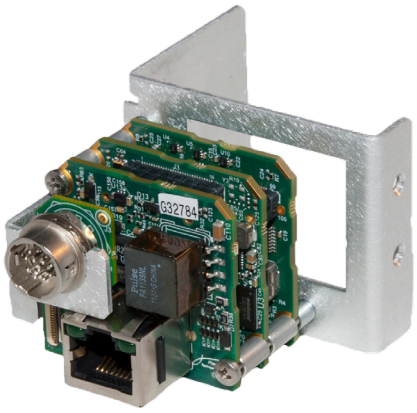
iPORT SKB-GigE-21Z30S External Frame Grabber

Leverage the long-distance cabling and multicasting capabilities of GigE for Skoopia 21Z30S block cameras



Overview

Pleora's **iPORT™ SKB-GigE External Frame Grabber** provides a straightforward approach to add GigE Vision® connectivity to the Skoopia™ 21Z30S block cameras to assist system manufacturers and integrators extend performance and lower both development and deployment costs.

The SKB-GigE frame grabber transmits full-resolution low latency video, power, and control data at distances up to 100 meters using standard CAT5e/6 cabling. Power over Ethernet (PoE) and external power options provide design flexibility, while lowering component and operating costs.

Deploying an off-the-shelf Ethernet switch, extended distances and more flexible network configurations are supported. Multiple cameras can be aggregated to a single port, imaging data can be multicast from one camera to multiple displays, or images from multiple cameras can be combined on one computer or processing unit.

The connection at the PC is a standard GigE port, eliminating the need for a desktop PC with an available PCIe card slot for a traditional frame grabber. As a result, system designers can reduce system size, cost, and power consumption by using smaller form factor computing platforms, such as laptops, embedded PCs, and single board computers.

The SKB-GigE presents a user-friendly interface to the VISCA™ protocol set, both graphically and in the eBUS SDK. This allows system designers to rapidly prototype interactions between the Skoopia camera and their software to help speed application development.

A sophisticated on-board programmable logic controller (PLC), general purpose input/output (GPIO) and support for the IEEE 1588 Precision Time Protocol allows users to precisely measure, synchronize, trigger, and control the operation of other vision system components.

Features

- Transmit low latency video, power and control data from Skoopia 21Z30S (camera firmware version 0x282B) to processing over extended-reach Ethernet cabling
- Deploy lower cost, smaller form factor computing platforms by eliminating need for a PCIe frame grabber card
- Converts video to 8-bit Bayer (color) or 8-bit monochrome formats to conserve bandwidth
- Simplifies VISCA interface by leveraging GenICam
- On-board programmable logic controller (PLC) and GPIO streamlines connectivity with other vision system components

Compatibility

Supported Block Camera

- Skoopia 21Z30S

Supported Camera Firmware Version

- 0x282B

Pleora Technologies

iPORT SKB-GigE-21Z30S External Frame Grabber

Networked Video Connectivity Solutions

iPORT External Frame Grabbers	• Highly reliable, 1 Gb/s data transfer rate with low, end-to-end latency • OEM, in-camera board set
eBUS SDK	• **eBUS SDK:** Single API to receive video over GigE, 10 GigE, and USB that is portable across Windows, Mac, and Linux • **eBUS Edge:** Software implementation of a full device level GigE Vision transmitter • **eBUS Receive:** High-speed reception of images or data for hand-off to the end application • **eBUS Player Toolkit:** View streams and develop, test and evaluate advanced features
GigE Vision and GenICam™	• Fully compliant firmware load • Guarantees delivery of all packets • Comprehensive data transfer diagnostics

Video Formats

Video acquisition	• Digital video interface
Input Resolutions	• Full resolution images • 1080p, 25/29.97/30Hz • 1080i, 50/59.94/60Hz • 720p, 25/29.97/30/50/59.94/60Hz
Pixel formats	• Mono8 (8 bits per pixel) • BayerGR8 (8 bits per pixel)[1] • YUV 4:2:2 (16 bits per pixel) • YUV 4:1:1 (12 bits per pixel)

Features

Gigabit Ethernet-based	• Connection to low-cost, easy-to-use equipment • Compatible with 10/100/1000 Mb/s IP/ Ethernet networks • Supports IEEE 802.3 (Ethernet), IP, IGMP v.2, UDP, ICMP (ping), and IEEE 1588 • Precision Time Protocol (PTP) • Long reach: 100 m point-to-point, further with Ethernet switches
Multicast capability	Enables advanced distributed processing and control architectures
Mechanical Bracket	Easy assembly with Skoopia 21Z30S block cameras

Connectors

12-pin circular connector	• GPIO • RS-232 serial communication interface • External power (optional)
RJ-45 jack	• Network/computer interface • Power over Ethernet (PoE)
30-pin connector	• Skoopia block camera interface • VISCA serial command interface • Power for block camera

[1] Interlaced video modes not supported.

Characteristics

Size (Without bracket)	37 mm X 37 mm X 34.3 mm
Operating temperature	5°C to 60°C
Storage temperature	-40°C to 85°C
External power supply (when not using PoE)	10 V to 16 V
Power consumption (typical, including block camera)	Up to approximately 7.0 W
MTBF @ 40°C	1,189,775 hours
ECCN	EAR99

Ordering Information

900-6182	**iPORT SKB-GigE-21Z30S OEM Basic Kit** including SKB-GigE-21Z30S OEM board set assembled on camera bracket for Skoopia 21Z30S block camera*, and mounting screws. • GPIO board, 12-pin circular connector, and 30-pin micro-coaxial video/control camera cable not included. • Powering is done by PoE (Power over Ethernet), or by using the flat flex connector. • An external power supply is required. Does not include power supply. * Contains assembly # 900-6181 which is not an orderable part number
900-6183	**iPORT SKB-GigE-21Z30S OEM Kit** including SKB-GigE-21Z30S OEM board set assembled on camera bracket for Skoopia 21Z30S block camera*, GPIO board assembly with flat flex cable and unsoldered 12-pin circular connector, mounting screws, and 30-pin micro-coaxial video/control camera cable. • GPIO bracket extension not included. • Powering can be done by PoE, or by using the 12-pin circular connector. • An external power supply is required. Does not include power supply. * Contains assembly # 900-6181 which is not an orderable part number
900-6185	**iPORT SKB-GigE-21Z30S Development Kit** including SKB-GigE-21Z30S OEM board set and GPIO board assembled on camera bracket for the Skoopia 21Z30S block camera with GPIO bracket extension*, flat flex cable, soldered 12-pin circular connector, 30-pin micro-coaxial video/control camera cable, mounting screws, Gigabit Ethernet desktop NIC, PoE Power Injector, 2 Ethernet cables, and eBUS SDK USB stick. NOTE: The eBUS SDK provided on the USB stick is unsupported, without access to maintenance releases, and does not provide any runtime licenses for your workstations. If any of these items are needed, recommend the purchase of the eBUS SDK Seat License (990-1024) * Contains assembly # 900-6184 which is not an orderable part number
900-6186	**iPORT SKB-GigE-21Z30S Developer Bundle** including SKB-GigE 21Z30S OEM board set and GPIO board assembled on camera bracket for the Skoopia 21Z30S block camera with GPIO bracket extension, flat-flex cable, soldered 12-pin circular connector, 30-pin micro-coaxial video/control camera cable, mounting screws, Gigabit Ethernet desktop NIC, PoE Power Injector, 2 Ethernet cables, eBUS SDK USB stick, and one year of eBUS SDK Developer Annual Maintenance and Support.

Pleora Technologies Inc.
Email: info@pleora.com
pleora.com