

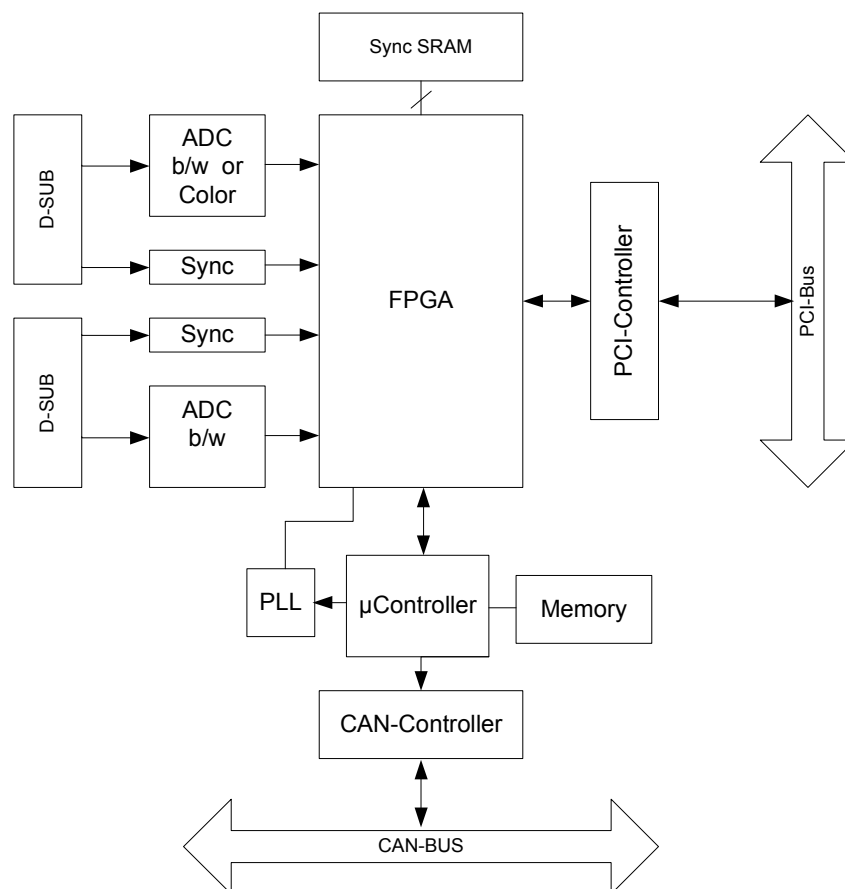
Active framegrabber with microcontroller, FPGA and synchronous SRAM for demanding image processing in industry, medicine, research and security

RAMSES I V3 is a very powerful framegrabber, to upgrade a customary in trade personal computer with PCI-interface, Compact PCI-systems and industry computer in PC104+ size to a workstation for image processing.

This product with its proven technology of the previous versions Pictureboy and RAMSES I V2, was developed further and optimized, to ensure best image quality and to allow many fields of application.

The RAMSES board is an active framegrabber, which means the board is equipped with a microcontroller and FPGA in addition with very fast synchronous SRAM to allow extensive image processing onboard. So application with many images per second can be served and the potential for reduction of data can be used in an optimal manner. Due to the two completely independent input-channels (no multiplexing) and the parallel video-data processing, you can build applications with one or to monochrome/colour cameras or with multi-tap-cameras. In addition 3D-applications are also possible, where it is necessary to process data of two cameras together.

Over the PCI-bus the image data, possibly pre-processed, can be transferred to host-memory very quickly, without using the host cpu. Then a PC-based vision application can go on with processing this data. Additional you can connect the RAMSES-board with a CAN-field bus, to communicate directly with PLCs, independent from the host PC.



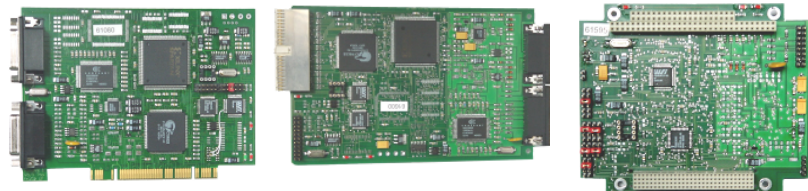
Block Diagram: Framegrabber-Structure

This board can be adapted to your needs quickly and inexpensively. At this, the company Feith Sensor to Image likes to advise and help to realize an optimal application.

Technical Facts

- ◆ Colour and monochrome framegrabber for high resolution industrial image processing
- ◆ Analog and digital camera interfaces
- ◆ PAL/NTSC, progressive scan, line scan-cameras and further individual camera-adjustments
- ◆ Video and sensor connection via 15-pole DSUB socket
- ◆ Firmware- and FPGA-update directly in the system
- ◆ Realtime image processing with onboard FPGA and 2MB of synch. SRAM
- ◆ FIFO-Interface to the PCI-bus with capacity of 16kByte
- ◆ Onboard μ controller delivers 4 external TTL-IO-control circuits per channel and serves as sensorcontroller and communication interface to the PC.
- ◆ 10-bit A/D converter operating at 30MHz
- ◆ Power requirements: +5V/1A, +12V for CCD-camera
- ◆ RAMSES I V3 is completely compatible with PCI/V2.2
- ◆ Up to 5 board per PC
- ◆ Driver software and programming library available for Windows and Linux
- ◆ Supports image-processing library SAC Coake®

Features of the different board-variants



	PCI	Compact PCI	PC104+
Video IN (alternativ)	B/W 2 + Colour 0 B/W 1 + Colour 1	B/W 2 + Colour 0 B/W 1 + Colour 1	B/W 1 + Colour 0 B/W 0 + Colour 1
Data Transfer	approx. 100 MB/s	approx. 100 MB/s	approx. 100 MB/s
Interfaces:			
• RS 485	yes	yes	no
• RS 232	yes	yes	yes
• LVDS	in + out	in + out	in
• CameraLink	in design	in design	in design
• CAN-Bus	yes	yes	no
Camera type	all	all	all
I/O	4 per channel	4 per channel	4
2 CCD the same time	yes	yes	no
Resolution	10 bit	10 bit	10 bit
Shades of gray	1024 or 256	1024 or 256	1024 or 256
Temperature range	0 – 70 °C	0 – 70 °C	0 – 70 °C
Dimension	104 x 144 mm	3HU	116 x 98 mm