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## iPORT SB-U3 External Frame Grabbers

Transport high-speed imaging and video data from Sony Block Cameras over USB 3.0

### Overview

Pleora's iPORT™ SB-U3 External Frame Grabbers improve the usability of Sony block cameras by allowing systems manufacturers and integrators to treat them as native USB3 Vision™ cameras. With these external frame grabbers, Sony block cameras can transport high-speed imaging and video data over the widely available USB 3.0 bus. The cameras can also be used with a broader selection of computing platforms, lowering system costs.

The SB-U3 presents a user-friendly interface to the Sony® VISCA™ protocol set, both graphically and in the eBUS SDK (software development kit).

This allows system designers to rapidly prototype interactions between the SB-U3, the Sony block camera, and their software as well as quickly deploy production-ready software.

The SB-U3 transmits full-resolution video with low, predictable latency over a USB 3.0 link at the maximum frames per second (fps) supported by a wide range of Sony camera block models. The connection at the PC is a standard USB 3.0 port, eliminating the need for a desktop PC with an available peripheral card slot for a traditional frame grabber. As a result, designers can reduce system size, cost, and power consumption by using computing platforms with smaller form factors, such as laptops, embedded PCs, and single-board computers.

Pleora's SB-U3 External Frame Grabbers helps systems manufacturers and integrators to leverage the performance attributes of USB 3.0, including high-bandwidth, power over cable, and plug-and-play usability. In addition, the frame grabbers support more flexible configurations, allowing multiple cameras to be aggregated to a single USB 3.0 port, when using an off-the-shelf USB 3.0 hub. The SB-U3 complies fully with the USB3 Vision and GeniCam™ standards, ensuring interoperability with third-party equipment in multivendor environments.

### Features

- Transforms Sony block cameras into USB3 Vision cameras
- Power, control, and video over the same USB 3.0 cable
- Plugs into a wide range of computing platforms without needing a PCI frame grabber
- Transmits full-resolution images at the maximum frame rate supported by the block camera
- Simplifies Sony VISCA interface
- Sophisticated on-board programmable logic controller (PLC) allows users to precisely measure, synchronize, trigger, and control the operation of other vision system elements
- Low, predictable latency
- Bundled with Pleora's feature-rich eBUS™ SDK application toolkit

### Compatibility

- Sony FCB-EV7500
- Sony FCB-EV7100
- Sony FCB-EV5500
- Sony FCB-EH6500
- Sony FCB-EH6300
- Sony FCB-EH3410
- Sony FCB-EH3310

### Ordering Information

<b>900-6123</b>	• iPORT SB-U3 External Frame Grabber OEM Kit includes SB-U3 OEM board set mounted on camera bracket, mounting screws, and 30-pin micro-coaxial video/control camera cable.
<b>900-6124</b>	• iPORT SB-U3 Development Kit includes SB-U3 OEM board set mounted on camera bracket, mounting screws, 30-pin micro-coaxial video/control camera cable, USB 3.0 cable, and eBUS SDK USB stick.



## iPORT SB-U3 External Frame Grabbers

### Video Connectivity Solutions

iPORT External Frame Grabber	<ul style="list-style-type: none"> <li>Highly reliable, 2 Gb/s data transfer rate with low, end-to-end latency</li> <li>OEM, in-camera board set</li> </ul>
eBUS SDK	<ul style="list-style-type: none"> <li>eBUS Universal Pro driver</li> <li>Sample applications</li> <li>Driver installation tool</li> <li>Documentation</li> </ul>
USB3 Vision and GenICam™	<ul style="list-style-type: none"> <li>Fully compatible firmware load</li> <li>Guarantees delivery of all packets</li> <li>Comprehensive data transfer diagnostics</li> </ul>

### Connectors

12-pin circular connector	<ul style="list-style-type: none"> <li>GPIO</li> <li>RS-232 serial communication interface</li> </ul>
10-pin USB 3.0 micro-B receptacle	<ul style="list-style-type: none"> <li>Computer interface</li> <li>Power over USB (PoUSB)</li> </ul>
30-pin connector	<ul style="list-style-type: none"> <li>Sony block camera interface (cable provided)</li> <li>Digital video interface: 4 lanes of LVDS, 8 lanes for FCB-EV7500</li> <li>VISCA serial command interface</li> <li>Power for block camera</li> </ul>

### Video Formats

Video acquisition	<ul style="list-style-type: none"> <li>Digital video interface</li> </ul>
Input resolutions	<ul style="list-style-type: none"> <li>Full resolution images</li> <li>1080p, 25/29.97/30 Hz</li> <li>1080i, 50/59.94/60 Hz</li> <li>720p, 25/29.97/30/50/59.94/60 Hz</li> <li>Sony FCB-EV7500: 1080p, 50/59.94/60 Hz</li> </ul>
Pixel formats	<ul style="list-style-type: none"> <li>Mono8 (8 bits per pixel)</li> <li>BayerGR8 (8 bits per pixel)</li> <li>YUV 4:2:2 (16 bits per pixel)</li> <li>YUV 4:1:1 (12 bits per pixel)</li> </ul>

### Characteristics

Size (L x W x H) (without bracket)	<ul style="list-style-type: none"> <li>37 mm X 37 mm X 29.3 mm</li> </ul>
Operating temperature	<ul style="list-style-type: none"> <li>0° C to 60° C</li> </ul>
Storage temperature	<ul style="list-style-type: none"> <li>-40° C to 85° C</li> </ul>
External power supply (when not using PoUSB)	<ul style="list-style-type: none"> <li>4.8 V to 16 V</li> </ul>
Power consumption (Typical, including block camera)	<ul style="list-style-type: none"> <li>Sony FCB-EH3310, FCB-EH3410: 5.7 W</li> <li>Sony FCB-EH6500, FCB-EH6300: 6.1 W</li> <li>Sony FCB-EV5500: TBD</li> <li>Sony FCB-EV7100: TBD</li> <li>Sony FCB-EV7500: 5.8 W</li> </ul>

### Features

USB 3.0 based	<ul style="list-style-type: none"> <li>Connection to low-cost, easy-to-use equipment</li> <li>USB3 Vision 1.0 compliant</li> </ul>
Programmable Logic Controller	<ul style="list-style-type: none"> <li>Advanced image capture control</li> </ul>
Mechanical Bracket	<ul style="list-style-type: none"> <li>Easy assembly with Sony block cameras</li> </ul>

