

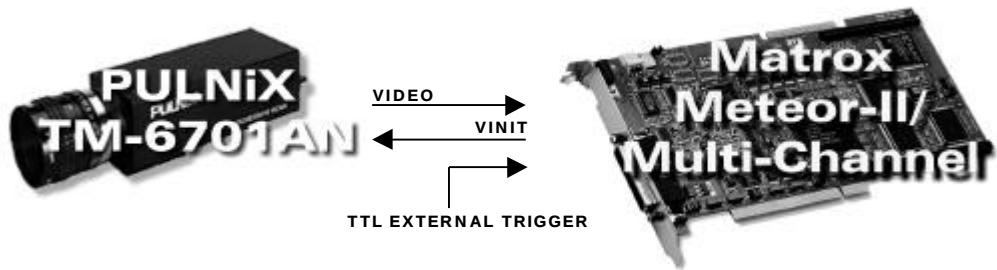
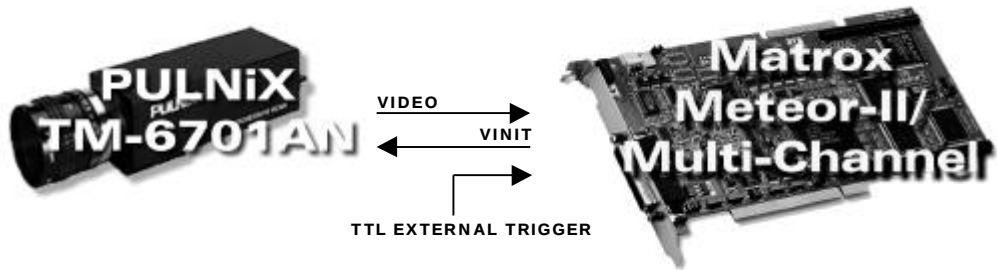
Application Note:

Interfacing non-standard cameras to Matrox Meteor-II



PULNiX TM-6701AN

March 19, 1999

Camera Descriptions	• 640 x 480 x 8-bit @ 60fps or 640 x 240 x 8-bit @ 120fps • Analog video output. • Progressive scan • External or internal exposure control. • Internal sync (camera master). • 25.49 MHz pixel clock rate.
Interface modes	• Asynchronous reset (60, 120 Hz, Internal Fast Reset)
Camera Interface Briefs	Mode 1 : Asynchronous Reset (60 Hz)  • 640 x 480 x 8-bit. • Analog (composite) video. • Progressive scan (double speed). • Matrox Meteor-II receiving TTL external trigger. • Matrox Meteor-II sending EXPOSURE1 (VINIT) signal to camera to initiate exposure and control exposure time. • Matrox Meteor-II receiving video signals from camera. • DCF used: 6701NAE1.DCF Mode 2 : Asynchronous Reset (120 Hz)  • 640 x 240 x 8-bit • Analog (composite) video. • Progressive scan (two-row). • Matrox Meteor-II receiving TTL external trigger. • Matrox Meteor-II sending EXPOSURE1 (VINIT) signal to camera to initiate exposure and control exposure time. • Matrox Meteor-II receiving video signals from camera. • DCF used: 6701NAE2.DCF

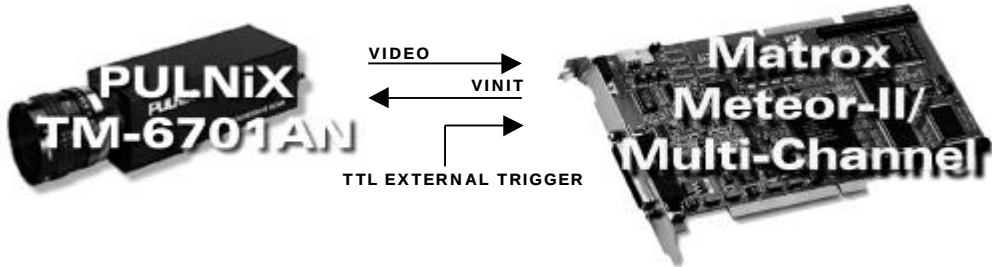
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Camera Interface Briefs (continued)	Mode 3 : Asynchronous Reset (Internal Fast Reset)  • 640 x 480 x 8-bit • Analog (composite) video. • Progressive scan. • Matrox Meteor-II receiving TTL external trigger. • Matrox Meteor-II sending EXPOSURE1 (VINIT) signal to camera to initiate exposure. • Matrox Meteor-II receiving video signals from camera. • DCF used: 6701NAH.DCF										
Camera Interface Details	Mode 1 : Asynchronous Reset (60 Hz) • Once it has received the external trigger signal, Matrox Meteor-II sends the EXPOSURE1 (VINIT) signal to the camera with a width equal to the desired exposure time. • Frame rate: The frame rate is determined by the frequency of the external trigger signal. • Exposure time: The active period of EXPOSURE1 (VINIT) signals is the exposure time. In order to change the width and deployment time of EXPOSURE1 (VINIT) use the Exposure Settings menu tab in Matrox Intellicam. Consult the Matrox Intellicam User Guide for more information. • Minimum Exposure width: minimum EXPOSURE1 (VINIT) pulse width is equal to 30ns. • Camera Switch Settings: Refer to the camera manual for additional information. Switches for this mode should be set as follows: Mode 1: Asynchronous Reset (60 Hz) <table border="1" data-bbox="743 1461 1066 1633"> <thead> <tr> <th>Switch</th><th>Setting</th></tr> </thead> <tbody> <tr> <td>Shutter Speed</td><td>9</td></tr> <tr> <td>MAN/ASY</td><td>ASY</td></tr> <tr> <td>P/N</td><td>N</td></tr> <tr> <td>T/O</td><td>O</td></tr> </tbody> </table>	Switch	Setting	Shutter Speed	9	MAN/ASY	ASY	P/N	N	T/O	O
Switch	Setting										
Shutter Speed	9										
MAN/ASY	ASY										
P/N	N										
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Application Note:

Interfacing non-standard cameras to Matrox Meteor-II



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Camera Interface Details (continued)

Mode 2 : Asynchronous Reset (120 Hz)

- Once it has received the external trigger signal, Matrox Meteor-II sends the EXPOSURE1 (VINIT) signal to the camera with a width equal to the desired exposure time.
- **Frame rate:** The frame rate is determined by the frequency of the external trigger signal.
- **Exposure time:** The active period of EXPOSURE1 (VINIT) signals is the exposure time. In order to change the width and deployment time of EXPOSURE1 (VINIT) use the Exposure Settings menu tab in Matrox Intellicam. Consult the Matrox Intellicam User Guide for more information.
- **Minimum Exposure width:** minimum EXPOSURE1 (VINIT) pulse width is equal to **30ns**.
- **Camera Switch Settings:** Refer to the camera manual for additional information. Switches for this mode should be set as follows:

Mode 2: Asynchronous Reset (120 Hz)

Switch	Setting
Shutter Speed	9
MAN/ASY	ASY
P/N	N
T/O	T

Mode 3 : Asynchronous Reset (Internal Fast Reset)

- Once it has received the external trigger signal, Matrox Meteor-II sends the EXPOSURE1 (VINIT) signal to the camera.
- **Frame rate:** The frame rate is determined by the frequency of the external trigger signal.
- **Exposure time:** Exposure time is controlled via the Shutter Speed switch located on the camera's rear and can be set for the following shutter speeds:

Switch Setting	Shutter Speed
1	1/32000 second
2	1/16000 second
3	1/8000 second
4	1/4000 second

- **Camera Switch Settings:** Refer to the camera manual for additional information. Switches for this mode should be set as follows:

Mode 3: Asynchronous Reset (Internal Fast Reset)

Switch	Setting
Shutter Speed	1-4
MAN/ASY	ASY
P/N	N
T/O	O

MATROX METEOR II

March 19, 1999

The DCF(s) mentioned in this application note can be found on the MIL and MIL-Lite CD, or our FTP site (<ftp.matrox.com>). The information furnished by Matrox Electronics 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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