

# Matrox Meteor-II/Digital

## Camera Interface Application Note

### Sensors Unlimited SU320M 1.7RT

April 23, 2002

Basics about the  
camera

#### Camera Descriptions

- Effective resolution:  $320 \times 236 \times 12\text{-bit}$  @ 30/60 fps.
- Single tap analog/RS-422 digital video output.
- Progressive scan.
- Internal sync.
- Internal or external exposure control.
- 6.01 MHz pixel clock rate.

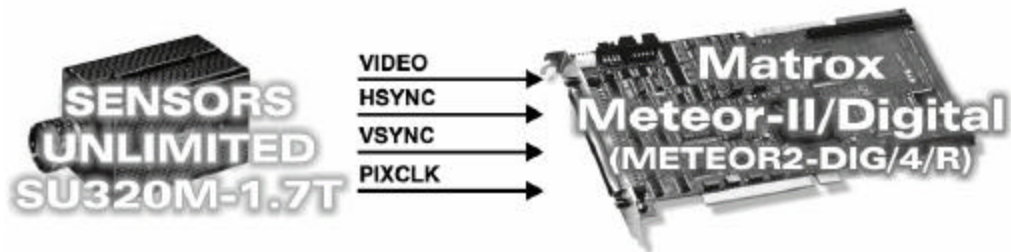
#### Interface Modes

- Continuous (Full resolution, double speed)

#### Camera Interface Briefs

##### Mode: Continuous

- $320 \times 236 \times 12\text{-bit}$  @ 30/60 fps.
- Single tap RS-422 digital video.
- Progressive scan.
- Matrox Meteor-II/Digital receiving HSYNC, VSYNC, PIXEL CLOCK (PIXELCLK @ 6.01 MHz) and video signals from camera.
- DCF used: [SU320MD.DCF](#) (Full resolution: 30 fps)
- DCF used: [SU320MDB.DCF](#) (Double speed: 60 fps)



#### Camera Interface Details

##### Mode: Continuous

- **Frame Rate:** Matrox Meteor-II/Digital receives the continuous video from the camera at 30/60 frames per second respectively (Full resolution/ Double speed).
- **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:** Users can control the camera via the serial port using RS-232 compatible signals or by external switches. Refer to the camera manual for more information.

Mode of operations as  
per Matrox Imaging (in  
parentheses as per  
camera manufacturer)  
Basics about the  
interface modes

Specifics about the  
interface modes

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Cabling details for the  
interface modes

### Cabling Requirements

#### Mode: Continuous

- **Cable:** DBHD100-TO-OPEN (open ended) cable required for video, synchronization and control signals.
- **Connection:** Connections between the 37-pin connector of the camera and the 100-pin connector of the Matrox Meteor-II/Digital are as follows:

| METEOR2-DIG/4/R<br>(100-pin connector) |         |    | SENSORS ULIMITED SU320M-1.7T<br>(37-pin connector) |         |
|----------------------------------------|---------|----|----------------------------------------------------|---------|
| Pin name                               | Pin no. |    | Pin name                                           | Pin no. |
| DATA INPUT 11+                         | 23      | ←  | D11 +                                              | 01      |
| DATA INPUT 11-                         | 24      | ←  | D11 -                                              | 02      |
| DATA INPUT 10 +                        | 21      | ←  | D10 +                                              | 03      |
| DATA INPUT 10 -                        | 22      | ←  | D10 -                                              | 04      |
| DATA INPUT 9 +                         | 19      | ←  | D9 +                                               | 05      |
| DATA INPUT 9 -                         | 20      | ←  | D9 -                                               | 06      |
| DATA INPUT 8 +                         | 17      | ←  | D8 +                                               | 07      |
| DATA INPUT 8 -                         | 18      | ←  | D8 -                                               | 08      |
| DATA INPUT 7 +                         | 15      | ←  | D7 +                                               | 09      |
| DATA INPUT 7 -                         | 16      | ←  | D7 -                                               | 10      |
| DATA INPUT 6 +                         | 13      | ←  | D6 +                                               | 11      |
| DATA INPUT 6 -                         | 14      | ←  | D6 -                                               | 12      |
| DATA INPUT 5 +                         | 11      | ←  | D5 +                                               | 13      |
| DATA INPUT 5 -                         | 12      | ←  | D5 -                                               | 14      |
| DATA INPUT 4 +                         | 09      | ←  | D4 +                                               | 15      |
| DATA INPUT 4 -                         | 10      | ←  | D4 -                                               | 16      |
| DATA INPUT 3 +                         | 07      | ←  | D3 +                                               | 17      |
| DATA INPUT 3 -                         | 08      | ←  | D3 -                                               | 18      |
| DATA INPUT 2 +                         | 05      | ←  | D2 +                                               | 19      |
| CLOCK INPUT +                          | 39      | ←  | PIXELCLK +                                         | 20      |
| CLOCK INPUT -                          | 40      | ←  | PIXELCLK -                                         | 21      |
| HSYNC, INPUT -                         | 34      | ←  | HSYNC -                                            | 22      |
| HSYNC, INPUT +                         | 33      | ←  | HSYNC +                                            | 23      |
| VSYNC, INPUT -                         | 36      | ←  | VSYNC (fldindex) -                                 | 24      |
| VSYNC, INPUT +                         | 35      | ←  | VSYNC (fldindex) +                                 | 25      |
| DATA INPUT 0 -                         | 02      | ←  | D0 -                                               | 32      |
| DATA INPUT 0 +                         | 01      | ←  | D0 +                                               | 33      |
| DATA INPUT 1 -                         | 04      | ←  | D1 -                                               | 34      |
| DATA INPUT 1 +                         | 03      | ←  | D1 +                                               | 35      |
| DATA INPUT 2 -                         | 06      | ←  | D2 -                                               | 36      |
| GROUND                                 | 50      | -- | GND DIGITAL                                        | 37      |

Continued...

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*Cabling details for the  
interface modes*

#### Cabling Requirements (continued)

*Mode: Continuous*

This section was intentionally left blank.

The DCF(s) mentioned in this application note can be found on the MIL CD or our FTP site ([ftp.matrox.com](ftp: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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