AT-140 GE

3CCD Progressive Scan RGB Color

ADEPT TURNKEY

The Machine Vision and Imaging Specialists
Perth: +61 (08) 9242 5411 **Sydney:** +61 (02) 9979 2599
Melbourne: +61 (03) 9350 7377

Email: adept@adept.net.au
Web: http//www.adept.net.au

C3 Camera Suite
Unlimited
Digital
Switchability

- *3 x 1/2" CCD progressive scan RGB color camera for vision applications*
- *1392(h) x 1040 (v) effective pixels (4.65 µm square) for each CCD*
- *Compact RGB prism for C-mount lenses*
- *Chromatic shading reduction permits wider choice of lenses*
- *20.8 frames per second with full resolution*
- *Variable partial scan also available*
- *Vertical and horizontal binning for higher sensitivity and frame rate*
- *24-bit or 30-bit RGB output via GigE Vision Streaming Protocol*
- *Linear matrix circuit with manual control or sRGB or Adobe RGB pre-sets*
- *Look-up Table with 1024 10-bit values*
- *Multiple trigger modes including timed, trigger width, trigger controlled, and sequential*
- *Programmable exposure from 1/20 to 1/22000 (45.6 µs)*
- *Individually programmable shutter/exposure for R, G, and B*
- *Manual, continuous, and one-push auto white balance*
- *Programmable GPIO with opto-isolated inputs and outputs*
- *Comprehensive SDK and control tool for Windows XP/Vista/7*

GiGE VISION™

www.adept.net.au

Specifications for AT-140 GE

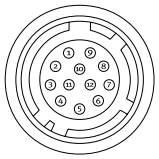
Specifications	AT-140 GE
Sensor	3 x 1/2" progressive scan CCD - ICX267AL
Pixel Clock	43 MHz
Frame rate full frame	20.81 frames/second
Active area	6.4 (h) x 4.8 (v) mm
Cell size	4.65 (h) x 4.65 (v) µm
Active pixels	1392 (h) x 1040 (v)
Read-out modes Full Variable partial Vertical binning Horizontal binning	 1392 (h) x 1040 (v) 20.81 fps Programmable start line; height = 8 to 1040L Max. frame rate at 8 lines = 59.94 fps 1392 (h) x 520 (v) 32.92 fps 696 (h) x 1040 (v) 20.81 fps
Sensitivity (on sensor)	0.83 Lux, max gain, 50% video
S/N ratio	>50 dB. (Green ch., 0 dB gain)
Video output	3 x 8 bit RGB: 24-bit output format 3 x 10 bit RGB: 32-bit output format
Auto-iris lens video	0.7 V p-p, 75 Ω NUM luminance signal w/o sync
Gain, manual	Manual for all 3 colors Analog Master -3 to +15 dB Analog R and B –6 to +6 dB Digital -3 dB to +3 dB
Gain, auto	0 to 15 dB
GPIO Module Input/Output switch Counter function Timer function Event message	 Configurable 14-in/10-out switch 16-bit counter based on pixel clock 16-bit timer and delay counter - 1MHz Internal status can be output as event message
Hardware Trigger modes	Configurable per GenICam standard. Includes timed, trigger width (pulse width), start/stop signal, sequential timed, delayed readout
Electronic shutter Programmable exposure Timed exposure Auto shutter	 1L (45.58µs) - 1054L in 1L steps 66µs to 65535µs in 1µs steps 1/15 to 1/30Ks
White balance Range	Manual, one-push, continuous, Note: 7800K is Factory default setting -6 to +6 dB. (4000K to 9000K)
Gamma	1.0 (OFF) , 0.45 or LUT (Look Up Table) LUT: 1024 points, 10-bit values
Knee function	Knee point and knee slope for R, G, and B channel
Linear Matrix	Manual for R,G and B / Preset (sRGB, Adobe RGB)
Blemish Compensation	White blemishes, up to 16 pixels
Control interface	Register based. GigE Vision/GenICam compliant
GigE Vision streaming control	Packet size, delayed (frame) readout, inter-packet delay Default packet size - 1476 bytes. Max - 16020 bytes
Operating Temperature	-5° C to +45° C
Humidity (operation)	20 - 80% non-condensing
Storage temp./humidity	-25° C to 60° C / 20% - 80% non-condensing
Vibration	3G (15 Hz to 200 Hz XYZ)
Shock	50 G
Regulations	CE (EN 61000-6-2, EN 61000-6-3), FCC part 15 class B, RoHS
Power	12V to 24V DC ± 10%. 7.92W typical (full frame @ 12V)
Lens mount	C-mount (Max 4.0 mm thread)
Dimensions (H x W x L)	55 mm x 55 mm x 98.3 mm
Weight	340 g

Ordering Information

AT-140GE	1/2" 3CCD Progressive Scan RGB Color Camera

Connector pin-out

DC In / Trigger



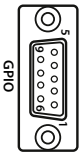
HIROSE HR10A-10R-12PB-01

Connector Pin-out

Pin		
	1	GND
	2	+12 V DC input
	3	Opto in 2(-)*/GND
	4	Opto in 2(+)*/Auto iris lens
	5	Opto in 1(-)
	6	Opto in 1(+)
	7	Opto out 1(-)
	8	Opto out 1(+)
	9	Opto out 2(-)
	10	Opto out 2(+)
	11	+12V DC input
	12	GND

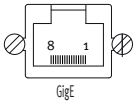
* Pins 3 and 4 can be configured by internal switch selection

GPIO Pinout



Pin	I/O	
1	I	LVDS In 1–
2	I	LVDS In 1+
3	I	TTL In 1
4	O	TTL Out 1
5		GND
6		NC
7		NC
8	O	TTL Out 2
9		GND

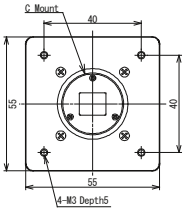
GigE Vision Interface
RJ-45 with locking screws



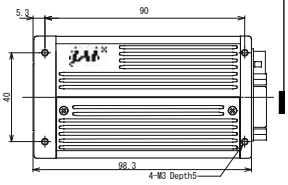
Pin		Pin	
1	TRD+(0)	5	TRD–(2)
2	TRD–(0)	6	TRD–(1)
3	TRD+(1)	7	TRD+(3)
4	TRD+(2)	8	TRD–(3)

Dimensions

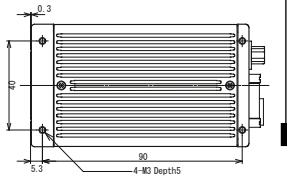
Front view



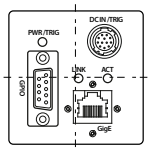
Side view



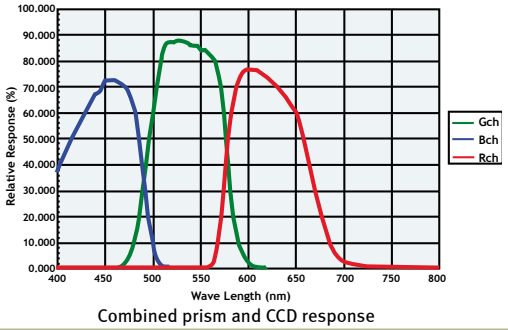
Bottom view



Rear view



Spectral Response



Combined prism and CCD response

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.

Europe, Middle East & Africa
Phone +45 4457 8888
Fax +45 4491 3252

Asia Pacific
Phone +81 45 440 0154
Fax +81 45 440 0166

Americas
Phone (Toll-Free) 1 800 445 5444
Phone +1 408 383 0300

www.adept.net.au

Visit our web site on www.jai.com

See the possibilities

January 2011