions*
- *16 or 11 fps with full resolution*
- *Up to 75 or 52 fps with partial scan*
- *4 times normal sensitivity with H and V binning*
- *Internal, external HD/VD or random trigger synchronization*
- *Edge pre-select, pulse width control and start/stop trigger modes*
- *Shutter speeds from 1/16 to 1/200,000 or 1/11 to 1/140,000 in 16 steps*
- *Programmable exposure*
- *Frame-delay readout in combination with pulse width controlled shutter*
- *Unique smear reduction circuit*
- *Exposure enable EEN, write enable WEN and pixel clock output*
- *Short ASCII commands for fast mode setup via serial port*
- *Setup by Windows NT/2000/XP software via RS 232C*

The leading manufacturer of high performance camera solutions

Specifications for CV-A1

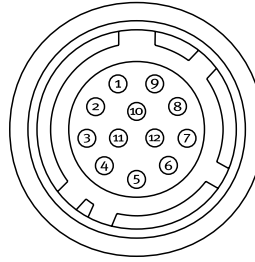
Specifications	CV-A1	CV-A1-20
Scanning system	Progressive scan	
Pixel clock	28.64 MHz	20 MHz
Pixel clocks per line	1672 pixel clocks per line	
Line frequency	17.127 KHz	11.962 KHz
Lines per frame	1068 lines per frame	
Frame rate for full frame	16.037 fps	11.2 fps
CCD sensor	Monochrome 1/2" IT CCD	
Sensing area	6.42 (h) x 4.81 (v) mm	
Effective pixels	1392 (h) x 1040 (v)	
Pixels in video output	CV-A1	CV-A1-20
Full:	1380 (h) x 1035 (v) 16 fps	11 fps
Horizontal binning:	690 (h) x 1035 (v) 16 fps	11 fps
Vertical binning:	1380 (h) x 501 (v) 32 fps	22 fps
H + V binning:	690 (h) x 501 (v) 32 fps	22 fps
1/2 partial:	1380 (h) x 513 (v) 30 fps	21 fps
1/3 partial:	1380 (h) x 341 (v) 43 fps	30 fps
1/6 partial:	1380 (v) x 171 (v) 75 fps	52 fps
Cell size	4.65 (h) x 4.65 (v) μm	
Sensitivity on sensor	0.3 Lux (Max gain, 50% video)	
S/N ratio	>50 dB	
Video output	Composite VS signal, 1 Vpp, 75 Ω Video signal 0.7 Vpp (selectable)	
Gamma	0.45 or 1.0	
Gain	Manual – Automatic	
Gain range	Man.: -3 to +12 dB – Auto.: 0 to +12 dB	
Synchronization	Int. X-tal. Ext HD/VD or random trigger	
HD/VD sync. input/output	4 V, 75 Ω	
Trigger input	4 V, TTL	
WEN output (write enable)	4 V, 75 Ω	
EEN out. (exposure enable)	4 V, 75 Ω	
Pixel clock output	4 V, 75 Ω	
Trigger modes	Continuous, Edge pre-select, Pulse width control, Start/stop	
Readout modes	Frame-delay readout, Smearless, Binning	
Shutter	16 steps 1/16 - 1/200,000 1/11 - 1/140,000	
Triggered shutter speed	10 steps 1/16 - 1/12,000 1/11 - 1/8400	
Programmable exposure	1023 steps 58μs incr. 83μs incr.	
Long time exposure	2 frames to ∞	
Smearless readout	Reduced smear at high shutter speeds	
Functions controlled by RS 232C	Scanning format, Trigger modes, Readout modes, Shutter speed, Pixel clock output, Sync. on/off, Programmable exposure, Manual gain, AGC, Gamma	
Functions controlled by internal DIP switches	VD input/output, HD input/output HD, VD 75 Ω termination on/off	
Operating temperature	-5°C to +45°C	
Humidity	20 - 80% non-condensing	
Storage temp./humidity	-25°C to +60°C/20% - 80 %	
Power	12V DC ± 10%. 1.8 W	
Lens mount	C-mount	
Dimensions	29 x 44 x 66 mm (HxWxD)	
Weight	150 g	

Readout Formats



Connection Description

DC-IN/SYNC.

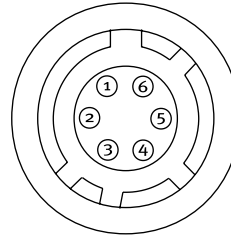


HIROSE HR10A-10R-12PB-01

- Pin
- 1 Ground
 - 2 +12V DC
 - 3 Ground
 - 4 Video output
 - 5 Ground
 - 6 HD input/HD output
 - 7 VD input/VD output
 - 8 Ground
 - 9 Pixel clock output
 - 10 WEN output
 - 11 Trigger input
 - 12 Ground

(Pin configuration compatible with EIAJ standard)

RS 232C/TRIGGER

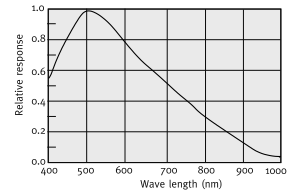


HIROSE HR10A-7R-6PB

- Pin
- 1 TXD
 - 2 RXD
 - 3 Ground
 - 4 Ground
 - 5 Trigger input
 - 6 EEN output

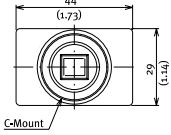
Plugs for cable:
12 pin: HIROSE HR10A-10P-12S
6 pin: HIROSE HR10A-7P-6S

Spectral Sensitivity

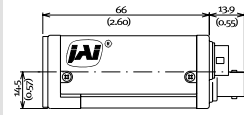


Dimensions

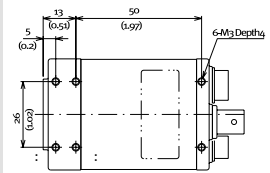
Front view



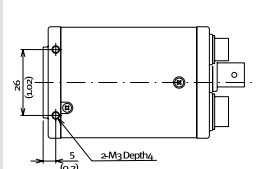
Side view



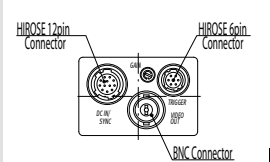
Bottom view



Top view



Rear view



Ordering Information

CV-A1 1/2" Compact Megapixel Progressive Scan Camera. 28.64 MHz

CV-A1-20 1/2 compact Megapixel Progressive Scan Camera. 20 MHz

MP-40 Tripod Adapter for CV-A1 (must be ordered separately)

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