CV-M71 A
Progressive Scan RGB Color Camera

PRELIMINARY

- *Compact 1/2" progressive scan RGB color camera*
- *RGB primary color mosaic CCD (Bayer) with internal RGB interpolation*
- *782 (h) x 582 (v) 8.3 µm square pixels*
- *60 fps with full resolution*
- *250 fps with 1/8 partial scan*
- *Analog RGB video output*
- *10 bit internal processing and RGB interpolation*
- *High speed shutter from 1/60 to 1/300,000 second*
- *Edge pre-select, pulse width and RCT trigger modes*
- *Programmable exposure, auto shutter and smearless readout*
- *HD synchronous or asynchronous accumulation*
- *Fixed, manual or one-push white balance*
- *Auto-iris lens video output, auto shutter and AGC allow a wider light range*
- *Setup by Windows NT/2000/XP software via RS 232C*

Serial Interface RS 232C Control Tool

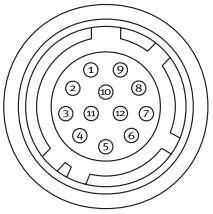
Specifications for CV-M71 A

PRELIMINARY

Specifications	CV-M71 A
Scanning system	Progressive scan
Pixel clock	36.15 MHz
Line frequency	37.5 kHz (964 pixels clock/line)
CCD sensor	1/2" progressive scan color
Sensing area	6.4 (h) x 4.8 (v) mm
Cell size	8.3 (h) x 8.3(v) µm
Effective pixels	782 (h) x 582 (v)
Pixels in video output Full 1/2 partial 1/4 partial 1/8 partial	 767 (h) x 576 (v) 60 fps 767 (h) x 287 (v) 112 fps 767 (h) x 143 (v) 177 fps 767 (h) x 71 (v) 250 fps
Sensitivity on sensor	1.3 Lux (Max. gain, 50% video)
S/N ratio	>54 dB (on G)
Video output	RGB 0.7 Vpp
Auto-iris lens video output	0.7 Vpp
Gain	Manual -3 to +12 dB Automatic –3 to +9dB
Gamma	1.0
Synchronization	Int. X-tal. Ext. HD/VD or random trigger
Ext HD/VD input	4 V ±2 V. TTL or 75 Ω terminated
Ext. trigger Input	4 V ±2 V. TTL or 75 Ω terminated
HD/VD output	4V from 75 Ω
Composite sync output	4V from 75 Ω
Outputs	Pixel clock, XEEN and WEN 4V from 75 Ω
Trigger modes	Continuous, Edge pre-select, Pulse width control and Reset continuous trigger (RCT)
Accumulation	HD synchronous or asynchronous
Shutter speed EPS	1/60 to 1/300,000 second
Programmable exposure	1/8 line to 625 lines. (3.3 µs to 16.7 ms)
Pulse width control	2 lines to 120 frames. (33 µs to 2 s)
Auto shutter range	1/60 to 1/25,000
Readout modes	Partial scan. Full, 1/2, 1/4, 1/8 Smearless
Control interface	RS 232C
Functions controlled by RS 232C	Shutter, Trigger, Scanning, Readout, Polarity, Black level, Gain, White balance
Operating temperature	-5°C to +45°C
Humidity	20 – 80% non-condensing
Storage temp./humidity	-25°C to +60°C/20% to 90%
Vibration	10G (20Hz to 200Hz XYZ)
Shock	70G
Regulations	CE (EN50081-1 and EN50082-2), FCC part 15 class B
Power	12V DC ± 10%. 5 W
Lens mount	C-mount
Dimensions	40 x 50 x 90 mm (HxWxD)
Weight	240g

Connection description

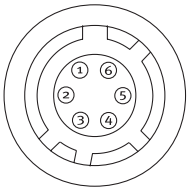
DC In / Trigger



HIROSE HR10A-10R-12PB-01

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

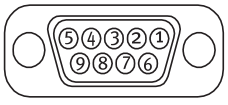
RS 232C/TRIGGER



HIROSE HR 10A-7R-6P. Male

Pin 1 TXD
2 RXD
3 Ground
4 NC/Ground
5 Trigger input
6 WEN output

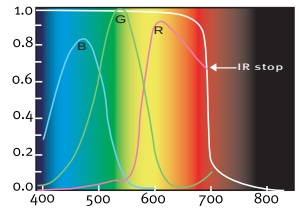
RGB VIDEO OUTPUT



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*)

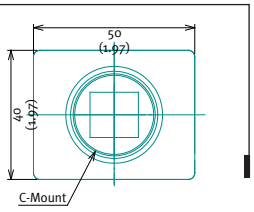
** Option by internal setting*

Spectral Sensitivity

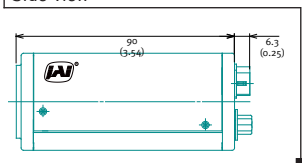


Dimensions

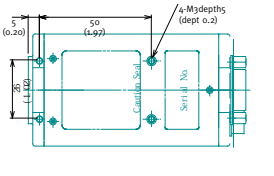
Front view



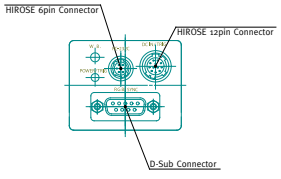
Side view



Bottom view



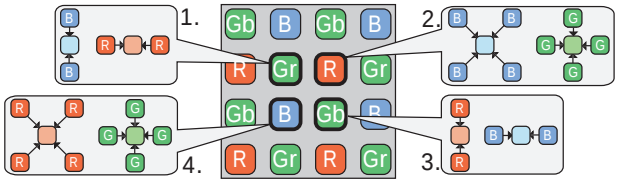
Rear view



Color Interpolation

The principle of Bayer RGB mosaic color interpolation.

1. Red and blue interpolation in Gr
2. Blue and green interpolation in R
3. Red and blue interpolation in Gb
4. Green and red interpolation in B



Ordering Information

CV-M71 A 1/2"
Progressive Scan RGB Color Camera

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