Multi-spectral 2-channel CCD camera
Advanced series 2 x 1/3” progressive scan camera
Simultaneously captures Visible and Near-IR through the same optical path
1024 (h) x 768 (v) active pixels per channel
4.65 µm square pixels
30 frames/second with full resolution
Increased frame rate with partial scan
Programmable exposure from 20µs to 33ms
Pre-select and Pulse width trigger modes
LVAL Synchronous/-asynchronous operation (auto-detect)
LUT (Look-up Table)
AGC (Automatic Gain Control)
Auto-iris lens video output allows a wider range of light
RGB 24-bit/30-bit or Raw Bayer 10 or 8-bit output for visible
12, 10 or 8-bit output for Near-IR
Sequence trigger mode and Frame delay trigger mode
SDK for Windows XP/Vista
### Specifications for AD-080 GE

<table>
<thead>
<tr>
<th>Specifications</th>
<th>AD-080 GE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sensor</td>
<td>Visible Near-IR 1/3&quot; color Bayer mosaic IT CCD</td>
</tr>
<tr>
<td>Pixel Clock</td>
<td>33.75 MHz</td>
</tr>
<tr>
<td>Frame rate full frame</td>
<td>30 frames/sec.</td>
</tr>
<tr>
<td>Active area</td>
<td>4.76 (h) x 3.57 (v) mm</td>
</tr>
<tr>
<td>Cell size</td>
<td>4.65 (h) x 4.65 (v) μm</td>
</tr>
<tr>
<td>Active pixels</td>
<td>1024 (h) x 768 (v)</td>
</tr>
<tr>
<td>Color visible</td>
<td>Raw Bayer output, or RGB 24-bit, 30-bit</td>
</tr>
<tr>
<td>Read-out modes</td>
<td>Full 1/2 partial scan 1024 (h) x 768 (v) 30 fps Scan height 8-76BL Start line 1-760L (Bayer color 2 lines step)</td>
</tr>
<tr>
<td>Sensitivity Visible</td>
<td>0.5 Lux (On sensor, max. gain, shutter off, 50% video)</td>
</tr>
<tr>
<td>Sensitivity Near-IR</td>
<td>1.0 μW/cm² at 800nm (On sensor, max. gain, shutter off, 50% video)</td>
</tr>
<tr>
<td>S/N ratio</td>
<td>&gt;54dB (Gain 0 dB, shutter off)</td>
</tr>
<tr>
<td>Video output</td>
<td>Visible 30/24-bits RGB or raw Bayer output 8, 10, or 12-bit</td>
</tr>
<tr>
<td>Auto-iris lens video</td>
<td>0.7 Vp-p</td>
</tr>
<tr>
<td>Gain</td>
<td>-3dB to +21dB</td>
</tr>
<tr>
<td>Synchronization</td>
<td>Int. X-tal</td>
</tr>
<tr>
<td>Inputs</td>
<td>Hirose 12-pin: OPT x 2, Hirose 6-pin: TTL x 2, LVDS x 1</td>
</tr>
<tr>
<td>Outputs</td>
<td>Hirose 12-pin: OPT x 2, Hirose 6-pin: TTL x 1</td>
</tr>
<tr>
<td>Trigger modes</td>
<td>Edge Pre-select, Pulse Width control, RCT, Frame delay, Sequence</td>
</tr>
<tr>
<td>Electronic shutter</td>
<td>Auto Programmable exposure 1/30 to 1/10000 sec 20 μs to 792L (33.3ms) in 1L step μsec - user definable. Same range as PE Max. 2 sec (fine setting with GPIO and pulse width control)</td>
</tr>
<tr>
<td>White balance</td>
<td>Only RGB 24-bit and 30-bit output Gain range: -3dB to +6dB Manual: 3000K to 6500K One-push: 3000K to 6500K Continuous: 3000K to 6500K</td>
</tr>
<tr>
<td>Knee function</td>
<td>For 24-bit/30-bit output (visible) Near-IR 8, 10 or 12-bit Knee point, Knee slope</td>
</tr>
<tr>
<td>LUT/Gamma</td>
<td>1.0/0.6/0.45/LUT</td>
</tr>
<tr>
<td>Control interface</td>
<td>Register based, GigE Vision</td>
</tr>
<tr>
<td>Functions controlled via GigE Vision interface</td>
<td>Gain, shutter, trigger modes, read-out modes, bit depth, black level, GPIO, ROI</td>
</tr>
<tr>
<td>Indicators on rear panel</td>
<td>LED for power/shutter trigger input GigE link, GigE activity</td>
</tr>
<tr>
<td>Operating Temperature</td>
<td>-5°C to +45°C</td>
</tr>
<tr>
<td>Humidity (operation)</td>
<td>20 - 80% non-condensing</td>
</tr>
<tr>
<td>Storage temp./humidity</td>
<td>-25°C to +60°C / 20 to 80%</td>
</tr>
<tr>
<td>Vibration</td>
<td>3 G (20Hz to 200 Hz XYY)</td>
</tr>
<tr>
<td>Shock</td>
<td>50G</td>
</tr>
<tr>
<td>Regulations</td>
<td>CE (EN 61000-6-2, EN-61000-6-3), FCC part 15 class B, RoHS/WEEE</td>
</tr>
<tr>
<td>Power</td>
<td>12-24V DC ± 10%, 7 W</td>
</tr>
<tr>
<td>Lens mount</td>
<td>C-mount</td>
</tr>
<tr>
<td>Dimensions (H x W x L)</td>
<td>55(H) x 55(W) x 98.3(D) mm</td>
</tr>
<tr>
<td>Weight</td>
<td>320 g</td>
</tr>
</tbody>
</table>

### Connector pin-out

**DC In / GPIO**

<table>
<thead>
<tr>
<th>Pin</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Ground</td>
</tr>
<tr>
<td>2</td>
<td>12V DC input</td>
</tr>
<tr>
<td>3</td>
<td>OPT In 2 (-)/GND (*)</td>
</tr>
<tr>
<td>4</td>
<td>Auto Iris video out (+)</td>
</tr>
<tr>
<td>5</td>
<td>OPT In 1 (-)</td>
</tr>
<tr>
<td>6</td>
<td>OPT In 1 (+)</td>
</tr>
<tr>
<td>7</td>
<td>OPT Out 1 (-)</td>
</tr>
<tr>
<td>8</td>
<td>OPT Out 1 (+)</td>
</tr>
<tr>
<td>9</td>
<td>OPT Out 2 (-)</td>
</tr>
<tr>
<td>10</td>
<td>OPT Out 2 (+)</td>
</tr>
<tr>
<td>11</td>
<td>+12V DC input</td>
</tr>
<tr>
<td>12</td>
<td>Ground</td>
</tr>
</tbody>
</table>

**GPIO**

<table>
<thead>
<tr>
<th>Pin</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>LVDS In 1 (-)</td>
</tr>
<tr>
<td>2</td>
<td>LVDS In (+)</td>
</tr>
<tr>
<td>3</td>
<td>TTL In 1</td>
</tr>
<tr>
<td>4</td>
<td>TTL Out 1</td>
</tr>
<tr>
<td>5</td>
<td>TTL In 2</td>
</tr>
<tr>
<td>6</td>
<td>GND</td>
</tr>
</tbody>
</table>

**GigE Vision Interface**

RJ-45 with locking screws

**Near-IR Response AD-080 GE**

**Visible Response AD-080 GE**

**2CCD Prism**

**Ordering Information**

AD-080GE Digital 2CCD Progressive Scan Multi-Spectral Camera