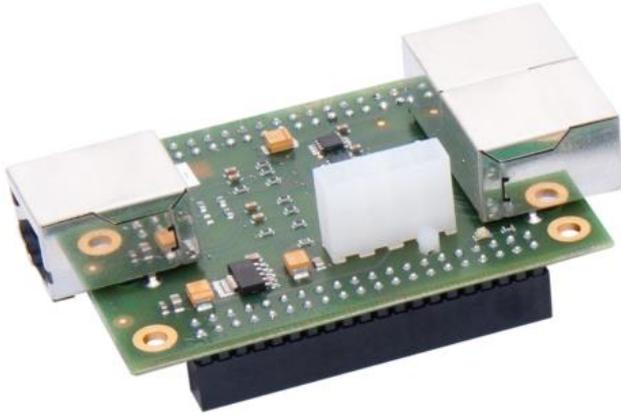# GLink-Splitter

General description:

The GLink-Splitter is an extension to the BAP imaging products range. The splitter duplicates a single video signal stream in a G-Link standard into two G-Link output streams. It allows the user to connect two (or more (using cascading technique) image processing units to the same video signal source.

The actively regenerated output video signals support single and dual TLK modes of the G-Link interface. All video signal properties, strobes, line valid signals - remain unchanged, as if there were no splitter. The bi-directional control serial line is supported in the master output socket. Only the master frame grabber may control the camera by sending commands. Commands from the secondary socket are ignored.

Power supply	5V/DC 250mA through external Socket
Options	3.3V/DC 250mA through IE64_HS extension board
Input	single RJ-45 socket for high-speed serial interface from camera
Output	two RJ-45 sockets for high-speed serial interface from camera
Frequency Range	40–75 MHz (960 to 1800 Mbit)
Cascading	up to three levels (up to 8 image processing boards connected to the same camera signal)

Area Application

In some applications the speed of processing is limited due to complicated algorithms for image processing. In other cases some parts of the image have to be processed with high priority to be able to take proper action, e.g. to recognize the OCR code on the payment document in order to have the ability to sort. In those cases it's necessary to split the camera signal nto two or more image processing units, to accelerate the processing.

Installation

The GLink-Splitter has one camera input interface and two camera output interfaces to image processing boards.
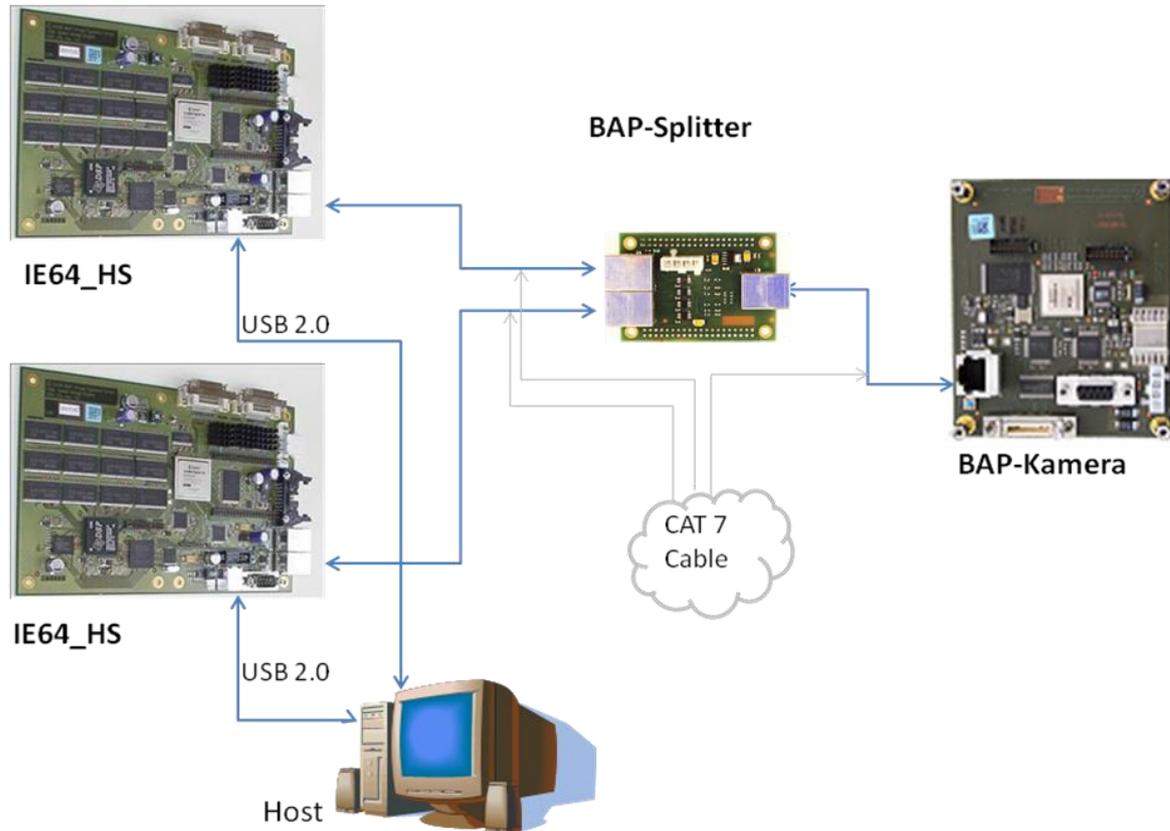

The power supply of the GLink-Splitter can be delivered in two different ways. One possibility is via a special power socket situated on the GLink-Splitter. The other is from the IE64_HS board, in cases when the GLink-Splitter is plugged into the board.

Short Technical Overview of IE64_HS Image Processing Board

- based on the TI TMS32C6414 DSP
- two physical camera inputs
- output interface USB 2.0 up to 21 MB/s
- output image format: JPEG, JPEG2000 and TIFF Group IV
- up to 550 ppm DIN A4 /200 dpi simplex, multi-stream (b/w TIFF G4 and color JPEG)
- up to 280 ppm DIN A4/300 dpi simplex (b/w TIFF, G4, and color JPEG)

GLink-Splitter

IE64_HS

USB 2.0

IE64_HS

USB 2.0

Host

BAP-Splitter

BAP-Kamera

CAT 7
Cable

The GLink-Splitter may be used in several types of applications. In the most performance-demanding applications, the splitter gives an enormous processing speed gain. Splitting of the camera video signal and triggering one of the grabbers only for even images and the other one for odd image allows a doubling of performance in terms of DPM. Even larger performance gains may be achieved using a cascade of splitters - where complicated and time-consuming tasks happen in numerous frame grabbers (image processing units) at the same time in a pipeline fed through the GLink-Splitter.

Splitting camera signal may also be useful for a real-time optical recognition and sorting tasks. The same video signal is processed and compressed by one frame grabber, and transferred to the host for archiving. The other, specialized, frame grabber - analyzes only a certain small snippet of each document and makes an immediate sorting decision - depending on the snippet content.

BAP Image Systems (BAPis) is a dependable and reliable imaging products and solution provider with highly proven industry experience. BAPis develops and manufactures cameras based not only on high speed CCD and CMOS line sensors, but also on area CMOS/CCD sensors. BAPis cameras are used in the machine vision industry as well as in the film industry. Additionally, BAPis develops and produces image grabbers and processing boards based on DSP and FPGA technologies using its own algorithms. Image processing boards are matched with camera performance and, when combined, are able to reach the highest possible throughput.