LinTest Systems announces...

Video Capture Using the Raspberry Pi Camera Port

Powered by a custom designed, high performance video processor, both the Standard Definition and High Definition versions of PiCapture allow all of the Raspberry Pi’s CPU power to be used for your applications and not consumed by limited function, outboard USB devices. Packaged in a HAT (Hardware Attached on Top) compatible form factor with a 40 pin GPIO feedthrough header means compact installations on a Raspberry Pi. Since PiCapture fully emulates the Raspberry Pi camera module, all software such as Raspivid, PiCamera and related applications are fully compatible. The robust design and rugged mechanical package makes PiCapture suitable for a wide range of applications including crucial ones for medical and industrial use.

Features at a Glance

- **Two Versions:**
  - PiCapture SD1 for standard definition interlaced video (NTSC/PAL) from Composite, S-Video, and YPbPr Component
  - PiCapture HD1 for high-definition progressive video from digital (HDMI/DVI), analog (YPbPr Component), and Computer (RGB) sources at 480p, 720p, and 1080p resolutions

- **Form Factor:** Raspberry Pi HAT compatible, Compute Module form factor upon request

- **High Speed Interface:** Raspberry Pi Camera port – MIPI CSI-2

- **Assured Compatibility:** Works with most Raspberry Pi boards (including 3.0) and standard camera software (raspivid, picamera, etc.)

**FULLY EMULATES THE RASPBERRY PI CAMERA**
MIPI CSI-2 interface means the Raspberry Pi GPU can be used to its fullest and the CPU is free for your own applications, not consumed with peripherals.

**PIVIDEO PYTHON-BASED CONTROL SOFTWARE**
PiVideo is used to control the PiCapture processor for:
- Automatic or manual video source selection
- Optional on-screen source indication
- Test mode control – B&W modes, solid color, and color pattern
- Firmware update utility

**MULTIPLE WAYS TO COMMUNICATE WITH RASPBERRY PI**
Jumpers for selecting UART, I2C1, I2C0 (or none) for maximum flexibility of Raspberry Pi GPIO

**GET UP AND RUNNING FAST WITH ANY VIDEO SOURCE**
PiCapture products are fully compatible with Raspberry Pi hardware and software so no special drivers required. Connect, power up, and run raspivid or your software, and capture video for any SD or HD source!

Application Areas

- Video streaming
- Video recording
- Machine vision
- Manufacturing
- Robotics
- Security and Surveillance
- Baby/child/pet monitors
- Healthcare (telemedicine)
- Traffic monitoring
- Astronomy/Astrophotography
- DVR/Media Center

... and more

LinTest and PiVideo are trademarks of LinTest Systems. Raspberry Pi is a trademark of the Raspberry Pi Foundation.

Interested in LinTest Systems products and services? Contact us at info@lintestsystems.com
PiCapture – Video Capture for Raspberry Pi

Product Brief

Key Specifications

<table>
<thead>
<tr>
<th>Feature</th>
<th>PiCapture SD1</th>
<th>PiCapture HD1</th>
<th>Features</th>
</tr>
</thead>
<tbody>
<tr>
<td>Compatibility</td>
<td>Raspberry Pi 1 A+, B+ Raspberry Pi 2.3</td>
<td>Raspberry Pi 1 A+, B+ Raspberry Pi 2.3</td>
<td>Requires 40 pin GPIO connector</td>
</tr>
<tr>
<td>Physical Dimensions</td>
<td>65mm x 56.5mm</td>
<td>65mm x 56.5mm</td>
<td>HAT form factor</td>
</tr>
<tr>
<td>Interface connectors</td>
<td>40 pin GPIO connector</td>
<td>40 pin GPIO connector</td>
<td>Pass-through header is provided</td>
</tr>
<tr>
<td>Power Requirements</td>
<td>5V @ 250mA</td>
<td>5V @ 300 mA</td>
<td>Supplied by Raspberry Pi</td>
</tr>
<tr>
<td>Supported Video Formats</td>
<td>Standard Definition Interlaced NTSC/PAL</td>
<td>480p 720p</td>
<td>SD1: De-interlaced and resampled to 640x480 HD1: 525p, 576p and high definition video and computer formats</td>
</tr>
<tr>
<td>Video Inputs</td>
<td>Composite [3] S-Video YPbPr Component</td>
<td>HDMI/DVI YPbPr Component</td>
<td>SD1: Up to 3 selectable composite sources HD1: Adapter required for DVI inputs</td>
</tr>
<tr>
<td>Input Connectors</td>
<td>3 RCA/Phono 1 Mini-DIN S-Video</td>
<td>3 RCA/Phono 1 HDMI</td>
<td>SD1: 3 RCA used for composite or component inputs HD1: 3 RCA used for component inputs SD1: Mini-DIN shared with RCA connectors 1 and 2</td>
</tr>
<tr>
<td>Status Indicators</td>
<td>Red “ACTIVE” LED Green “RUN” LED Blue “RDY” LED Yellow “PGM” LED 4 Green LEDs</td>
<td>Red “ACTIVE” LED Green “RUN” LED Blue “RDY” LED Yellow “PGM” LED 4 Green LEDs</td>
<td>“Camera active” indicator (same as Raspberry Pi camera) PiCapture Ready indicator Video Active indicator Programming / PiVideo Control Active Indicator PiCapture Video Processor source type / status</td>
</tr>
<tr>
<td>Video Output Format</td>
<td>640 x 480</td>
<td>640 x 480</td>
<td>Square Pixels</td>
</tr>
<tr>
<td>Configuration Jumpers</td>
<td>UART Select (2x2) I2C Select (3x2)</td>
<td>UART Select (2x2) I2C Select (3x2)</td>
<td>Remove to disconnect from serial port Select I2C port, or remove to disconnect from both I2C ports</td>
</tr>
<tr>
<td>Included Accessories</td>
<td>CSI-2 MIPI interface cable Mounting hardware</td>
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<td>Standoffs and screws for securing the PiCapture board to RPi</td>
</tr>
<tr>
<td>Software Provided</td>
<td>PiVideo control software</td>
<td>PiVideo control software</td>
<td>Used to manage the PiCapture video processor</td>
</tr>
<tr>
<td>Software Compatibility</td>
<td>Raspivid, Raspi still, PiCamera library</td>
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<td>Including command line switches for adjusting video output</td>
</tr>
<tr>
<td>Environmental</td>
<td>-0°C to 70°C/32°F to 158°F 10 to 90% humidity</td>
<td>-0°C to 70°C/32°F to 158°F 10 to 90% humidity</td>
<td>Humidity is non-condensing</td>
</tr>
<tr>
<td>Compliance</td>
<td>RoHS IPC Class 2</td>
<td>RoHS IPC Class 2</td>
<td></td>
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<tr>
<td>Warranty</td>
<td>90 days</td>
<td>90 days</td>
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For more information on PiCapture modules, please visit us at [www.lintestsystems.com](http://www.lintestsystems.com)

Did You Know?

We can provide custom versions of our products or develop new products to your specifications. Contact us with your ideas!