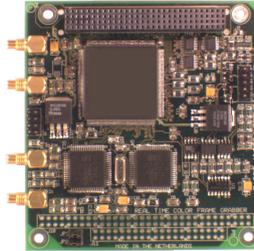


## Datasheet picasso™ 104-DUO-2



### Key features

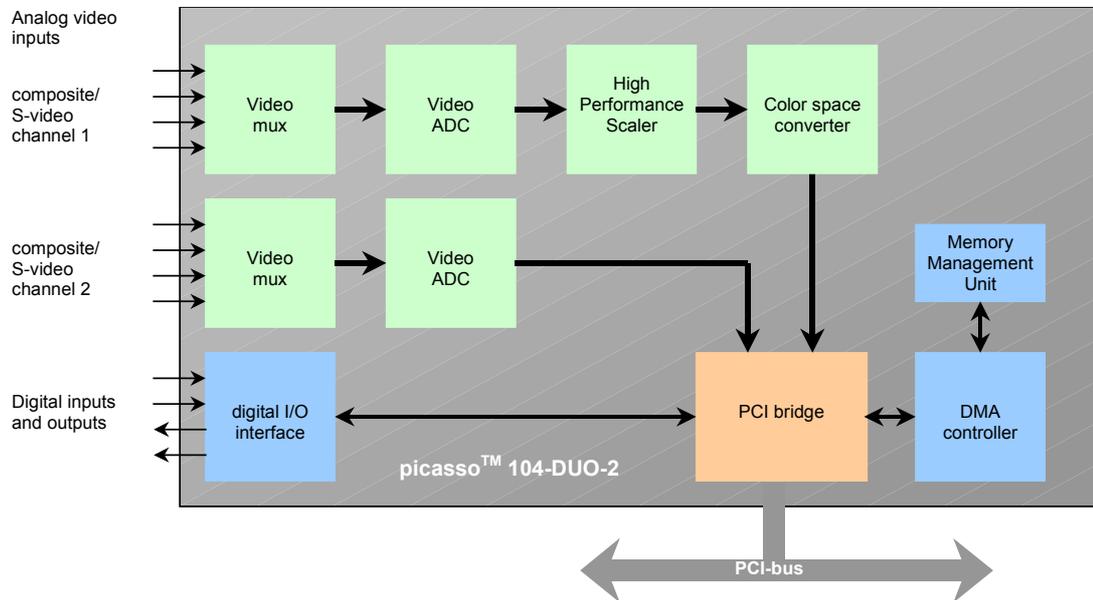
- dual channel framegrabber with fast channel switch option
- real time video
- interlaced video (PAL/NTSC/SECAM)
- 2 parallel, independent analog channels
- per channel: 4 multiplexed composite inputs or 2 S-video inputs
- per channel: 50/60 fields/sec
- real time downscaler on one channel
- 2 digital 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™ 104-DUO-2 is a high performance 'plug and play' PC-card for the PC/104*plus*-bus. It enables each standard PC/104*plus* system to capture and store single images for image processing or full frame display of real-time video in a window.

The picasso™ 104-DUO-2 offers dual acquisition and fast channel switch.

## Architecture





## Detailed Information

### Dual video path

The picasso™ 104-DUO-2 has two independent video paths. Images of two cameras can be taken at the same time.

### Input format

The picasso™ 104-DUO-2 accepts video sources compliant with PAL/CCIR, NTSC/RS170 or SECAM standards. The video inputs accept composite (CVBS) and S-video (Y/C).

### Digitizer and Image Adjustments

The acquired video is fed to the video digitizer. This A/D converter assures real time conversion of input analog video to digital image data at sampling rates of 13.5 MHz. The resulting video data stream has a resolution of 720 x 576 (PAL/CCIR) or 720 x 485 (NTSC/RS-170). The DUO model offers control of brightness, contrast, saturation and hue by software.

### Downscaling

The picasso™ 104-DUO offers real time on board image downscaling on one video path. Scaling is performed by the High Performance Scaler unit. The downscaling factor range is from 1 to 1/1024. Upscaling is not possible.

### Overlay

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

### Color conversion

One video path contains a color space converter. It 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.

The second video path generates YUV422 or Y8 (gray).

### 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™ 104-DUO-2</b>	
PCI Bus	PC/104plus 1.0 interface (32 bit, 12V/5V) PCI bus master up to 132 Mbytes/sec. Supports zero wait state burst transfers
Video inputs	2 separate channels each channel has: 4 multiplexed composite or 2 multiplexed S-video inputs
Input format	PAL/CCIR, NTSC/RS170, SECAM Interlaced
Image resolutions	PAL/CCIR/SECAM: up to 720 x 576, 50 Hz field freq NTSC/RS-170: up to 720 x 485, 60 Hz field freq
Pixel geometry	4:3
Data digitization	13.5 MHz, 8 bit per pixel
Gain	Automatic
Brightness Contrast Color hue Color saturation	Programmable
Scaling	Programmable (random down scaling) Real time scaling <i>only channel 1</i>
Overlay	Supported. Video to VGA/AGP card without use of processor power <i>only channel 1</i>
MMU	Memory Management Unit; Supports Virtual Memory up to 4 Mbytes/DMA channel
Capture formats	channel 1                      channel 2 RGB32                          YUV4:2:2 RGB24                          Y8 RGB16(15) <i>RGB formats require post processing on</i> YUV4:2:2 <i>host computer system</i> 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 SMC female, 8-pins header on PCB
Digital I/O connector	10-pins header on PCB
Dimensions (mm)	90 x 96
Power consumption	9.8 W typical
Operating temperature	0° C to 55° C
Operating System	Windows 98/ Me/ NT/ 2000/ XP
Software	Windows: Visual C++, Borland C (ANSI C compilers) Visual Basic, Delphi



## Options

### ***Software***

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

### ***Cable set***

SMC < > BNC, 1 meter, video cable

### ***Hardware modification***

PC-104 stack through connector