



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



For more information, visit www.pleora.com



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Video Connectivity Solutions

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

Video Formats

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

Features

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

Connectors

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

Characteristics

Size (without bracket)	<ul style="list-style-type: none"> 37 mm X 37 mm X 29.3 mm
Operating temperature	<ul style="list-style-type: none"> 0° C to 70° C
Storage temperature	<ul style="list-style-type: none"> -40° C to 85° C
External power supply (With only External Powered)	<ul style="list-style-type: none"> 4.8 V to 16 V
Power consumption (Typical, including block camera)	<ul style="list-style-type: none"> Up to approximately 6.1 W
MTBF @ 40° C	<ul style="list-style-type: none"> 1,156,529 hours

*The product is specified for operation within the stated ambient and case temperature range of its components.

Ordering Information

900-6130	<ul style="list-style-type: none"> iPORT SB-U3 USB-Powered External Frame Grabber OEM Basic Kit includes SB-U3 OEM board set on camera bracket assembly (assembly # 900-6122*), and mounting screws.
900-6123	<ul style="list-style-type: none"> iPORT SB-U3 USB-Powered External Frame Grabber OEM Kit includes SB-U3 OEM board set on camera bracket assembly (assembly # 900-6122*), mounting screws, and 30-pin micro-coaxial video/control camera cable.
900-6124	<ul style="list-style-type: none"> iPORT SB-U3 USB-Powered Development Kit includes SB-U3 OEM board set on camera bracket assembly (assembly # 900-6122*), mounting screws, 30-pin micro-coaxial video/control camera cable, USB 3.0 Y-cable, and eBUS SDK USB stick.
900-6131	<ul style="list-style-type: none"> iPORT SB-U3 External-Powered External Frame Grabber OEM Basic Kit includes SB-U3 OEM board set on camera bracket assembly (assembly # 900-6127*), and mounting screws. For Sony FCB-EV7100, use bracket 909-1104 (see below)
900-6128	<ul style="list-style-type: none"> iPORT SB-U3 External-Powered External Frame Grabber OEM Kit includes SB-U3 OEM board set on camera bracket assembly (assembly # 900-6127*), mounting screws, and 30-pin micro-coaxial video/control camera cable. For Sony FCB-EV7100, use bracket 909-1104 (see below)
900-6129	<ul style="list-style-type: none"> iPORT SB-U3 External-Powered Development Kit includes SB-U3 OEM board set on camera bracket assembly (assembly # 900-6127*), 30-pin micro-coaxial video/control camera cable, USB 3.0 cable, and eBUS SDK USB stick. For Sony FCB-EV7100, use bracket 909-1104 (see below)
909-1104	<ul style="list-style-type: none"> EV7100 Bracket Kit for use with all iPORT SB-U3 models.

* Note: Not an orderable part number