



CV-A33 CL

Digital Quad Speed Progressive Scan Camera



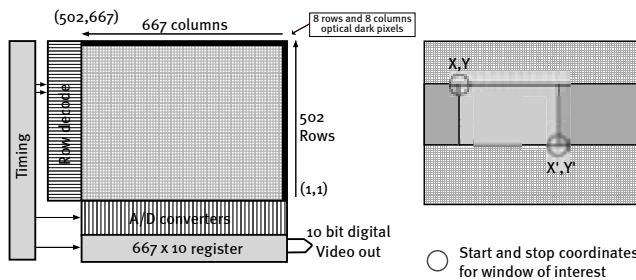
- *1/2" progressive scan monochrome CMOS sensor*
- *659 (h) x 493 (v) 9.9 μ m square pixels*
- *118 frames/second at full resolution*
- *10 bit video output as Camera Link*
- *400 frames/second for 659 (h) x 120 (v) pixels (example)*
- *4953 frames/second for 659 (h) x 3 (v) pixels*
- *Programmable X and Y origin and size for window of interest*
- *Edge pre-select (EPS) and pulse width control (PWC) trigger modes*
- *Global shutter for simultaneous full frame exposure*
- *Programmable shutter from 18.6 μ sec. to 8.3 msec.*
- *A-series platform*
- *Accepts standard C-mount lenses*
- *Short ASCII commands for fast mode setup via serial port*
- *Setup by Windows 98/NT/2000 software via RS 232C or Camera Link*

The leading manufacturer of high performance camera solutions

Specifications for CV-A33 CL

| Specifications | CV-A33 CL |
|------------------------------------|---|
| Scanning system | Progressive scan |
| Pixel clock | 40 MHz |
| Line frequency | 59.44 kHz (673 pixel clock/line) |
| Frame rate for full frame | 118.4 frames/sec. (502 lines/frame) |
| CCD sensor | 1/2" progressive scan monochrome CMOS image sensor |
| Sensing area | 6.61 (h) x 4.97 (v) mm |
| Cell size | 9.9 (h) x 9.9 (v) μ m |
| Effective pixels | 667 (h) x 502 (v) |
| Pixels in video output | |
| Full | 659 (h) x 493 (v) 118.4 frames / sec. |
| Min. window size | 2 (h) x 3 (v) 4953 frames / sec. |
| Sensitivity on sensor | 1.2 Lux, Max. gain, 50% video |
| S/N ratio | >45 dB |
| Digital video output | 10/8 bits in Camera Link |
| Gain | Remote |
| Gain range | +0 to +15 dB |
| Synchronization | Int. X-tal. Ext. random trigger |
| Inputs | Camera Link TTL Ext. trigger Ext. trigger TTL 4 \pm 2 V |
| Outputs | Camera Link TTL Pixel clock, LVAL, FVAL, DVAL, EEN EEN |
| Control interface | TXD and RXD via RS 232C TXD and RXD via Camera Link |
| Trigger modes | Continuous, Edge pre-select, Pulse width control |
| Exposure | LVAL-asynchronous |
| Shutter | Global (simultaneous exposure for all pixels) |
| Readout modes | Full Partial as user selectable window |
| Shutter speed (fixed) | 1/120 through 1/20,000 seconds |
| Programmable exposure | 1 LVAL to 493 LVAL (16.8 μ sec. to 8.3 msec.) |
| Pulse width control | >1H to ∞ (>16.8 μ sec.) < 1 sec. recommended |
| Partial readout window of interest | X origin, Y origin X width, Y height in 1 pixel increments |
| Functions controlled by RS 232C | Shutter, Trigger, Scanning, Readout, Trigger input, Black level and Gain |
| Operating temperature | -5°C to +45°C |
| Humidity | 20 - 80% non-condensing |
| Storage temp./humidity | -25°C to 60°C / 20% - 90% |
| Power | 12V DC \pm 10%. 2.5 W |
| Lens mount | C-mount |
| Dimensions | 35 x 44 x 58 mm (HxWxD) |
| Weight | 120g |

Sensor layout - Window of interest function



Connection Description

DC-IN/TRIGGER

HIROSE HR10A-10R-12PB-01

| | | |
|-----|----|----------------------|
| Pin | 1 | Ground |
| | 2 | +12V DC |
| | 3 | Ground |
| | 4 | N/C |
| | 5 | Ground |
| | 6 | RXD RS 232C * |
| | 7 | TXD RS 232C * |
| | 8 | Ground |
| | 9 | EEN output |
| | 10 | Trigger input (TTL)* |
| | 11 | N/C |
| | 12 | Ground |

Camera Link interface

26 pin MDR connector
3M 10226-1A10JL

Digital I/O

| Pin | Signal | Function | |
|-----|--------|-----------------------------------|-------------|
| 1 | 14 | GND | |
| 2 | 15 | X ₀ -/X ₀ + | CL Data |
| 3 | 16 | X ₁ -/X ₁ + | CL Data |
| 4 | 17 | X ₂ -/X ₂ + | CL Data |
| 5 | 18 | Xclk-/Xclk+ | CL Clk |
| 6 | 19 | X ₃ -/X ₃ + | CL Data |
| 7 | 20 | SerTC-/SerTC+ | Serial in* |
| 8 | 21 | SerTFG-/SerTFG+ | Serial out* |
| 9 | 22 | CC1-/CC1+ | Trigger* |
| 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 CL or Hirose 12-pin connector

Quantum Efficiency

Dimensions

Front view

Top view

Side view

Bottom view

Rear view

Ordering Information

CV-A33 CL 1/2" Digital Quad Speed Progressive Scan Camera

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