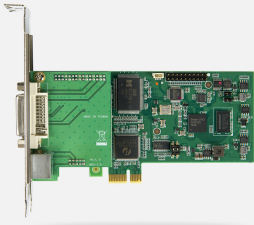




# Piccolo HD 3G DVI

3G 60FPS HDMI / DVI high-definition 1080p video capture card



## At a Glance

- Video and audio capture from DVI, Y/Pr/Pb, S-Video or CVBS video sources
- HD 1920x1080p50/60
- SD 525i60 and 625i50
- 16 general purpose IO lines
- PCIe (2.0) Gen2 x1 bus

## Benefits

**Compatible with a wide range of HD and SD video sources:**

- DVI
- Y/Pb/Pr
- S-Video
- CVBS

**Audio signal acquisition**

- Stereo
- 16-bit linear PCM
- 32, 44.1, 48 kHz

**Piccolo HD Studio**

- Demonstration and evaluation program compatible with the Piccolo HD series of video capture cards
- Demonstrates the acquisition and live display of HD video, the use of non-destructive overlays, with an option to display a reticle cross or any graphics on the video
- Able to save images
- Available as an executable application and as source code

**16 general purpose IO lines**

**Analog Y/Pb/Pr, audio and watchdog cables included**

**Windows drivers**

DirectShow and C APIs

## Applications

### Machine Vision for the General Manufacturing Industries

- Low cost image acquisition from industrial analog cameras for inspection machines

### Life Sciences & Medical

- Standard and high-definition image acquisition for endoscopy applications
- Standard and high-definition image acquisition for dental applications
- Standard and high-definition image acquisition for video-guided surgery applications

### Microscopy

- High-definition image acquisition for offline inspection stations
- High-definition image acquisition for laboratory and measuring microscopes

## Specifications

### Mechanical

Form Factor	PCI Express card
Format	Low profile, half length, 1-lane PCI Express card with optional "Bypass module" on second slot bracket
Dimensions	L 135 mm x H 68 mm L 5.31 in x H 2.68 in
Weight	73 g, 2.57 oz, without "Bypass module" 108 g, 3.81 oz, with "Bypass module"

### Host bus

Standard	PCI Express 2.0
Link width	1 lane
Link speed	5.0 GT/s (PCIe 2.0)
Peak delivery bandwidth	512 MB/s
Power consumption	Max. 4.1 W

### Camera / video inputs

Interface standard(s)	<ul style="list-style-type: none"><li>• DVI-D for HD digital video</li><li>• DVI-A and Y/Pb/Pr for HD analog video</li><li>• S-Video for SD analog Y/C video</li><li>• CVBS for SD analog composite video</li></ul>
Connectors	<ul style="list-style-type: none"><li>• DVI-I INPUT: DVI-I socket(female) connector on the bracket for digital and analog video inputs</li><li>• YCbCr/AVS INPUTS: mini-DIN female connector on the bracket for one of the following cable:<ul style="list-style-type: none"><li>– Y/Pb/Pr/L/R component cable</li><li>– S-video/CVBS/L/R component cable</li></ul></li><li>• The Y/Pb/Pr/L/R component cable provides:<ul style="list-style-type: none"><li>– Y/Pb/Pr: three RCA female connectors for analog HD component video inputs</li></ul></li><li>• The S-video/CVBS/L/R component cable provides:<ul style="list-style-type: none"><li>– S-VIDEO: one 4-pin mini-DIN female connector for analog SD component video inputs</li><li>– CVBS: one RCA female connector for analog SD composite video input</li></ul></li></ul>
Formats and standards (HD)	Up to 1080p60 / 1080i60 / 720p60
Formats and standards (SD)	<ul style="list-style-type: none"><li>• 525i60 (NTSC M, NTSC J, PAL M)</li><li>• 625i50 (PAL B/D/G/H/I, PAL N)</li></ul>

Number of cameras	1
Line-scan cameras supported	No

## Video delivery

Raw video format(s)	YUY2, Packed YUV 4:2:2
Deliverable video resolution (HD)	<ul style="list-style-type: none"> <li>• 1080p or 1080i source : 1920 x 1080 down to 640 x 384</li> <li>• 720p source: 1280 x 720 down to 640 x 384</li> </ul>
Deliverable video resolution (SD)	<ul style="list-style-type: none"> <li>• 525i60 source: 720 x 480</li> <li>• 626i50 source: 720 x 576</li> </ul>

## Audio / Video Outputs

Loop-through	All digital and analog, audio and video input signals are replicated on the connectors of the bypass module
Connectors	<ul style="list-style-type: none"> <li>• DVI-I OUTPUT: DVI-I socket(female) connector on the bypass module bracket for digital and analog video outputs</li> <li>• YCbCr/AVS OUTPUTS: mini-DIN female connector on the bypass module bracket for one of the following cables: <ul style="list-style-type: none"> <li>– Y/PB/Pr/L/R component cable</li> <li>– S-video/CVBS/L/R component</li> </ul> </li> <li>• The Y/PB/Pr/L/R component cable provides: <ul style="list-style-type: none"> <li>– Y/Pb/Pr: 3 RCA female connectors for analog HD component video outputs</li> </ul> </li> <li>• The S-video/CVBS/L/R component cable provides: <ul style="list-style-type: none"> <li>– S-VIDEO: 1 4-pin mini-DIN female connector for analog SD component video outputs</li> <li>– CVBS: 1 RCA female connector for analog SD composite video</li> </ul> </li> </ul>

## Audio inputs

Number of inputs	1, Stereo
Type	<ul style="list-style-type: none"> <li>• L/R Audio: Two line-level analog audio inputs</li> </ul>
Audio format	<ul style="list-style-type: none"> <li>• 16-bit Linear PCM</li> <li>• 32 kHz, 44.1 kHz or 48 kHz</li> </ul>
Connectors	<ul style="list-style-type: none"> <li>• YCbCr/AVS INPUTS: mini-DIN female connector on the bracket for one of the following cable: <ul style="list-style-type: none"> <li>– Y/Pb/Pr/L/R component cable</li> <li>– S-video/CVBS/L/R component cable</li> </ul> </li> <li>• The Y/Pb/Pr/L/R component cable provides: <ul style="list-style-type: none"> <li>– L/R : one twin RCA female connector for analog audio inputs</li> </ul> </li> <li>• The S-video/CVBS/L/R component cable provides: <ul style="list-style-type: none"> <li>– L/R: two RCA female connectors for analog audio inputs</li> </ul> </li> </ul>

## Audio outputs

Connectors	<ul style="list-style-type: none"> <li>• YCbCr/AVS INPUTS: mini-DIN female connector on the bracket for one of the following cables: <ul style="list-style-type: none"> <li>– Y/PB/Pr/L/R component cable</li> <li>– S-video/CVBS/L/R component cable</li> </ul> </li> <li>• The Y/PB/Pr/L/R component cable provides: <ul style="list-style-type: none"> <li>– L/R : 1 twin RCA female connector for analog audio outputs</li> </ul> </li> <li>• The S-video/CVBS/L/R component cable provides: <ul style="list-style-type: none"> <li>– L/R: 2 RCA female connectors for analog audio outputs</li> </ul> </li> </ul>
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## General Purpose Inputs and Outputs

Number of lines	16 I/O lines (IO)
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Connectors	<ul style="list-style-type: none"> <li>• I/O: 20-pin dual-row 0.1" header on the PCB</li> <li>• WATCHDOG: 4-pin dual-row 0.1" header on the PCB</li> </ul>
Usage	General purpose IO
Electrical specifications	IO: Quasi-bidirectional I/O lines, individually configurable as input or output

## Host system requirements

Processor	<ul style="list-style-type: none"> <li>• Minimum: Core 2 Duo or better</li> <li>• Recommended: Intel 2nd/ 3rd Generation Core i3/i5/i7</li> </ul>
System memory	<ul style="list-style-type: none"> <li>• Minimum: 2GB DDR3</li> <li>• Recommended: 4GB DDR3 (dual channel) or better</li> </ul>
Graphic card	<ul style="list-style-type: none"> <li>• Minimum: Supports DirectX 9 or higher</li> <li>• Recommended: Intel HD2000/2500/3000/4000 or better</li> </ul>

## Software

Host PC Operating System	<ul style="list-style-type: none"> <li>• Microsoft Windows 10, 8.1, 8, 7 for x86 (32-bit) and x86-64 (64-bit) processor architectures</li> </ul>
APIs	<ul style="list-style-type: none"> <li>• MultiCam 32- and 64-bit binary libraries for ISO-compliant C/C++ compilers</li> <li>• DirectShow filters for Microsoft Visual C++ compilers, for 32- and 64-bit applications</li> <li>• DirectShow .NET C#</li> </ul>

## Environmental conditions

Operating ambient air temperature	0 to +50 °C / +32 to +122 °F
Operating ambient air humidity	10 to 90% RH non-condensing
Storage ambient air temperature	-20 to +70 °C / -4 to +158 °F
Storage ambient air humidity	10 to 90% RH non-condensing

## Certifications

Electromagnetic - EMC standards	<ul style="list-style-type: none"> <li>• European Council EMC Directive 2004/108/EC</li> <li>• United States FCC rule 47 CFR 15</li> </ul>
EMC - Emission	<ul style="list-style-type: none"> <li>• EN 55022:2010 Class B</li> <li>• FCC 47 Part 15 Class B</li> </ul>
EMC - Immunity	<ul style="list-style-type: none"> <li>• EN 55024:2010 Class B</li> <li>• EN 61000-4-2</li> <li>• EN 61000-4-3</li> <li>• EN 61000-4-4</li> <li>• EN 61000-4-8</li> </ul>
RoHS	European Union Directive 2011/65/EU (ROHS2)
REACH	European Union Regulation 1907/2006
WEEE	Must be disposed of separately from normal household waste and must be recycled according to local regulations

## Ordering Information

Product code - Description	<ul style="list-style-type: none"> <li>• 1843-2 - Picolo HD 3G DVI</li> </ul>
Included accessories	<ul style="list-style-type: none"> <li>• 1844 - Picolo HD Y/Pb/Pr/L+R Analog A/V Cable</li> <li>• 1845 - Picolo HD S-Video/CVBS/L+R Analog A/V Cable</li> <li>• 1846 - Picolo HD Watchdog Cable</li> </ul>
Optional accessories	<ul style="list-style-type: none"> <li>• 1844 - Picolo HD Y/Pb/Pr/L+R Analog A/V Cable</li> <li>• 1845 - Picolo HD S-Video/CVBS/L+R Analog A/V Cable</li> <li>• 1846 - Picolo HD Watchdog Cable</li> </ul>



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