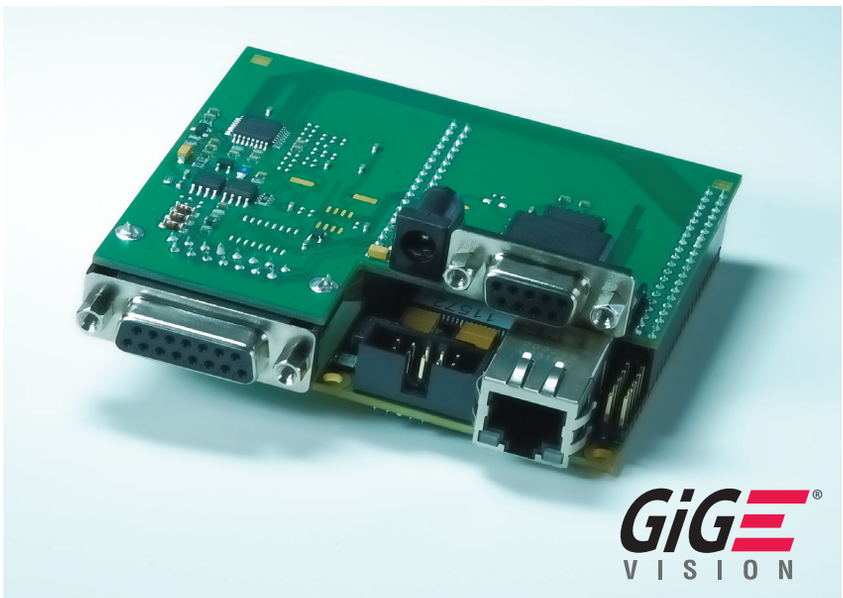
Analog monochrome video to GigE Vision® Converter

Applications:

- **Quality inspection and sorting systems**
- **Medical and scientific imaging systems**
- **Military sensing systems features**
- **Transmits imaging data from analog cameras at Gigabit Ethernet rates**
- **Ultra-low latency and jitter**
- **GigE Vision® and GenICam™ compliant**



Analog to GigE module

Sensor to Image CANCam GigE boards stream video and imaging data in real time over standard GigE connections between Base-configuration analog cameras and PCs using the industry-standard GigE Vision® protocol.

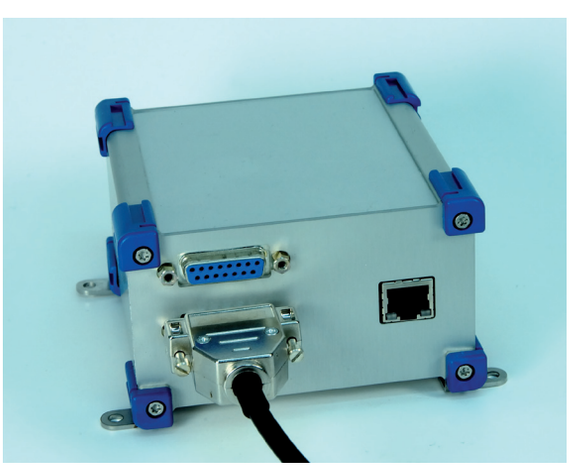
By leveraging the inherent capabilities of GigE, the CANCam boards over-come the limitations of traditional analog camera based systems: the need for proprietary frame grabbers, short distances between cameras and PCs and no networking flexibility for inter-connecting multiple cameras or centralizing control and maintenance. CANCam GigE board grabs data from analog cameras, convert it to IP quickly and efficiently, and send it to PCs over GigE links using Cat-5e or Cat6 cables. These operations are performed by Sensor to Image field-proven, purpose-built hardware with very low latency and jitter, at the full, 1 gigabit per second data rate. At the PC, the Cat-5e/6 cable plugs into an economical GigE network interface card (NIC), eliminating the need for a frame grabber. Point-to-point connections go up to 100 m.

Sensor to Image CANCam GigE boards use a sophisticated design in a industrial grade FPGA to manage control signals from host PCs, especially to adjust the ADC clock frequency for the connected camera on the fly. This powerful capability allows users to precisely measure, trigger, and control the operation of system components.

As an element of Sensor to Image networked interface solutions, the CANCam GigE boards are offered with field-proven software tool:

Sphinx SDK – a feature-rich toolkit that provides the building blocks needed to quickly and easily design high-performance video applications that consume minimal CPU resources.

The Sensor to Image CANCam GigE boards are fully compliant with the GigE Vision® and GenICam™ standards. Together with Sphinx PC software, it gives users a solid basis for camera control and operation.



Analog to GigE module, enclosed version

GigE Vision® and Networking Features

Gigabit Ethernet based
Fully compliant GigE Vision® firmware load
Compatible with all 3rd party GenICam™ compliant vision software libraries (MIL, LabView, Halcon, Sapera, CVB, VisionPro, StreamPix, TroublePix,...)
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 and ICMP (ping)
Long reach: 100 m point-to-point, further with Ethernet switches or fiber converters
Multicast capability enables advanced distributed processing and control architectures

Sphinx SDK

PC filter driver and acquisition library for Windows and LINUX OS (sources on request)
Sample applications, including GigE Vision®/GenICam™ compliant viewer (sources on request)
Driver installation tool
Documentation

Characteristics enclosed Version

Temperature Range	0°C to +70°C, optional -40°C to +85°C
Power Supply	8–15 V, 3 Watt
Dimensions Housing in mm	110×68×112

Characteristics OEM Version

FPGA / CPU	Xilinx Spartan S3ADSP-1800 / µBlaze
Memory CPU / Framebuffer / Flash / EEPROM	32 MByte / 32 MByte / 8 MByte / 8 kByte
Module Interface (without AddOn)	55 LVTTL lines, e.g. for data/adress bus, chip select
RS232 / CAN Interface / TTL-IO	1/Yes/2 in + 2 out
Temperature Range	0°C to +70°C, optional -40°C to +85°C
Power Supply	8–15 V, optional up to 30V, 2.5 Watt
Dimensions PCB in mm	90×20×86

Data Acquisition Features

Accepts single ended composite analog video signals 1 Vpp terminated by 75 Ohm
10 bit analog to digital converter running at adjustable clock frequency, max. 30 MHz
Clock for ADC can be adjusted by XML parameters
Can acquire images from a wide variety of sources like SONY XC55, JAI A1, HITACHI KPM1 and many more free running or externally triggered
Deinterlacing of interlaced cameras supported
Flexible acquisition modes

AddOn Module

Camera Interface	1 analog input on DSUB15 with camera power supply, camera IO and camera RS232 communication interface

Connectors

Power:	DSUB15
Network:	RJ45
Video:	DSUB15 (with camera power supply)

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