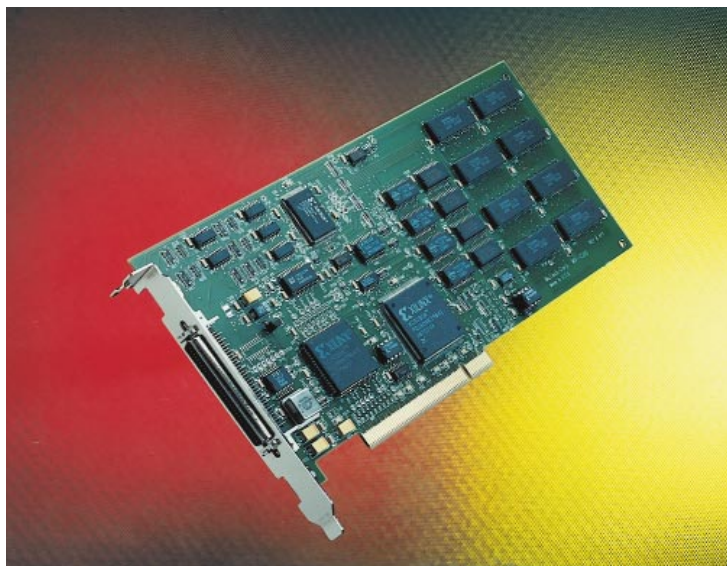


# MV-1500

## M-Vision 1500



**16 bit RS-422 Digital Camera Interface  
for area and line scan cameras**

The M-Vision 1500 [MV-1500] is a single slot 3/4 length board with a PCI (Peripheral Component Interconnect) bus interface. The MV-1500 interfaces to a wide range of digital video cameras at rates up to 40 million pixels per second. The digital video is stored in on-board VRAM or transferred in real time to system memory and/or the VGA card for display.

The M-Vision 1500 (MV-1500) supports up to 16 bit differential standard RS-422 or low voltage inputs. An AIA standard DB68 connector is used to interface signals to the MV-1500. The MV-1500 can accept interlaced or non-interlaced data, and subsample X2 or X4.

The 1 Mbyte VRAM memory of the MV-1500 may be expanded to 2 or 4 Mbytes. The on-board memory is organized as a continuous memory array, that can accept up to 16 K eight-bit pixels per line (or 8K sixteen bit pixels). On board output look up tables (LUTs) can be configured as either 8 bit in and 8 bit out or 10 bit in 8 bit out. On board hardware allows real time display of 8 bits from 10 and 12 bit cameras.

### Applications

- Machine/Industrial Vision
- Image Analysis
- Medical Imaging
- Motion Analysis

### Features

- Single slot PCI bus frame grabber
- 0-40 M pixels/second interface
- External I/O controls
- Configurable memory
- Plug and play auto configuration
- Slave and master mode data transfer

### Software

All boards come with DOS and Windows utilities that allow the user to grab and save images in .TIF, .TGA, .BMP, file formats. The M-Vision 1500 line supports DOS, Windows 3.x, Windows NT, Windows 98, Windows 95, OS/2, and Linux operating systems.

## 16 bit RS-422 Digital Camera Interface for area and line scan cameras



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The PCI bus interface used by the MuTech M-Vision 1500 has a number of distinct architectural advantages that benefit video image capture when working at high frame rates or high spatial resolution. The M-Vision 1500 has been designed to sustain maximum PCI bus throughput, which on a suitably equipped PC could reach 55 Mbytes per second to system RAM. MuTech's PCI interface is contained in a company developed FPGA and has been designed to generate one interrupt per frame transfer, unlike other PCI interfaces that generate an interrupt per line (or more). And it can do so without contending with the system processor or other high speed peripherals, such as SCSI disk controllers. The MV-1500 also provides the most flexible and complete camera control signals in either RS-422 or TTL formats. These control the reset, exposure, and timing of a wide range of cameras.

### HARDWARE SPECIFICATIONS: M-Vision 1500

#### Controls

- All control registers are PCI memory mapped
- Status register (vertical sync, field, and external trigger)
- Programmable interrupt request
- General purpose control signals (e.g. asynchronous reset)
- Master and slave mode data transfers

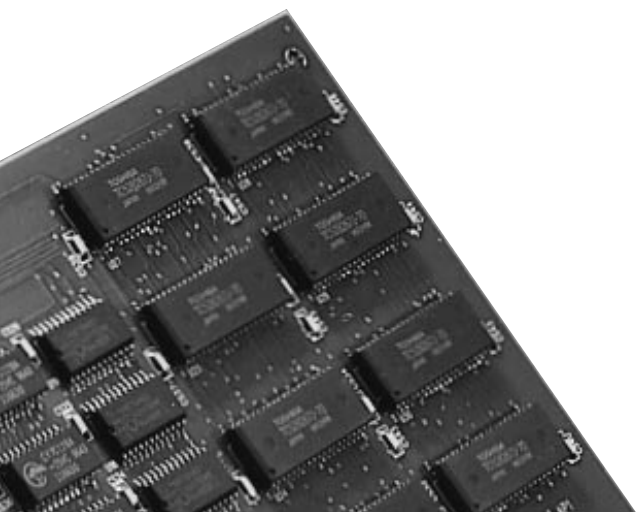
#### Inputs Supported

- Line enable
- Field/frame enable
- Field flag
- Pixel clock up to 40 MHz
- Separate grab trigger and control signal trigger
- Supports EIA422 standard (and low voltage)
- 8/16 bit differential input @ up to 40 MHz

#### Outputs Available

- 2x High speed general purpose control (e.g. for strobes)
- 3x Static camera controls
- Master clock
- Horizontal drive/line start (TTL/differential)
- Vertical drive/frame start (TTL/differential)
- Integration control, shutter/exposure control

Specifications subject to change without notice.



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