

CMOS Camera

MV-D1024E-PP01-40-CL-8

1 Megapixel camera with extended image preprocessing options

Features

- Photonfocus A1024B CMOS image sensor
- 1024 x 1024 pixel resolution
- Real time image preprocessing on camera FPGA
- Dynamic range up to 120 dB via LinLog®
- Up to 37 fps @ full resolution
- Global shutter
- Monochrome
- CameraLink® interface
- 12 bit greyscale resolution



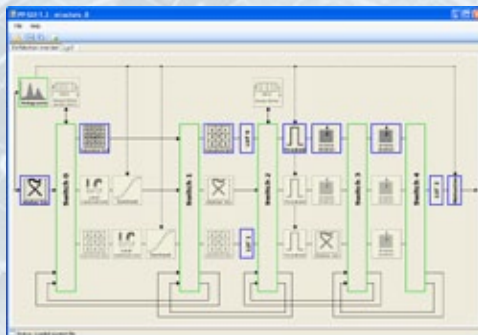
Pixel
Professor

Lin
Log

CAMERA
Link

Advantages

- Reduction of vision system computer CPU load
- Removed reliance on specialised framegrabber or HW accelerators
- Pixel Professor™ Lab a free GUI for easy graphical programming of the camera FPGA
- Common image preprocessing operators (e.g. Median, Convolver 3x3, ...)



Pixel Professor™ Lab GUI

www.adept.net.au

MV-D1024E-PP01-40-CL-8

Image sensor

| | |
|---------------------------|--|
| Image sensor | Photonfocus A1024B (2. Generation) |
| Technology | CMOS active pixel (APS) |
| Scanning system | Progressive scan |
| Optical format / diagonal | 1" (15.42 mm diagonal) |
| Resolution | 1024 x 1024 pixels |
| Pixel size | 10.6 µm x 10.6 µm |
| Active optical area | 10.9 mm x 10.9 mm (maximum) |
| Dark current | 2 fA/pixel @ 30°C |
| Full well capacity | ~200 ke ⁻ |
| Spectral range | < 400 to 900 nm |
| Responsivity | 120 x 10 ³ DN / (J/m ²) @ 610 nm / 8 bit / gain = 1 (approximately 350 DN / (lux s) @ 610 nm / 8 bit / gain = 1) |
| Quantum Efficiency | 45 % @ 550 nm |
| Optical fill factor | 35 % (geometrical) |
| Dynamic range | 60 dB in linear mode; 120 dB with LinLog® |
| Colour format | Monochrome |
| Characteristic curve | Linear, LinLog®, Skimming |
| Shutter mode | Global shutter |
| Read out mode | Sequential or simultaneous read out (read out during exposure) |

Camera

| | |
|---------------------------|--|
| Exposure time | 10 µs ... 0.41 s / 25 ns steps |
| Frame rate | 37 fps |
| Pixel clock | 40 MHz |
| Camera taps | 1 |
| Greyscale resolution | 8 bit |
| Fixed pattern noise (FPN) | < 1 DN RMS @ 8 bit / gain = 1 / offset correction ON |
| Analogue gain | 1 |
| Digital gain | 1 / 2 / 4 |
| Configuration interface | CL SERIAL (9600 Baud) |
| Trigger modes | <ul style="list-style-type: none"> Free running (non triggered) Interface trigger External trigger input |
| Features | <ul style="list-style-type: none"> Region of Interest (ROI) 16 Multiple ROI (MROI) Decimation X and Y Image correction Look-up table (LUT) Constant frame rate Image information Convolvers Median Filters Pixel arithmetic Pipeline Processors Extended trigger input and strobe output functionality |
| Interface | CameraLink® Base |
| Operating temperature | 0°C ... +60°C |
| Power supply | +12 V DC (±10%) |
| Power consumption | 2.6 W |
| Lens mount | C-Mount (CS-Mount optional) |
| Dimensions (H x W x L) | 55 x 55 x 40 mm ³ |
| Mass | 220 g |
| Conformity | CE / RoHS / WEEE |
| Specials | Adjustable backfocus; Opto-isolated I/Os |

Software

| | |
|--------------------------------|---|
| Camera control | PFRremote™ graphical user interface (GUI) and PFLib (SDK) |
| Pixel Professor™ configuration | Pixel Professor™ Lab |
| OS | win2k; winxp; winvista; other OS (Linux, QNX, etc) on request |

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