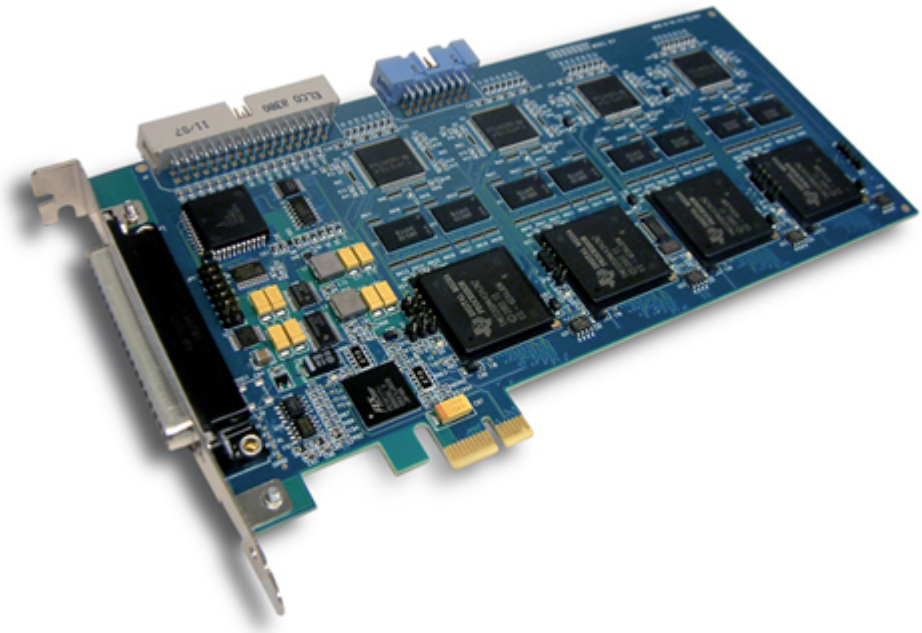
SENSORAY | embedded electronics

PARHELIA

Model 817 | PCI Express JPEG Frame Grabber



Features

- 16 channel JPEG and / or bitmap capture at full NTSC or PAL frame rate
- 16 video inputs, 4 video output
- PCI Express x1 interface
- 80 character text caption overlay before compression
- NEW: Advanced deinterlacing of interlaced video eliminates motion artifacts

Model 817 combines the functions of a frame grabber, hardware JPEG encoder, and 16 X 4 video crosspoint switch, into a PCI-express (x1) card. It is capable of capturing full resolution color JPEG-compressed images and / or monochrome uncompressed bitmaps, from 16 channels at full NTSC or PAL frame rates.

Frame rate
Four identical video capture and processing units (VCPU) work together to compress JPEG images at 30fps on all 16 channels simultaneously for a total board throughput of 480 fps for 640 X 480 interlaced frames.

Hardware compression
Model 817 executes hardware JPEG compression to reduce the amount of disk space required to store images. Hardware compression greatly reduces the load on the CPU.

Multiple boards
Sensoray's driver supports multiple 817's in the same computer.

Real-time outputs
A 16x4 analog crosspoint video switch is used to route any combination of four input channels to external video monitors. Each of the four video outputs can be individually turned on or off, which allows connecting the outputs of multiple 817’s to the same monitor.

Text Overlay
An optional single line text caption (up to 80 characters) can be overlaid on the captured images (before compression).

Deinterlacing

Model 817 performs optional deinterlacing of interlaced video to reduce motion artifacts on captured images. The lines of one of the fields of video are recreated from those of another field by using interpolation. This method provides better visual quality compared to simple line doubling. Since the deinterlacing is performed by the firmware running on the DSPs, it slows the capture rate down slightly.

Model 817TA TV Video Splitter

Model 817TA is an indispensible tool for application development and troubleshooting with Sensoray's 16-channel frame grabbers (models 615, 617 and 817). Model 817TA takes one standard composite TV video signal (BNC connector) and splits it into 16 buffered outputs of standard amplitude and impedance. The outputs are connected to a 34-pin ribbon cable connector standard for above mentioned frame grabbers. A combination of models 817TA and 609TC yields a splitter with 16 BNC outputs.

Termination Boxes

The 817 may be connected to optional termination boxes (listed below) with a flat cable, Model 609C1.
Model 609TA provides sixteen BNC's for inputs, eight BNC's for video output and captive terminals for the digital I/O signals.
Model 609TB optional termination box supports 32 cameras.
Model 609TC provides 16 BNC's for camera connections and is 2U height.
Model 609TE provides 16 BNC's for camera connections and fits in the space of a CD player.
Model 609TG supports 32 camera connections and is 2U height for 19" enclosure.

Specifications

Video sources	NTSC, PAL, RS-170, CCIR
Video inputs	16 analog composite; 75 Ω input impedance
Video outputs	4 analog composite with individual on/off capability;
Output formats	Compressed: JPEG (ITU-T T.81 | ISO/IEC 10918-1)
Output resolution	NTSC:4CIF: 640x480; 2CIF: 640x240; 1CIF: 320x240
A/D resolution: luminance channel	8 bit
A/D resolution: chrominance channel	8 bit
Capture rate	JPEG only or bitmap only at any size: 480 fps (NTSC), 400 fps (PAL) JPEG and bitmap simultaneously: 4CIF: 400 fps (NTSC), 330 fps (PAL) 2CIF, 1CIF: 480 fps (NTSC), 400 fps (PAL)
Bus requirements	PCI Express rev.1.1, x1 or wider
Power consumption	15 W (3.3 V)
Operating temperature	0°C to 50°C (with convection cooling)

Information

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