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

900-6123	• 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.
900-6124	• 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.

USB3 VISION™

GEN<i>CAM

Pleora Technologies

iPORT SB-U3 External Frame Grabbers

Video Connectivity Solutions

iPORT External Frame Grabber	· Highly reliable, 2 Gb/s data transfer rate with low, end-to-end latency · OEM, in-camera board set
eBUS SDK	· eBUS Universal Pro driver · Sample applications · Driver installation tool · Documentation
USB3 Vision and GenICam™	· Fully compatible firmware load · Guarantees delivery of all packets · Comprehensive data transfer diagnostics

Connectors

12-pin circular connector	· GPIO · RS-232 serial communication interface
10-pin USB 3.0 micro-B receptacle	· Computer interface · Power over USB (PoUSB)
30-pin connector	· 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

Video Formats

Video acquisition	· Digital video interface
Input resolutions	· 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	· 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)

Characteristics

Size (L x W x H) (without bracket)	· 37 mm X 37 mm X 29.3 mm
Operating temperature	· 0º C to 60º C
Storage temperature	· -40º C to 85º C
External power supply (when not using PoUSB)	· 4.8 V to 16 V
Power consumption (Typical, including block camera)	· Sony FCB-EH3310, FCB-EH3410: 5.7 W · Sony FCB-EH6500, FCB-EH6300: 6.1 W · Sony FCB-EV5500: TBD · Sony FCB-EV7100: TBD · Sony FCB-EV7500: 5.8 W

Features

USB 3.0 based	· Connection to low-cost, easy-to-use equipment · USB3 Vision 1.0 compliant
Programmable Logic Controller	· Advanced image capture control
Mechanical Bracket	· Easy assembly with Sony block cameras