

❖ CV-A20 CL / CV-A80 CL Progressive Scan CMOS



PRELIMINARY

- **Compact 2/3" progressive scan CMOS camera**
- **Monochrome and Bayer mosaic color versions**
- **HDTV format with 1920 (h) x 1080 (v) pixels**
- **5.0 μm square pixels**
- **60 frames/second with full resolution**
- **Rolling shutter with snap-shot trigger**
- **High sensitivity**
- **Low power consumption**
- **Shutter speed from 1/60 to 1/20,000 sec. in continuous mode**
- **Windowing mode for higher frame rate**
- **10 or 8-bit output**
- **Setup by Windows NT/2000/XP via serial communication**



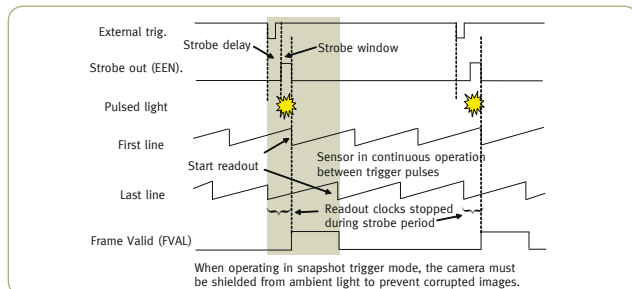
Specifications for CV-A20 CL / CV-A80 CL

Specifications	CV-20 CL / CV-A80 CL
Sensor	2/3" progressive scan CMOS with rolling shutter
Pixel Clock	2 x 74.25 MHz (interleaved)
Frame rate full frame	60 frames/sec. (2112 lines per frame)
Active area	8.1 (h) x 5.4 (v) mm
Cell size	5.0 (h) x 5.0 (v) μm
Active pixels	5.0 (h) x 5.0 (v) μm
Active pixels	1920 (h) x 1080 (v)
Color (CV-A80 CL)	Raw Bayer output for host based interpolation
Read-out modes	Full 1920 (h) x 1080 (v) 60 fps Vertical Windowing User selectable, 1 line intervals (2 line intervals for CV-A80CL)
Sensitivity (CV-A20 CL)	2.6 Lux (On sensor, Max. gain, 50% video)
Sensitivity (CV-A80 CL)	3.8 Lux (On sensor, Max. gain, 50% video)
S/N ratio	> 50 dB (Gain 0 dB, Shutter off)
Video	10 / 8 bit in Camera Link (interleaved)
Auto-iris lens video	0.7 V p-p
Gain	Manual / Automatic -3dB to +12dB (approx.1 dB step)
Synchronization	Internal X-tal or ext. trigger
Inputs	Camera Link TTL Ext. trigger, LVDS (CC 1) Ext. trigger 4 V ±2V
Outputs	Camera Link TTL Clk., LVAL, FVAL, DVAL, Data, EEN XEEN 4 V from 75 Ω
Trigger modes	Continuous, Snap-shot* (*must be used with strobe light)
Electronic shutter	(for continuous mode)
Pre-set shutter	1/60 to 1/20,000 sec in 9 steps
Programmable exposure	2 LVAL to 1125 LVAL in 1 LVAL unit
Auto shutter	1/60 to 1/20,000 sec in 9 steps
Control interface	Via Camera Link or RS 232C
Functions controlled by serial communication	Shutter, trigger mode, readout mode, trigger input and polarity, gain, black level
Indicators on rear panel	LED for power and trigger input
Operating Temperature	-10°C to +45°C
Humidity (operation)	20 - 90% non-condensing
Storage temp./humidity	-25°C to +60°C / 20 to 90%
Vibration	10G (20Hz to 200 Hz XYZ)
Shock	70G
Regulations	CE (EN 61000-6-2, EN-61000-6-3), FCC part 15 class B, RoHS/WEEE
Power	12V DC ±10% 2.3 W
Lens mount	C-mount
Dimensions (H x W x L)	35 x 44 x 58 mm
Weight	200 g

Ordering Information

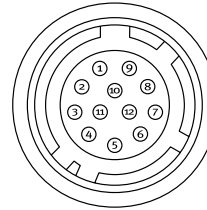
CV-A20 CL 2/3" Monochrome HDTV CMOS Camera
CV-A80 CL 2/3" Bayer Mosaic Color HDTV CMOS Camera

Principle for snapshot mode



Connector pin-out

DC In / Trigger



HIROSE HR10A-10R-12PB-01

- Pin
- 1 Ground
 - 2 +12V DC
 - 3 Ground
 - 4 Auto iris lens video output
 - 5 Ground
 - 6 RXD RS 232C*
 - 7 TXD RS 232C*
 - 8 Ground
 - 9 XEEN out. (Strobe out)
 - 10 Trigger input (TTL)*
 - 11 N/C
 - 12 Ground

Camera Link Interface

26 pin MDR connector 3M 10226-1A10JL

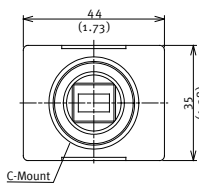


Pin	Signal	Function
1 14	GND	
2 15	+/-Tx0	CL Data
3 16	+/-Tx1	CL Data
4 17	+/-Tx2	CL Data
5 18	+/-Txclk	CL clk
6 19	+/-Tx3	CL Data
7 20	SerTC+/SerTC-	Serial in*
8 21	SerTFG+/SerTFG-	Serial out*
9 22	CC1-/CC1+	Ext. trig*
10 23	CC2+/CC2-	Not used
11 24	CC3-/CC3+	Not used
12 25	CC4+/CC4-	Not used
13 26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

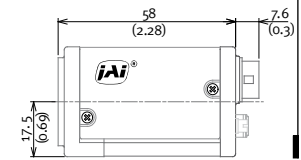
Camera Link base configuration.
*) In 12 pin Hirose or Camera Link

Dimensions

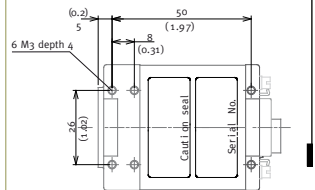
Front view



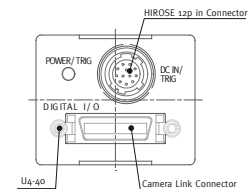
Side view



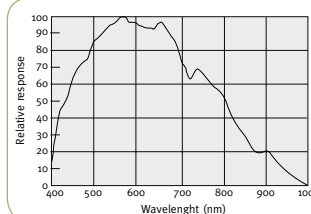
Bottom view



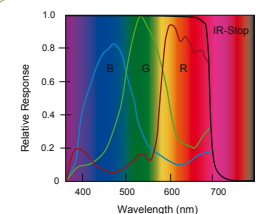
Rear view



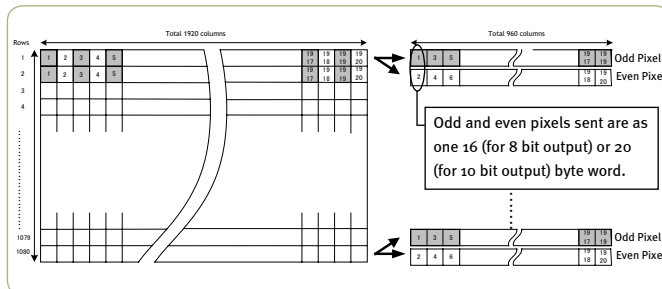
Spectral Response CV-A20 CL



Spectral Response CV-A80 CL



Principle for interleaved pixel output



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