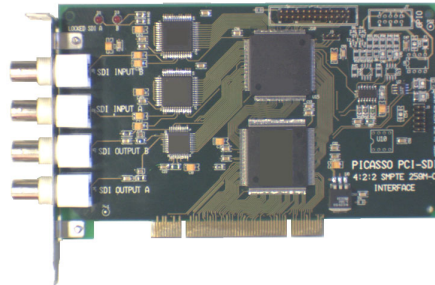


## Datasheet picasso™ SDI model



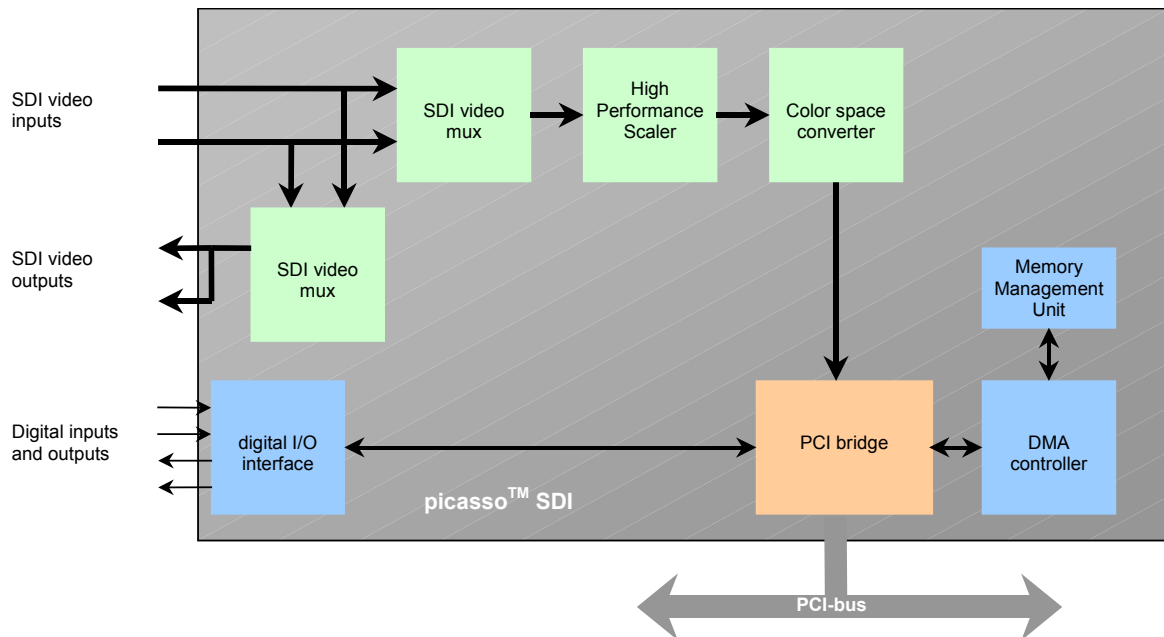
### Key features

- cost attractive Serial Data Interface (SDI) board
- available in standard PCI form factor
- realtime video
- interlaced video (PAL/NTSC)
- two SMPTE 259M-C interface inputs
- two SMPTE 259M-C interface outputs, both repeat one input (software selectable)
- realtime downscaling on board
- 2 digital inputs (optical isolated) for e.g.
  - start capture
  - interrupt generation
- 2 digital outputs (optical isolated) for e.g.
  - trigger stroboscoop
  - process control
- software support for Windows

### General

The picasso™ SDI is a high performance 'plug and play' PC-card for the PCI-bus. It enables each standard PCI system to acquire SDI image data and store YUV or RGB images in system memory or full frame display of real-time video in a window.

## Architecture



## Detailed Information

### Input and output format

The picasso™ SDI interface accepts video sources compliant with SDI (SMPTE 259M-C) standard at a rate of 270Mbit/s. One of the inputs can be looped back to both SDI outputs for reproduction of the selected input signal.

### Image adjustments

The resulting video data stream has a resolution of 720 x 576 (PAL) or 720 x 485 (NTSC). The SDI-interface offers control of brightness, contrast, saturation and hue by software.

### Downscaling

The board offers realtime on board image downscaling. It is performed by the High Performance Scaler unit. The downscaling factor range is from 1 to 1/1024. Upscaling is not possible

### Overlay

Realtime video display is possible. The image data will be transferred to the frame buffer of VGA card, without impacting the host-CPU.

### Color conversion

The color space converter of the picasso™ SDI converts the data to RGB or YUV with predefined color and bit depths. For example RGB24 or YUV4:2:2 output formats can be selected under software control.

### Data transfer

The digitized and conditioned data is transferred over the PCI bus with rates of up to 132 MBytes/sec (theoretical, real value depends on motherboard design and operating system performance).



## Technical specifications

<b>picasso™ SDI</b>	
	standard PCI
PCI Bus	PCI 2.1 32-bit PCI interface PCI bus master up to 132 Mbytes/sec. Supports zero wait state burst transfers Plug and play, no jumpers
Video inputs	2 multiplexed SMPTE-259M-C accepts 10-bit and 8-bit data. (10-bit will internally be converted to 8-bit)
Video outputs	2 SMPTE-259M-C (looped back from one input)
Input format	PAL/CCIR, NTSC/RS170, SECAM Interlaced
Video resolutions	PAL/SECAM: up to 720 x 576 NTSC: up to 720 x 485
Pixel geometry	4:3
Data bandwidth	270Mbit/s
Brightness Contrast Color hue Color saturation	Programmable
Scaling	Programmable (random down scaling) Realtime scaling
Overlay	Supported. Video to VGA/AGP card without use of processor power
MMU	Memory Management Unit; Supports Virtual Memory up to 4 Mbytes/DMA channel
Capture formats	RGB32 RGB24 RGB16(15) YUV4:2:2 Y8
Digital I/O	2 digital inputs 2 digital outputs TTL compatible optical isolated inputs can be programmed as interrupt or as capture start 5V, 100 mA, 10kHz
Video connectors	4 x BNC
Digital I/O connector	10-pins header on PCB
Dimensions (mm)	106 x 175
Power consumption	5.75 W typical
Operating temperature	0° C to 55° C
Operating Systems	Windows 98/ Me/ NT/ 2000/ XP
Software	Windows: Visual C++, Borland C (ANSI C compilers) Visual Basic, Delphi



**picasso<sup>TM</sup>**  
**SDI**

**Option**

**Software**

Windows Software Development Kit (98/Me/NT/2000/XP)