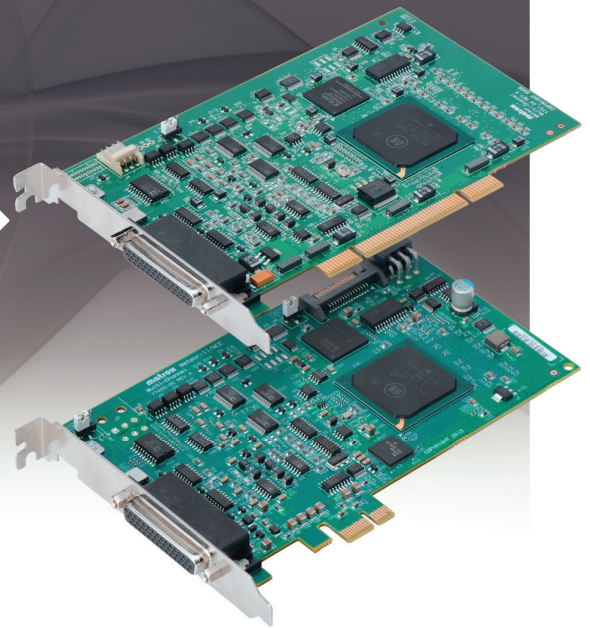# Matrox **Meteor-II/Multi-Channel** ⟫

Low-cost frame grabber for monochrome or component RGB interlaced or progressive scan video acquisition.

Benefits

PCIe® or conventional PCI form factor

captures from interlaced or progressive scan component RGB and single or dual channel monochrome analog video sources

sampling rates up to 30 MHz

three 256 x 8-bit LUTs

connect two RGB or up to six monochrome video sources

trigger input and timer outputs

real-time transfer to system or VGA memory

extensive on-board buffering for reliable capture

support for packed or planar transfers of color or multiple monochrome streams

power output and RS-232 serial interface

programmed using Matrox Imaging Library (MIL) sold separately

supports 32-bit Microsoft® Windows® XP/7

Matrox Meteor-II/Multi-Channel

Matrox Meteor-II/Multi-Channel is part of the Matrox Meteor-II family of high performance frame grabbers for cost sensitive applications. Designed to capture from standard or variable analog monochrome frame scan sources, it specifically supports acquisition from single-channel interlaced or progressive scan monochrome cameras as well as component RGB frame scan and dual-channel progressive scan monochrome cameras. Matrox Meteor-II/Multi-Channel combines extensive functionality with unprecedented value in a frame grabber. OEMs and integrators use this technology to build powerful, yet cost-effective PC-based imaging systems

VIA: At the heart of the Matrox Meteor-II family

Common to all Matrox Meteor-II boards is the custom-designed Matrox Video Interface ASIC (VIA). It is a sophisticated memory controller for managing real-time acquisition into on-board memory with advanced reformatting capabilities and, in parallel, streaming image data out over the PCIe®/PCI bus without requiring constant host CPU intervention.

Real-time capture to system or display

Matrox Meteor-II/Multi-Channel can transfer acquired images to either system (host CPU) memory for processing or display (VGA) memory for live video-in-a-window at sustained rates up to 130 MB/second.

MATROX
IMAGING

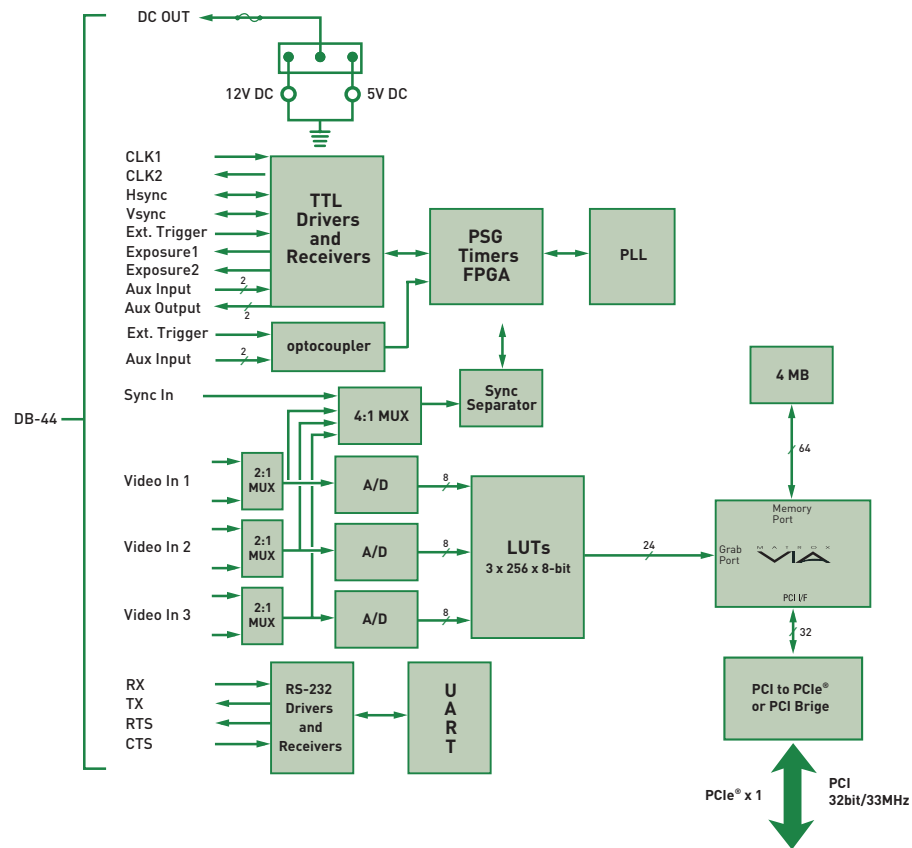## Matrox Meteor-II/Multi-Channel

Image formatting

Image data can be reformatted by Matrox VIA in real-time prior to transfer to host system or display. Features of Matrox VIA include cropping (ROI capture), independent horizontal and vertical sub-sampling from 2 to 16 (by decimation).

Matrox VIA can also perform reformatting operations specifically designed for reconstructing images from multi-tap cameras in real-time. Image data presented simultaneously in either odd/even pixel, odd/even line, opposite scan segments or a combination, can be re-ordered into a proper image with little or no host CPU involvement.

Power output

Matrox Meteor-II/Multi-Channel can supply 5 or 12V DC power to cameras. Power is taken directly from the PC power supply, preventing any overload to the PCIe®/PCI bus.

RS-232 serial interface

Matrox Meteor-II/Multi-Channel features an RS-232 serial interface to enable remote programming of a camera (i.e., gain, gamma control, operation mode), motion control unit or PLC.

Choice of bus interfaces

PCIe® x1 and conventional PCI (32-bit/33MHz) are the interfaces available to connect the Matrox Meteor-II/Multi-Channel frame grabber board to the host PC. While conventional PCI provides legacy support, PCIe® extends compatibility to newer PCs.

Extensive buffering ensures reliable real-time transfer of incoming image data to host memory even under high bus latency conditions, which typically occurs in systems with concurrent image capture, display, graphics, network access, disk access and general external I/O. The interface supports image data sub-sampling from 2 to 16 (by decimation) to further reduce required bus bandwidth.

The interface also supports packed or planar transfers of color or multiple monochrome streams. Acquisition-related events such as start and end of frame, and field or sequence capture can be routed to the host CPU as interrupts to optimize concurrent acquisition and processing (double-buffering).

Field proven application development software

Matrox Meteor-II/Multi-Channel is supported by the Matrox Imaging Library (MIL), a comprehensive collection of software tools for developing industrial imaging applications. MIL features interactive software and programming functions for image capture, processing, analysis, annotation, display and archiving. These tools are designed to enhance productivity, thereby reducing the time and effort required to bring your solution to market. Refer to the MIL datasheet for more information.

Specifications

Acquisition

- up to three-channels analog variable frame scan
- monochrome or RGB interlaced or progressive scan
- sampling rate up to 30 MHz
- SNR of 47 dB
- pixel jitter of ± 1.5 ns
- variable gain amplifier
- 10 MHz input low pass filter
- adjustable ADC references
- three 256 x 8-bit programmable LUTs
- separate TTL pclk (in and out), hsync (in or out), vsync (in or out) and two timer (exposure) outputs
- two opto-isolated differential auxiliary inputs and two TTL auxiliary inputs and outputs
- opto-isolated differential and TTL trigger inputs (synchronous and asynchronous to video)
- connect and switch between 2 RGB or up to 6 monochrome sources

Formatting

- input cropping (ROI capture)
- independent horizontal and vertical sub-sampling from 2 to 16 (by decimation)

RS-232 interface

- supports RX, TX, RTS and CTS signals
- not visible to OS (controlled through MIL API)

Power output

- 5V DC (SATA or 6-pin connector)
- 12V DC (6-pin connector)

Host interface

- PCIe®x1 or 32-bit/33MHz conventional PCI
- up to 130 MB/second sustained
- 4 MB buffer
- support for packed or planar image data formats
- independent horizontal and vertical sub-sampling both from 2 to 16 (by decimation)
- interrupts for start and end of field, frame and sequence capture

Specifications (Cont.)

Dimensions and environmental information

- 16.5 L x 10.67 H cm (6.5" x 4.2")
- operating temperature: 0° C to 55° C (32° F to 131° F)
- relative humidity: up to 95% (non-condensing)
- FCC class A
- CE class A
- RoHS-compliant

Software Driver

- Matrox Imaging Library (MIL) driver for 32-bit Microsoft® Windows® XP/7

Ordering Information

Hardware

Part number & Description	
METEOR2-MC/4E*	Standard/non-standard 3-channel analog RGB/monochrome PCIe® x1 frame grabber.
METEOR2-MC/4*	Standard/non-standard 3-channel analog RGB/monochrome PCI frame grabber.

Input cables

Part number & Description	
DBHD44-TO-8BNC	2.13 m (7') input cable, high density DB-44 to eight BNCs.
DH44-TO-8BNC/0	1.82 m (6') input cable, high density DB-44 to eight BNCs and open end (to access sync. and control signals).

Software

Refer to MIL datasheet.
Contact Matrox Imaging or your local representative for more information.

For more information, please call: 1-800-804-6243 (toll free in North America) or (514) 822-6020
or e-mail: imaging.info@matrox.com or http://www.matrox.com/imaging

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