High-quality, low-cost PCI color and monochrome frame grabber with real-time transfer to system or display memory [1]

Matrox Meteor

Key Features:

- captures NTSC/PAL/SECAM, RS-170/CCIR and standard RGB

- single slot PCI frame grabber

- real-time transfer to system or display RAM[1]

- multiple video inputs (up to 4 channels)

- high-quality video scaling unit

- stable synchronization

- live video-in-a-window

- works with Matrox MGA Millennium-II or any VGA

- available software includes Matrox Imaging Library (MIL), MIL-Lite/ ActiveMIL-Lite and Matrox Inspector

- support for Windows NT, Windows 95, and DOS4GW 32-bit DOS extender

Applications:

- Security
- Biomedical Analysis
- Identification Systems
- Traffic Control
- Microscopy
- Inspection and Process Control
- Robotics
- Color Verification
- Medical Visualization
- Machine Vision
- Image Analysis

Matrox Meteor is a PCI frame grabber specifically designed as a low-cost solution for real-time transfer of images directly to host or display RAM.[1]

Matrox Meteor

Matrox Meteor is a high-quality color and monochrome PCI frame grabber that provides real-time image transfer to host, video-in-a-window, and support for the Matrox Imaging Library (MIL) and Matrox Inspector interactive imaging software, all at an unbelievably low price. OEMs and integrators can develop powerful, yet cost-effective, host-based machine vision, image analysis and medical imaging systems.

Real-Time Transfers

Matrox Meteor transfers image data in real time to the CPU RAM for processing or the display buffer for real-time display. Matrox Meteor is capable of up to 45 MB/sec transfers.

Acquisition

Matrox Meteor comes in two versions:

Matrox Meteor
The base version captures standard color and monochrome video:

- Composite or Y/C (S-Video: S-VHS, Hi8)
- RS-170 (640 x 480) / CCIR (768 x 576)
- NTSC (640 x 480) / PAL (768 x 576) / SECAM (768 x 576)
  Up to four software-selectable video input channels are available.

Matrox Meteor/RGB
In addition to capturing standard video, the RGB model supports 24-bit color grabbing from a standard RGB camera, providing independent control of gain and offset for the R, G, and B channels. Matrox Meteor/RGB also comes with a TTL trigger input[2] to synchronize acquisition to an external event.

Video Adjustment
The incoming video stream can be tuned through software adjustable brightness, contrast, hue, and saturation.

Stable Synchronization

Matrox Meteor provides excellent synchronization even when grabbing from still video cameras and VCRs in playback and pause modes.

Video-in-a-Window

Matrox Meteor provides high-quality live video-in-a-window display. The window can be scaled down to any size and positioned anywhere on the screen.

Flexible Data Formats

The Digital Video to PCI Interface unit supports various data transfer formats (8-bit mono, 15-bit and 24-bit RGB).

Multiple Board Support

Multiple boards can be supported in a single PC. The maximum number is system and application specific[3].

Display

Matrox Meteor will work with the Matrox MGA Millennium-II for real-time display or any VGA for pseudo real-time display.

Software

Matrox Imaging Library (MIL)
MIL is a high-level 'C' library with commands for image processing, pattern matching, blob analysis, gauging/measurement and OCR, as well as image acquisition, transfer, and display. MIL has been designed to fully exploit the power of Intel MMX™ technology.

MIL-Lite Development Library
MIL-Lite is a 'C' development library with commands for image acquisition, transfer, and display.

MATROX METEOR

Software (continued)

New! ActiveMIL-Lite
For even faster Windows application development, MIL-Lite comes bundled with ActiveMIL-Lite, a collection of ActiveX controls (OCXs) for managing image capture, transfer and display.

Supported Environments
MIL/MIL-Lite supports Windows NT/95 (as DLL), as well as DOS4GW 32-bit DOS extender (as standard LIB). Active MIL-Lite supports Windows NT/95 (as OCXs).
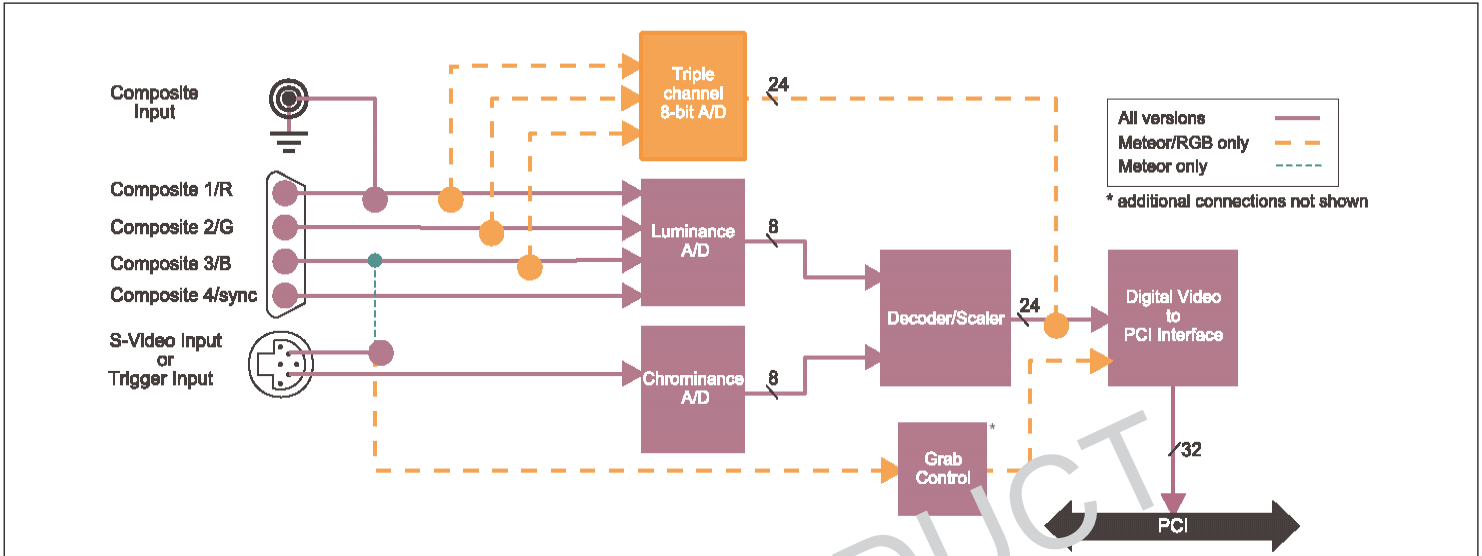
Matrox Inspector
Matrox Inspector is Windows-based software that offers interactive access to an extensive set of imaging operations.

Matrox Intelicam Camera Configuration Utility
This Windows-based utility (provided with MIL/MIL-Lite) offers an interactive environment to quickly interface Matrox hardware to any video device.

Matrox Meteor Block Diagram

Specifications

Acquisition
- Software selectable video input (up to four channels)
- Programmable hue, brightness, contrast, and saturation
- Matrox Meteor: standard color and monochrome video (NTSC/PAL/SECAM, RS-170/CCIR, Composite or Y/C)
- Matrox Meteor/RGB: standard color and monochrome video and RGB (Gain and offset adjustable on each channel)
- Pixel Jitter: ± 3ns (typical)

Scaling unit
- scale down to any size

Real-time transfers
Depending on system or VGA card used:
- up to 45 MB/sec
Note: Real-time acquisition to system or display memory requires:
  - 9 MB/sec for 640 x 480 x 8 @ 30 fps RS-170
  - 11 MB/sec for 768 x 576 x 8 @ 25 fps CCIR
  - 35 MB/sec for 640 x 480 x 24 @ 30 fps NTSC or RGB
  - 42 MB/sec for 768 x 576 x 24 @ 25 fps PAL or RGB

Interface and connectors
- PCI 32-bit interface
- Video input connector (DB9 for composite or RGB inputs)
- Separate Y/C input connector (4 pin mini din)
- Phono Jack for composite input

Connector pinouts
- Video in:
pin 1	Composite 1 or	Red
pin 2	Composite 2 or	Green
pin 3	Composite 3/or Luma in or	Blue
pin 4	Composite 4 or Composite Sync	
pin 5	Ground	
pin 6	Ground	
pin 7	Ground	
pin 8	Ground	
pin 9	Ground	
- Y/C in:
  - pin 1   Ground
  - pin 2   Ground
  - pin 3   Y (Luma) In (Meteor)/Trigger In (Meteor/RGB)
  - pin 4   C (Chroma) In
- Phono Jack in:
  - pin 1   Composite 1
  - pin 2   Ground

Environmental
- Power consumption < 7.5 Watts
- Card size is 23.55 cm x 10.55 cm (9.3" x 4.2")
- Operating temperature from 0 to 55ºC (32 to 131ºF)
- Relative humidity: up to 95% (non-condensing)

Software Environments

	DOS	Windows NT/95
MIL/MIL-Lite	Watcom C++ (as LIB)	MS Visual C++ and Borland C++ (as DLL)
ActiveMIL-Lite	not applicable	MS Visual Basic, MS Visual C++ and Borland Delphi (as OCX)

Ordering Information

Part Number	Description
Hardware	
METEOR	standard video
METEOR/RGB	standard video and RGB

Software (sold separately)	
MIL-LITE/CD	MIL-Lite board control library
MIL-32/CD	Matrox Imaging Library (MIL)
INSPECTOR-32/CD	Matrox Inspector

Input cables (sold separately)	
PC-OCABLE-4	4' input cable, 4 BNCs to DB-9
PC-OCABLE-10	10' input cable, 4 BNCs to DB-9

Notes:
1. using Matrox MGA Millennium-II
2. replaces Y/C functionality
3. please contact Matrox Sales for more information

For more information, please call: **1-800-804-6243** (toll free in North America) or
(514) 969-6020 or e-mail: imaging.info@matrox.com or **http://www.matrox.com/imaging**