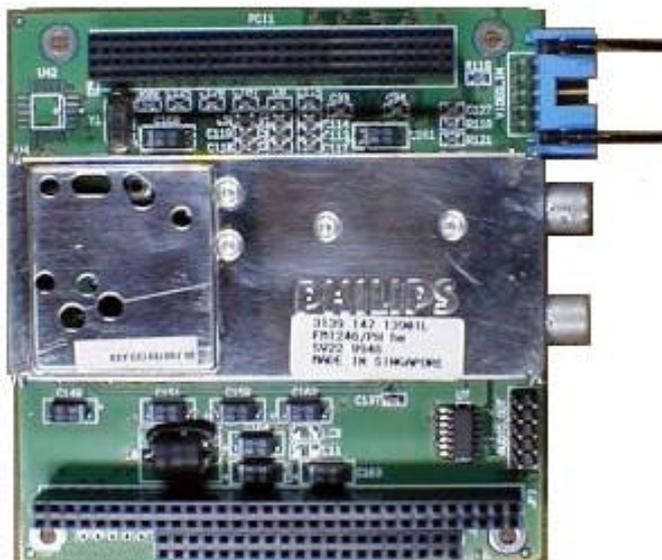


AVC2000 PC/104+ Audio and Video Capture Controller



General Description

The **AVC2000 Audio and Video Capture** Controller is a high performance Multimedia video and audio capture and video overlay card on a compact PC/104+ card format. Utilising the 32-bit PCI architecture, the **AVC2000** allows real-time image and audio capture from a PAL or NTSC video source or FM Stereo audio to the system memory or directly to the systems Display and Audio output. Sound and Images can be captured continuously to system memory or disk for image processing and multimedia applications. The AVC2000 is available with option of built-in **TV and FM Radio Tuners** providing rich multimedia for embedded applications. The **AVC2000** is supported by a suite of drivers for DOS, Windows95/98/NT/CE, Linux . The **AVC2000** is an ideal solution for machine vision, Internet Webcasting, and Mobile Entertainment Systems (MES).

Features

- Live image input from NTSC/PAL/SECAM
- Composite or S-Video input
- Audio input from TV and FM radio
- Built-in TV/FM Radio Tuner (option)
- Inputs from Video camera, VCR, etc
- High resolution 768 x 576 image size
- Supports multiple AVC2000 in system
- 24-bit colour decoding
- Live video overlay on CRT and TFT Panel
- Drivers for DOS, Windows, Linux, RTOS
- Compact 3.6in x 3.8in PC/104+ form factor
- Single +5V power supply

Applications

- Low cost high performance image capture
- Smart FM radio
- Intercast receiver
- WebCast video encoding head
- Remote video surveillance
- Medical and Industrial imaging
- Motion detection and Traffic monitoring
- Robotic systems and OCR
- Disc based Video Recorder
- Mobile Entertainment Systems (MES)

*Rev 1.00 subject to change without notification



AVC2000 PC/104+ Audio and Video Capture Controller

PC104+ Bus Interface	Compliant with PCI Rev 2.1 132MBytes/sec bandwidth at 33.33 MHz bus speed Consumes less than 45MBytes/sec at maximum image capture size Live image burst to display, memory or disk
Analogue Video Input	UltraLock digital technology for reliable locking to any video source Three input video multiplexer 2 Composite and 1 S-Video inputs Dual flash Analogue-to-Digital converters 2X oversampling - 28.64MHz for NTSC, 35.47MHz for PAL
Video Input Formats	NTSC-M, NTSC-Japan PAL-B, PAL-D, PAL-G, PAL-H, PAL-I, PAL-M, PAL-N SECAM
Video Input Adjustments	Contrast (or luma gain) adjustable from 0 - 200% of original value Saturation (or chroma gain) adjustable from 0 - 200% of original value Brightness (or luma level) can be adjusted from 0 - 255 steps
Video Storage Formats	24-bit RGB, 16-bit RGB, YUV422, YUV411 Up to 768 x 576 (full PAL resolution) pixels
Scaling and Cropping	Programmable option for horizontal and vertical scaling 6-tap horizontal interpolation filter 5-tap vertical interpolation filter Programmable input cropping
TV and FM Audio Input	Three input analogue Audio multiplexer Selection of TV Audio, FM Audio or Microphone Input Digital Audio (Stream or Packet) Input
Miscellaneous	Single +5V at less than 400mA Operating Temp of 0 to 60degC (Extended Temp option) Standard 3.6 x 3.8in PC/104+ form factor
Software	Drivers for Windows95/98/NT/CE, Linux static Library for DOS Sample video overlay application in C/C++ source code Other Operating Systems such as QNX, PharLap, pSOS, etc can be supported on demand
Ordering Information	AVC2000 Standard AVC2000 Capture card without TV/FM Tuner AVC2000-TV Enhanced AVC2000 Capture card with TV/FM Tuner



Functional Overview



The AVC2000 is designed to work with a PC/104+ computer such as the Tiny786LP or mobile786EBX. The card plugs into the PC/104+ stack and transfers capture Audio and Video data across the PC/104+ bus to the system memory, disk, or Display and Audio outputs.

Analog Video Camera Capture

The AVC2000 supports 2 Composite and one S-Video inputs. These inputs are software selectable through an on-chip multiplexer for video capture. Following decoding and digitisation, the digital video stream is routed to the high-quality down-scaler and on-board colour adjustment processor. The data is then transferred by bus-master DMA into system memory or displayed via the system's graphics frame buffer.

Intel Intercast™ Support

The AVC2000 fully supports the Intel Intercast technology. Intel Intercast technology combines the rich programming of television and the exciting world of the Internet on your Mobile Entertainment System (MES). This allows for example, watching a news broadcast while simultaneously displaying a historical perspective Web page or viewing a music video while ordering concert tickets over the Internet through a wireless connection such as WAP.

TV/Stereo Support

The AVC2000 supports TV/stereo decoding. The complete Broadcast Television Systems Committee-Multichannel Television Sound (BTSC-MTS) audio spectrum is digitized. Digital processing is then used to extract the content out of the data stream. The AVC2000 performs the following operations:

- extraction of (L+R) sound spectrum and (L-R) sound spectrum,
- pilot tone detection,
- de-emphasis of the (L+R) signal,
- matrix to restoration of L and R channel signals,
- demodulation of the (L-R) spectrum and DBX decompression.

FM Radio Stereo Support

The AVC2000 can digitize the composite FM stereo signal which is output from commercial FM tuners. The system performs the following operations:

- demodulation,
- de-emphasis,
- decoding,
- re-matrixing.

The AVC2000 provides unprecedented flexibility and functionality in its ability to process both live video and FM Stereo radio in a compact PC/104+ platform.

