

DESIGN BRIEF: iPORT SB-GigE and SB-U3

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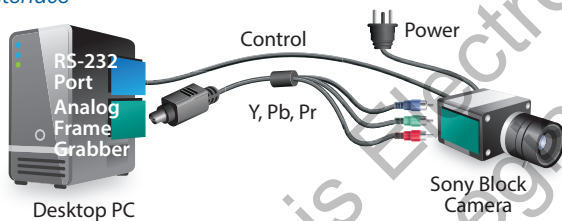
External frame grabbers simplify cabling and allow Sony block cameras to be used with a broader selection of computing platforms.

Pleora's **iPORT™ SB-GigE and SB-U3 External Frame Grabbers** allow manufacturers and systems integrators to treat Sony block cameras as native GigE Vision® and USB3 Vision™ cameras.

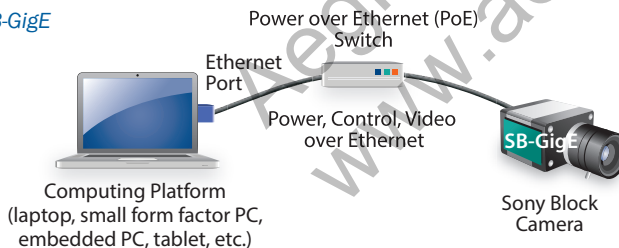
The external frame grabbers transmit video with low, consistent latency at high frame rates between Sony block cameras and computing platforms or display panels. The video, along with power and control data, is transmitted over low-cost Ethernet or USB 3.0 cabling to existing ports on the computer or display. Competing approaches require multiple cables for video transmission and control, external power sources, and PCI frame grabbers to capture images at the PC or display. This results in more complex systems, longer design times, higher costs, and limited component selection.

With Pleora's iPORT SB-GigE and SB-U3 External Frame Grabbers for Sony block cameras, designers can reduce system complexity, simplify cabling, and choose from broader selection of smaller form factor and lower-power computing platforms, including laptops, embedded systems, and tablets.

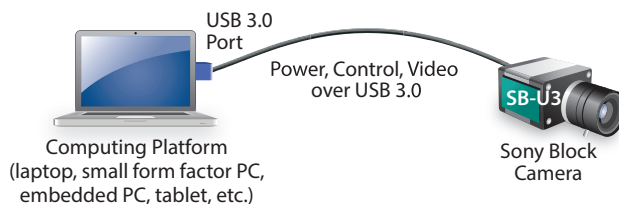
Legacy video interface



iPORT SB-GigE



iPORT SB-U3



Pleora's iPORT SG-GigE and SB-U3 reduce system complexity and costs by transmitting video, control signals, and power over a single cable directly to ports on a computing platform.

Simplify Design

- Plug-and-play external frame grabbers provide a low-risk way to leverage the design, cost and performance benefits of Ethernet or USB 3.0 for a wide range of imaging systems
- Transmit full-resolution video between a Sony block camera and an existing port on a PC/display panel over a flexible, lower cost Ethernet or USB 3.0 cable
 - iPORT SB-GigE supports 1 Gb/s data transfer with the flexible networking, extended reach, and Power over Ethernet (PoE) advantages of GigE
 - iPORT SB-U3 supports 2 Gb/s data transfer, power over USB (PoUSB), and control over a USB 3.0 link
- Eliminates the need for a PCI frame grabber, allowing the use of smaller form factor computing platforms (laptops, embedded systems, and tablets)
- GigE Vision, USB3 Vision, and GenICam™ compliance ensures interoperability in multi-vendor applications

Reduce Cabling Complexity and Costs

- Transfer 1080p video, control signals, and power over a single GigE or USB 3.0 cable
- GigE supports cabling distances up to 100 meters using standard CAT5e/6 cables, and longer with standard networking switching, for applications requiring remote monitoring and control

Boost Performance

- Flexible networking advantages for imaging applications, with ability to aggregate images from Sony block cameras to a single port, or multicast to multiple PCs and display panels
- Sophisticated onboard programmable logic converter (PLC) allows users to precisely measure, synchronize, trigger, and control multiple Sony block cameras and imaging devices
- Pleora's feature-rich eBUS™ SDK application tool kit allows designers to rapidly prototype and deploy production-ready software

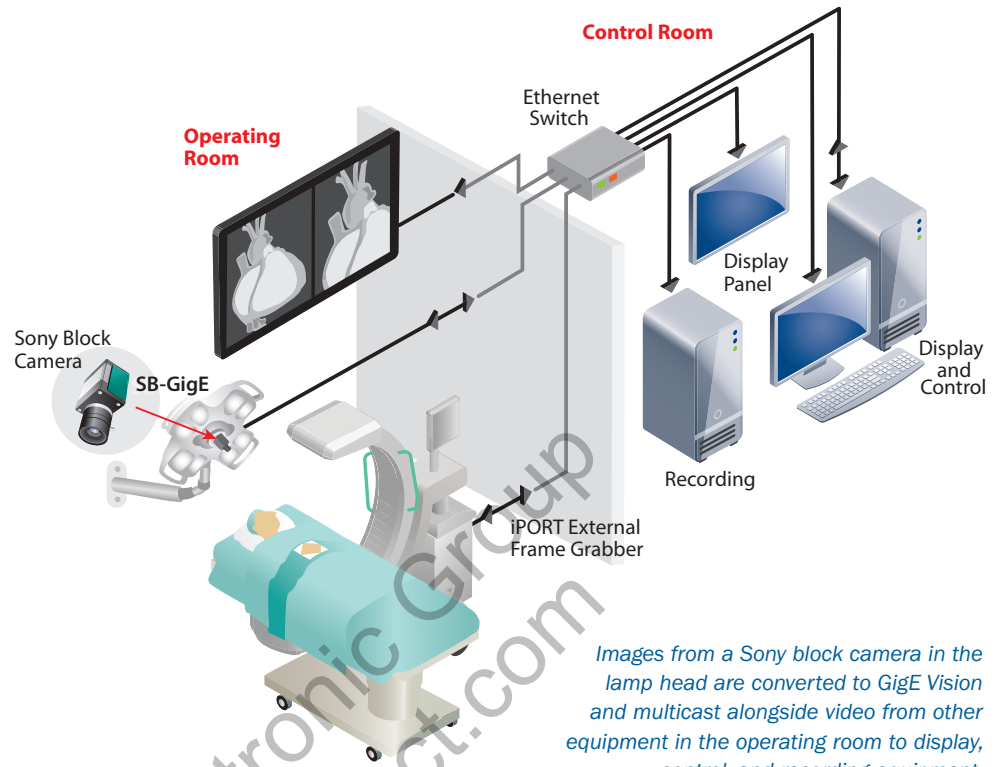


Networked Operating Room

The iPORT SB-GigE helps hospitals preserve capital investments in cameras, sensors, and processing systems, while gaining the performance advantages of Ethernet.

The SB-GigE converts images from a Sony block camera in a lamp head into a GigE Vision compliant video stream that is transmitted over the Ethernet connection to processing, analysis, display, and recording equipment located outside the sterile environment. Multiple image sources can be transmitted simultaneously over the switched Ethernet network. A legacy video interface in a digital radiography C-arm is easily converted to GigE with an iPORT external frame grabber and images are transmitted over the unified Ethernet network to processing and display equipment.

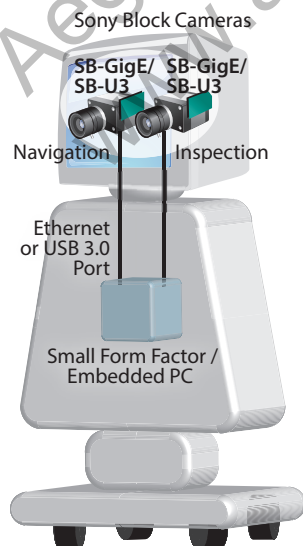
The fully networked video solution reduces system costs by minimizing the need for specialized equipment and cabling, provides greater design flexibility by supporting virtually any configuration option, and eases system maintenance and upgrade.



Images from a Sony block camera in the lamp head are converted to GigE Vision and multicast alongside video from other equipment in the operating room to display, control, and recording equipment.

Medical Telepresence Robot

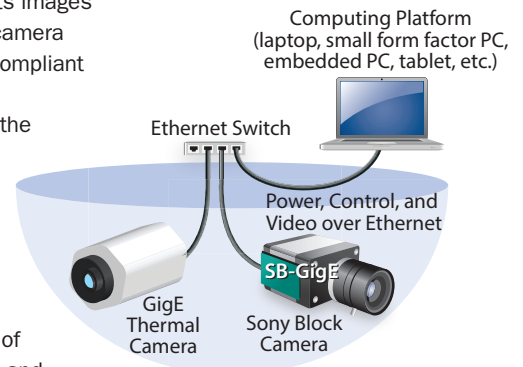
For robot manufacturers employing Sony block cameras, the iPORT SB-GigE and SB-U3 simplify cabling and allow the use of smaller form factor, lower power computing platforms for real-time image processing. As a result, manufacturers can reduce system complexity and lower component count and costs, while decreasing weight and power consumption to extend the operating life of battery powered devices.



The iPORT SB-GigE and SB-U3 reduce weight and power consumption to help extend operating life.

Surveillance & Security

In a surveillance application, the SB-GigE converts images from a Sony block camera into a GigE Vision compliant video stream that is transmitted over the Ethernet cable. With all cameras connected to a common network, video can be transmitted easily to any combination of analysis computers and displays using a basic Ethernet switch. For example, the video feed from a GigE thermal camera can be blended with images from a visible light camera to give end-users more detail on a region of interest.



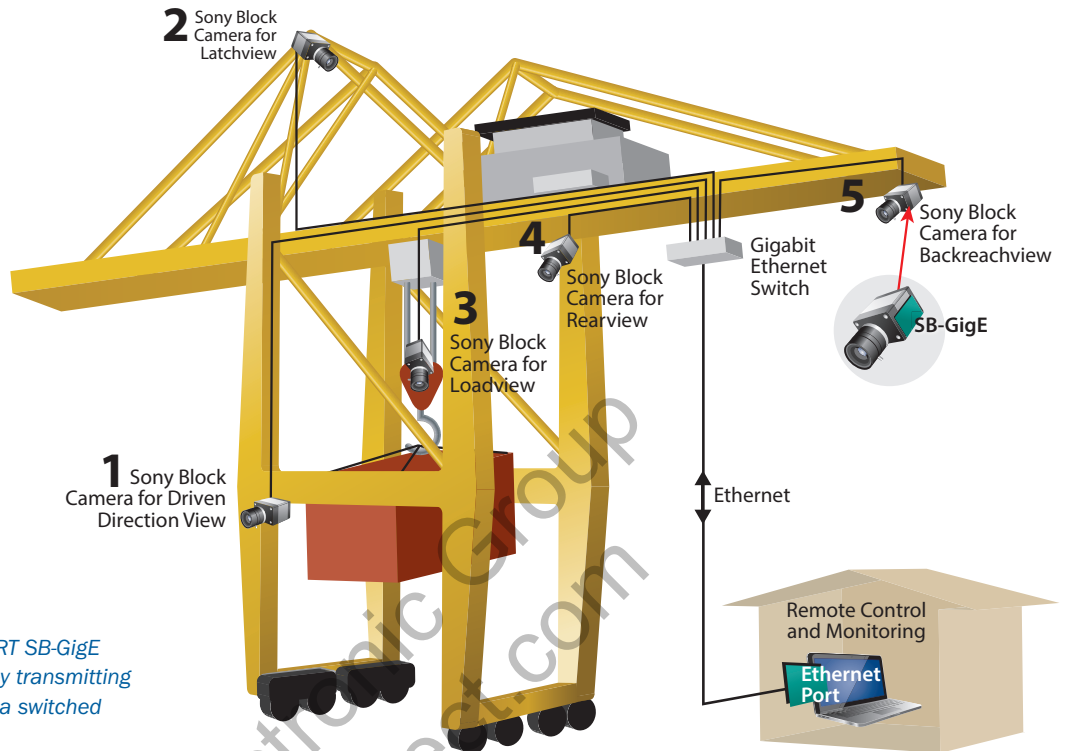
Images from a Sony block camera are converted into GigE Vision video and blended with video from a GigE Vision camera.

Multi-Camera Container Crane Transportation

In a multi-camera container handling gantry crane the iPORT SB-GigE delivers multicasting and distance advantages to reduce cabling complexity and costs. Feeds from multiple Sony block cameras are converted to GigE Vision compliant video streams, aggregated, and transmitted over a single Ethernet cable. Video, control signals and power are transmitted over the GigE cable.

With the extended reach of GigE — up to 100 meters over standard CAT5e/6 cabling and further with basic network switching — image analysis and control equipment can be centralized in a remote location.

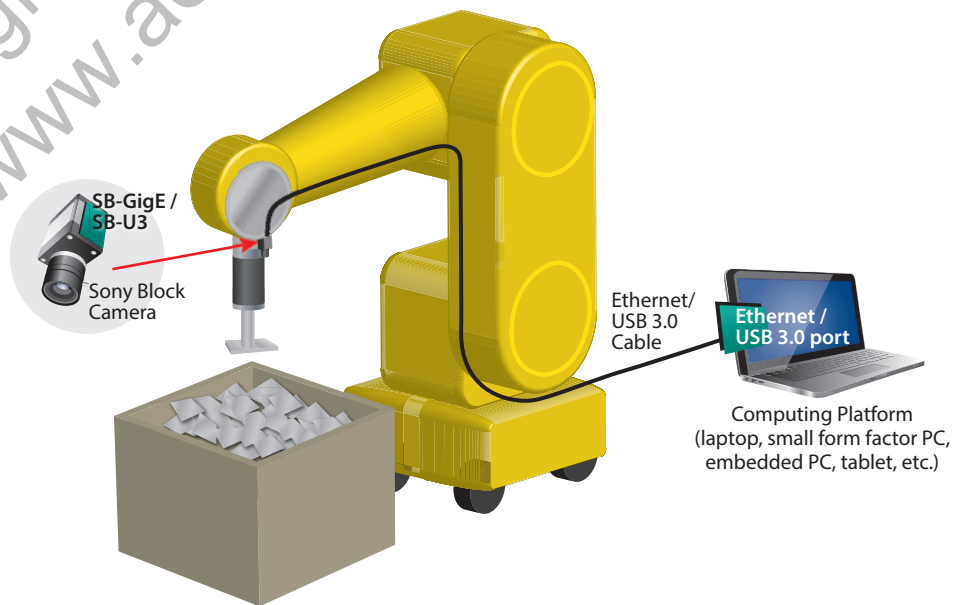
In a multi-camera application, the iPORT SB-GigE reduces cabling complexity and cost by transmitting video, control signals, and power over a switched Ethernet network.



Manufacturing

For bin-picking or sorting robots on manufacturing lines, images from a Sony block camera can be converted to a GigE Vision or USB3 Vision compliant video streams and transmitted over a single cable to smaller form factor, lower power image analysis and processing equipment.

The Ethernet or USB 3.0 cables are thinner, lighter, and easier to route than cabling required for legacy video interfaces, resulting in faster setup and teardown of production stations.



Images are converted to GigE Vision or USB3 Vision video and transmitted over a single cable that is thinner, lighter, and easier to route.

Working with Pleora

Pleora is the world's leading supplier of video interfaces for system manufacturers and camera companies serving the military, medical, and industrial automation sectors.

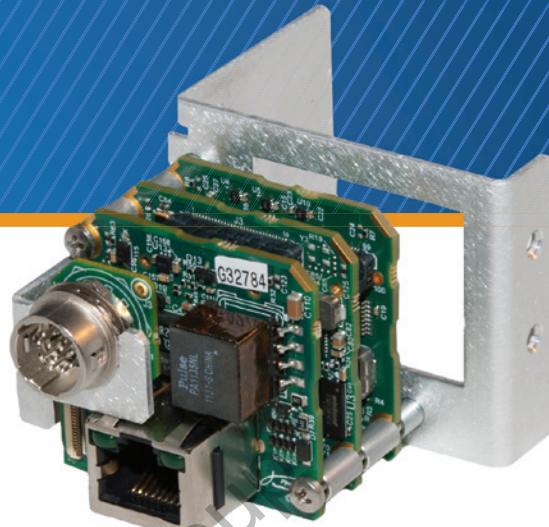
Pleora revolutionized the machine vision industry by pioneering the development of frame grabbers and embedded hardware for the delivery of video over Gigabit Ethernet (GigE), and we lead the market in video interfaces for USB 3.0 and wireless.

Our end-to-end solutions have been integrated into hundreds of unique system and camera designs to help system and camera manufacturers bring new offerings to market quickly, while reducing risk and lowering costs.

Learn More

We have made a number of resources available to anyone interested in learning more about networked video. Simply register to Pleora's Support Center on our website and you will have immediate access to:

- Whitepapers
- On-demand webinars
- Industry articles
- Data sheets
- Detailed product documentation



iPORT SB-GigE



iPORT SB-U3

The iPORT SB-GigE and SB-U3 External Frame Grabbers convert Sony block cameras into GigE Vision 2.0™ or USB3 Vision™ cameras to reduce costs, simplify cabling, and speed time-to-market

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