adept
electronic solutions
The Machine Vision and Imaging Speciaists
a.e.s
Perth: +61 (08) 9242 5411
Sydney: +61 (02) 9979 2599
Melbourne: +61 (03) 9555 5621
Email: adept@adept.net.au
Web: http://www.adept.net.au

CV-M77
Progressive Scan RGB Color CCD Camera

- *New compact size 1/3" progressive scan RGB primary color CCD camera*
- *1034 (h) x 779 (v) 4.65 µm square pixels (XGA format)*
- *25 full frames RGB video output per second*
- *Improved resolution, sensitivity and dynamic range compared with CV-M70*
- *RGB primary mosaic filter (Bayer) and DSP for excellent color reproduction*
- *Internal, external HD/VD or random trigger synchronization*
- *Edge pre-select and pulse width control trigger modes*
- *Fixed shutter speeds from 1/25 to 1/10,000 second in 12 steps*
- *Programmable shutter speed from 1.5 H to 791 H*
- *Long time exposure with external VD pulse interval*
- *Frame-delay readout for edge pre-select and pulse width controlled shutter*
- *Exposure enable EEN, write enable WEN and pixel clock output*
- *Short ASCII commands for fast mode setup via serial port*
- *Setup by Windows 98/NT/2000 software via RS 232C*

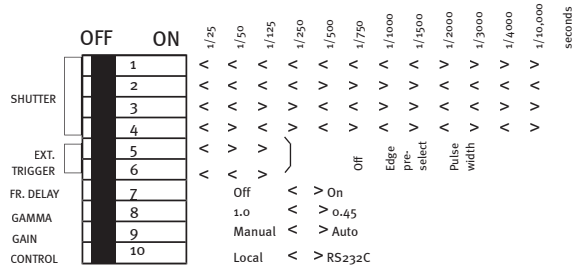
The leading manufacturer of high performance camera solutions

Specifications for CV-M77

Specifications

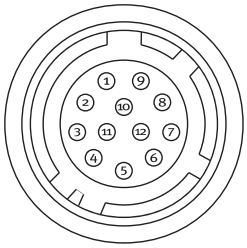
Specifications	CV-M77
Scanning system	Progressive 792 lines, 24.8 frames/sec.
Pixel clock	25.000 MHz
Line frequency	19.685 kHz (1270 pixel clock/line)
Frame rate	24.8 frames/sec. (792 lines/frame)
CCD sensor	1/3" RGB primary color IT CCD
Sensing area	4.8 (h) x 3.6 (v) mm
Effective pixels	1034 (h) x 779 (v)
Pixels in video output	1028 (h) x 770 (v)
Cell size	4.65 (h) x 4.65 (v) µm
Sensitivity on sensor	1.5 Lux (Max. gain, 50% video)
S/N ratio	>50 dB
Video output	RGB video signal, 0.7 Vpp, 75 Ω Composite sync. on G, 0.3 Vpp (selectable)
Iris video	0.7 Vpp, 75 Ω
Gamma	1.0 – 0.6 – 0.45
Gain Gain range	Manual – Automatic -3 to + 12 dB
Synchronization	Int. X-tal. Ext HD/VD or random trigger
HD sync. input/output	4 V, 75 Ω
Trigger input	4 V, TTL
WEN output (write enable)	4 V, 75 Ω
EEN output (exp. enable)	4 V, 75 Ω
Pixel clock output	4 V, 75 Ω
Composite sync. output	4 V, 75 Ω
Trigger modes	Continuous, Edge pre-select, Pulse width control (HD non-reset)
Trigger input. (Edge pre-sel.)	>1 H
Shutter	1/25 through 1/10,000 sec.
Programmable exposure	788 steps in 51 µs increments
Pulse width control	≥ 1.5 H
Long time exposure	2 frames to ∞
Frame-delay readout	1.5 H to 2000 H Time from trigger input to ext. VD input. For Edge pre-select and Pulse width control
Functions controlled by DIP switch on rear	Shutter speed, Trigger mode, Readout mode, Gamma, Gain, Control
Functions controlled by internal DIP switches	VD input/output, HD input/output HD, VD and Trigger 75 Ω termination on/off WEN polarity, Sync. on G, White balance
Functions controlled by RS 232C	Shutter speed, Trigger mode, Readout mode, WEN polarity, Sync. on G, Programmable exposure, Gain levels, White clip, Setup, Gamma, White balance
Communication Baud rate	9600 bps
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%. 5.5 W
Lens mount	C-mount
Dimensions	40 x 50 x 90 mm (HxWxD)
Weight	270 g

Switch Setting



Connection Description

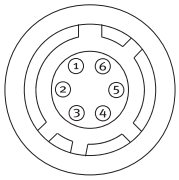
DC-IN/SYNC.



HIROSE HR10A-10R-12P

Pin		
	1	Ground
	2	+12V DC
	3	N.C.
	4	Iris video
	5	Ground
	6	HD input/HD output *)
	7	VD input/VD output *)
	8	Ground
	9	Pixel clock output *)
	10	Ground/N.C./WEN *)
	11	+12V DC/N.C./Trigger *)
	12	Ground

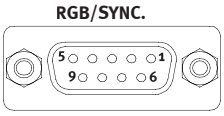
RS 232C/TRIGGER



HIROSE HR10A-7P-6P

Pin		
	1	TXD
	2	RXD
	3	Ground
	4	N.C./Ground *)
	5	Trigger input
	6	WEN output

RGB/SYNC.

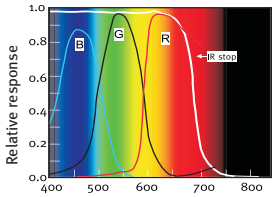


Pin		
	1	N.C./VD input *)
	2	Ground
	3	R output
	4	G output/G + sync. *)
	5	B output
	6	HD input/output *)
	7	Sync./WEN output *)
	8	Ground
	9	N.C./PCLK output *)

*) Signals can be changed by internal switches and jumpers.

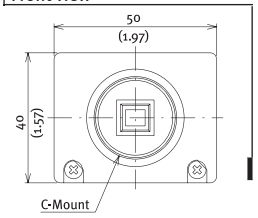
Plugs for cable:
12 pin: HIROSE HR10A-10P-12S
6 pin: HIROSE HR10A-7P-6S
9 pin: D-sub 9 pin

Spectral Sensitivity

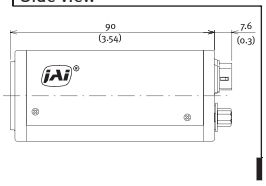


Dimensions

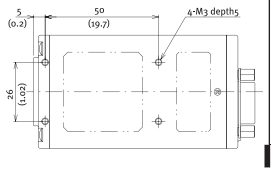
Front view



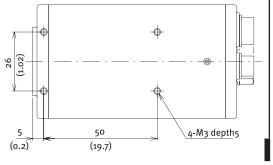
Side view



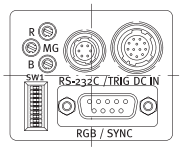
Bottom view



Top view



Rear view



Ordering Information

CV-M77 1/3" Progressive Scan RGB Color CCD Camera

JAI A-S, Denmark
Phone +45 4457 8888
Fax +45 4491 8880
www.jai.com

JAI Corporation, Japan
Phone +81 45 933 5400
Fax +81 45 931 6142
www.jai-corp.co.jp

JAI UK Ltd., England
Phone +44 208 573 7737
Fax +44 208 573 7734
www.jai.com

JAI America Inc., USA
Phone (Toll-Free) +1 877 472-5909
www.jai.com

THE MECHADEMIC COMPANY

Visit our web site on www.jai.com

Company and product names mentioned in this datasheet are trademarks or registered trademarks of their respective owners.
JAI A/S cannot be held responsible for any technical or typographical errors and reserves the right to make changes to products and documentation without prior notification.

3101229-05.02.4000