

Matrox Meteor-II/Multi-Channel

Camera Interface Application Note

SENTECH STC-1100b

July 22, 2002

Basics about the
camera

Mode of operations as
per Matrox Imaging (in
parentheses as per
camera manufacturer)

Basics about the
interface modes

Camera Descriptions

- $659 \times 494 \times 8\text{-bit}$ @ 30/60 fps.
- Single channel analog video output.
- Interlaced or progressive scan.
- Internal (composite) or external sync.
- Internal or external exposure control.
- 24.5454/12.2726 MHz pixel clock rate.

Interface Modes

- Continuous (Double speed)
- Asynchronous reset (One-pulse Variable Integration Shutter Trigger)

Camera Interface Briefs

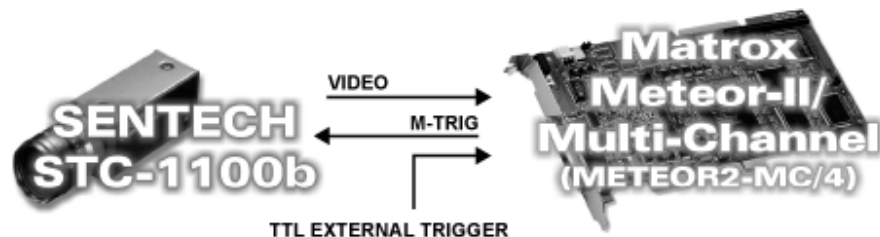
Mode 1: Continuous (Double speed)

- $640 \times 480 \times 8\text{-bit}$ @ 60 fps.
- Single channel analog video.
- Progressive scan.
- Matrox Meteor-II/Multi-Channel receiving video signals from camera.
- DCF used: STC1100b640x480ProgCon.DCF



Mode 2: Asynchronous Reset

- $640 \times 480 \times 8\text{-bit}$.
- Single channel analog video.
- Progressive scan.
- Matrox Meteor-II/Multi-Channel receiving TTL external trigger signal.
- Matrox Meteor-II/Multi-Channel sending EXPOSURE1 (M-TRIG IN) signal to camera to initiate and control exposure time.
- Matrox Meteor-II/Multi-Channel receiving video signals from camera.
- DCF used: STC1100b640x480ProgAsync.DCF



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Specifics about the
interface modes

Camera Interface Details

Mode 1: Continuous (Double speed)

- **Frame Rate:** Matrox Meteor-II/Multi-Channel receives the continuous video from the camera at 60 frames per second.
- **Exposure time:** Exposure time is inversely proportionate to the frame rate (no shutter) or determined by the shutter setting. Refer to the camera manual for more information.
- **Camera switch settings:** Refer to the camera manual for additional information. External and internal switches for this mode should be set as follows:

External DIP Switch settings									
1	2	3	4	5	6	7	8	9	10
ON	ON	OFF	ON	As desired (shutter speed)					OFF
Internal Sync. Mode Switch: Set to INTERNAL									

Mode 2: Asynchronous Reset

- **Frame rate:** The frame rate is determined by the frequency of the external trigger signal.
- **Exposure time:** The active and inactive period of the EXPOSURE1 (M-TRIG IN) signal is the exposure time. The default exposure time is equal to **6.4 ms**. The exposure time can be modified in the DCF using Matrox Intellicam or with the MIL MdigControl() function. Consult the respective manual for more information.
- **Minimum exposure width:** minimum EXPOSURE1 (M-TRIG IN) pulse width is equal to **50 ms**.
- **Camera switch settings:** Refer to the camera manual for additional information. Switches for this mode should be set as follows:

External DIP Switch settings									
1	2	3	4	5	6	7	8	9	10
ON	OFF	OFF	ON	ON	OFF	OFF	OFF	OFF	OFF
Internal Sync. Mode Switch: Set to INTERNAL									

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Cabling details for the
interface modes

Cabling Requirements

Mode 1: Continuous (Double speed)

- **Cable:** DH44-TO-8BNC/O (open ended) cable required for video, synchronization and control signals.
- **Connection:** Connections between the 12-pin connector of the camera and the 44-pin connector of the Matrox Meteor-II/Multi-Channel are as follows:

METEOR2-MC/4
(44-pin connector)
Pin name *Pin no.*

SENTECH STC-1100b
(12-pin connector)
Pin name *Pin no.*

VID1_IN1	15	←	VIDEO OUT	04
GROUND	30	←	VIDEO OUT GND	03

Mode 2: Asynchronous Reset

- **Cable:** DH44-TO-8BNC/O (open ended) cable required for video and control signals.
- **Connection:** Connections between the 12-pin connector of the camera and the 44-pin connector of the Matrox Meteor-II/Multi-Channel are as follows:

METEOR2-MC/4
(44-pin connector)
Pin name *Pin no.*

SENTECH STC-1100b
(12-pin connector)
Pin name *Pin no.*

VID1_IN1	15	←	VIDEO OUT	04
GROUND	30	←	VIDEO OUT GND	03
EXP(1)	38	→	M-TRIG IN	07
GROUND	25	→	M-TRIG IN GND	12

METEOR2-MC/4
(44-pin connector)
Pin name *Pin no.*

SENTECH STC-1100b
(12-pin connector)
Pin name *Pin no.*

OPTO_TRIG	34, 35	←	--	--
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The DCF(s) mentioned in this application note can be found on the MIL CD or our FTP site ([ftp.matrox.com](ftp:matrox.com)). The information furnished by Matrox Electronic System, Ltd. is believed to be accurate and reliable. Please verify all interface connections with camera documentation or manual. Contact your local sales representative or Matrox Sales office or Matrox Imaging Applications at 514-822-6061 for assistance.

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