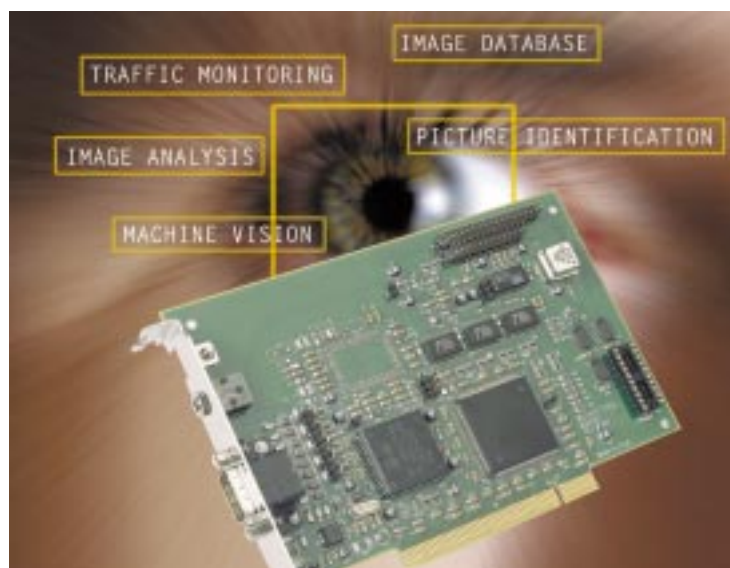**μTECH**
MuTech Corporation

# MV-510
## M-Vision 510



**M-Vision 510 PCI High Precision, Monochrome Frame Grabber**

The M-Vision 510 is a high precision,monochrome frame grabber, capable of digitizing video and transferring the digital data to system memory or the VGA display in real time. The M-Vision 510 has an optimally designed monochrome front end providing low noise, wide dynamic range and high precision digitization. It has a 10-bit A/D converter with 3 independent controls for top, bottom and clamping. All 3 controls can be adjusted to 256 steps. The M-Vision 510 is a surface mount 1/3 size (160mm) PCI card that captures composite RS-170/CCIR or progressive scan video. A trigger input allows detection of an event and generates an interrupt to grab the video. Video is captured at 30 frames per second (NTSC) or 25 frames per second (PAL).

*Host Interface:* The M-Vision 510 is PCI 2.1 compliant and transfers data at up to 132 Mbytes/second over the PCI bus either to system memory or directly to the VGA card. Either way, real time display of the video is shown on the VGA monitor. There are two pixel formats through the DMA channel, selectable by software. The 8-bit per pixel mode provides less data to transfer and faster processing while being easily handled in any of the standard monochrome file formats. The 16-bit per pixel mode (with dummy U and V values) provides data ready to be loaded into a Direct Draw Overlay Surface, so that graphics and text can be displayed non-destructively on top of the video. The M-Vision 510 supports scatter/gather under Windows so that addresses can be generated and stored and one interrupt per field/frame serviced.

*Video Interface Port:* The M-Vision 510 has a VESA standard Video Interface Port (VIP) that can connect to a compatible VGA card via a ribbon cable. Video is then passed over the VIP and displayed on the VGA under Direct Draw without burdening either the processor or the PCI bus.

**Applications**

- **Traffic Monitoring**
- **Machine Vision**
- **Image Analysis**

**Features**

- **Low Cost/Non-VGA**
- **Up to 132 Mbytes/second master mode transfer**
- **Scatter/Gather DMA Controller**
- **1/3 size PCI 2.1 compliant board**
- **High Precision monochrome A/D**
- **Image mirroring**
- **RS-170/CCIR, progressive scan**
- **VIP interface to VGA**
- **I/O trigger, event, strobe**
- **Interpolated, non-integer ratio scaling**
- **Software Development Kit**

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*Display Video and Graphics Mixing:* Real time video can be displayed on the computer VGA screen at 30 fps (25 fps for PAL) or 60 fields per second (50 fields/second for PAL) either by transferring to system memory and then moving the data to the VGA, or by moving the data over the PCI bus directly to the VGA, or by sending the data over the Video Interface Port (VIP). Non-destructive graphic overlays can be done using the VIP directly to the VGA in real time.

*External I/O:* The M-Vision 510 accepts two TTL level signals for trigger and event, generates an interrupt and immediately grabs the next field/frame. A programmable TTL output can be used to control a strobe or camera integration.

*Software:* All boards come with a software utility under DOS, Windows 95/98 and Windows NT allowing the user to grab, display, freeze, save (as .tif, .tga, or .bmp) or recall images. TWAIN and MCI drivers are provided for Windows 95/98 and Windows NT. A software developer's kit is available allowing control of all board functions. DirectDraw is fully supported for display and overlay of text and graphics.

## SPECIFICATIONS: M-Vision 510

### Video Input

- **RS-170/CCIR**
- **Non-interlaced, progressive scan**
- **4 software selectable inputs**
- **Input LUT 256x8**
- **Programmable resolution**
- **Programmable Top, Bottom and Clamping levels**
- **Programmable Gain/Offset**
- **DB-15 HD male connector**

### I/O Controls

- **Two TTL inputs (Event/Trigger) w/interrupts**
- **One software controlled TTL output for strobe/camera control**
- **Camera Power: +12V @500 ma provided**

### Host Interface

- **PCI 2.1 compliant**
- **Up to 132 Mbytes/second transfer to**
- **system memory or VGA**
- **Scatter/gather DMA**
- **Video Format 8 bits per pixel or 16 bits per pixel**
- **Interrupts for end of frame/field, trigger, and event inputs**
- **Interpolated scaling in x and/or y directions**
- **Cropping for ROI processing**

### Video and Graphics

- **VIP (VPE) interface to VGA**
- **Real time display with VGA card**
- **DirectDraw fully supported**

*Specifications subject to change without notice*