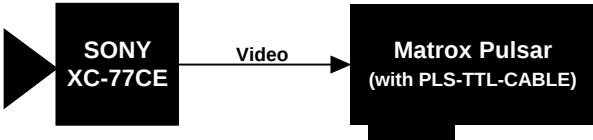
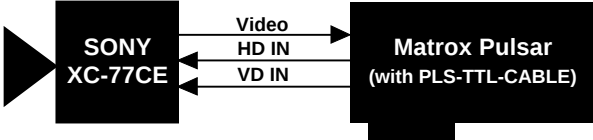
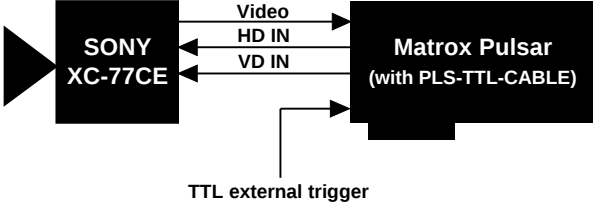


# Application Note:

## Interfacing non-standard cameras to Matrox Pulsar

**Sony XC-77CE**

**March 13, 1996**

|                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|----------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Camera Interface Overview</b> | <ul style="list-style-type: none"> <li>• 739 x 570 x 8-bit (CCIR) @ 25fps</li> <li>• Interlaced</li> <li>• Internal or external sync</li> <li>• 14.1875MHz pixel clock rate</li> <li>• 3 modes: continuous mode (internal sync), continuous mode (external sync), restart reset mode</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>Camera Interface Details</b>  | <div> <p><b>1. Continuous mode (internal sync)</b></p> <ul style="list-style-type: none"> <li>• 739 x 570 x 8-bit (CCIR) @ 25fps</li> <li>• Interlaced</li> <li>• Continuous video</li> <li>• Internal (composite) sync</li> <li>• DCF used: <a href="#">77CE.DCF</a></li> </ul>  </div> <div> <p><b>2. Continuous mode (external sync)</b></p> <ul style="list-style-type: none"> <li>• 739 x 570 x 8-bit (CCIR) @ 25fps</li> <li>• Interlaced</li> <li>• Continuous video</li> <li>• Matrox Pulsar sending TTL hsync (HD IN) and vsync (VD IN) signals to camera</li> <li>• DCF used: <a href="#">77CEM.DCF</a></li> </ul>  </div> <div> <p><b>3. Restart reset mode</b></p> <ul style="list-style-type: none"> <li>• 739 x 570 x 8-bit (CCIR) @ 25fps</li> <li>• Interlaced</li> <li>• Matrox Pulsar receiving TTL external trigger</li> <li>• Matrox Pulsar sending TTL hsync (HD IN) and vsync (VD IN becomes RR trigger) signals to camera</li> <li>• DCF used: <a href="#">77CEMT.DCF</a></li> </ul>  </div> |
| <b>Cabling Requirements</b>      | <p><b>1. Continuous mode (internal sync)</b></p> <ul style="list-style-type: none"> <li>• IMG-7W2-TO-1BNC and Sony JB-77 junction box required</li> <li>• Video input BNC of IMG-7W2-TO-1BNC cable should be connected to VIDEO OUT BNC connector of Sony JB-77 junction box</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |

# Application Note:

## Interfacing non-standard cameras to Matrox Pulsar

Sony XC-77CE

March 13, 1996

| <b>Cabling Requirements Continued</b> | <p><b>2. Continuous mode (external sync)</b></p> <ul style="list-style-type: none"><li>• IMG-7W2-TO-1BNC, PLS-TTL-CABLE and Sony JB-77 junction box required</li><li>• Video input BNC of IMG-7W2-TO-1BNC cable should be connected to VIDEO OUT BNC connector of Sony JB-77 junction box</li><li>• The connections between the DB-37 connector of the PLS-TTL-CABLE and the Sony JB-77 junction box are as follows:</li></ul> <table><tr><th colspan="2">PLS-TTL-CABLE<br/>(DB-37 connector)</th><th></th><th>JB-77 Junction Box<br/>(BNC connectors)</th></tr><tr><th>Pin name</th><th>Pin no.</th><th></th><th>BNC name</th></tr><tr><td>TTL_HSYNC</td><td>26</td><td>→</td><td>HD IN</td></tr><tr><td>TTL_VSYNC</td><td>11</td><td>→</td><td>VD IN</td></tr><tr><td>GROUND</td><td>6 &amp; 7</td><td></td><td>HD IN (GND)</td></tr><tr><td>GROUND</td><td>6 &amp; 7</td><td></td><td>VD IN (GND)</td></tr></table> <p><b>3. Restart reset mode</b></p> <ul style="list-style-type: none"><li>• IMG-7W2-TO-5BNC, PLS-TTL-CABLE and Sony JB-77 junction box required</li><li>• Video input BNC of IMG-7W2-TO-5BNC cable should be connected to VIDEO OUT BNC connector of Sony JB-77 junction box</li><li>• The connections between the DB-37 connector of the PLS-TTL-CABLE and the Sony JB-77 junction box are as in <i>continuous mode (external sync)</i> (i.e., VD IN becomes restart reset)</li><li>• TTL external trigger source should be connected to the TTL Trigger Input of the IMG-7W2-TO-5BNC cable</li></ul> | PLS-TTL-CABLE<br>(DB-37 connector) |                                        |  | JB-77 Junction Box<br>(BNC connectors) | Pin name | Pin no. |  | BNC name | TTL_HSYNC | 26 | → | HD IN | TTL_VSYNC | 11 | → | VD IN | GROUND | 6 & 7 |  | HD IN (GND) | GROUND | 6 & 7 |  | VD IN (GND) |
|---------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------|----------------------------------------|--|----------------------------------------|----------|---------|--|----------|-----------|----|---|-------|-----------|----|---|-------|--------|-------|--|-------------|--------|-------|--|-------------|
| PLS-TTL-CABLE<br>(DB-37 connector)    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                    | JB-77 Junction Box<br>(BNC connectors) |  |                                        |          |         |  |          |           |    |   |       |           |    |   |       |        |       |  |             |        |       |  |             |
| Pin name                              | Pin no.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                    | BNC name                               |  |                                        |          |         |  |          |           |    |   |       |           |    |   |       |        |       |  |             |        |       |  |             |
| TTL_HSYNC                             | 26                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | →                                  | HD IN                                  |  |                                        |          |         |  |          |           |    |   |       |           |    |   |       |        |       |  |             |        |       |  |             |
| TTL_VSYNC                             | 11                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | →                                  | VD IN                                  |  |                                        |          |         |  |          |           |    |   |       |           |    |   |       |        |       |  |             |        |       |  |             |
| GROUND                                | 6 & 7                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                    | HD IN (GND)                            |  |                                        |          |         |  |          |           |    |   |       |           |    |   |       |        |       |  |             |        |       |  |             |
| GROUND                                | 6 & 7                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                    | VD IN (GND)                            |  |                                        |          |         |  |          |           |    |   |       |           |    |   |       |        |       |  |             |        |       |  |             |
| <b>Special Considerations</b>         | <p><b>NOTE:</b> all connections in this application note assume the use of the Sony JB-77 junction box. These connections can also be made directly with the 12-pin connector on the camera; consult the Sony XC-77CE documentation for a pinout description of this connector. Contact your local sales representative or Matrox Sales Office, or contact Matrox Imaging Applications at (514) 822-6061 for assistance.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                    |                                        |  |                                        |          |         |  |          |           |    |   |       |           |    |   |       |        |       |  |             |        |       |  |             |

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](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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