

# eVAC2000

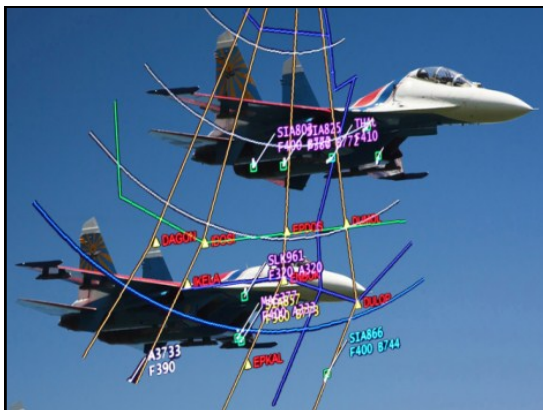
PCI/104 Video Annotation Controller Board



**Advanced Micro  
Peripherals**

THE EMBEDDED VIDEO EXPERTS

The eVAC2000 is a real time NTSC/PAL video overlay and video annotation controller for the PCI/104 bus. The eVAC2000 integrates on a single PCI/104 card, a high-resolution graphics accelerator, digital NTSC/PAL TV decoder, digital NTSC/PAL TV encoder and video overlay controller.



The eVAC2000 accepts up to four composite NTSC or PAL analog video inputs from a variety of sources including video cameras, digital video recording equipment or regular TV broadcasts. The eVAC2000 Video Annotation Controller features multi-format alpha blending hardware allowing graphics/video and video/video to be alpha-blended over a number of gradations from transparent to fully opaque. The eVAC2000 is

Mix live video  
with computer  
graphics

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suited to a wide range of applications which require annotation of live video streams with information such as titles, dynamic grids or visible watermarking. The combined annotated information may then be displayed and/or fed into an MPEG-4 encoder for compression and recording applications.

The eVAC2000 board uses a high performance 64 bit 2D graphics accelerator and 8Mbytes frame buffer to provide fast video graphics processing to enable high speed re-sizing of alpha blended images.



### **Applications**

Multimedia Displays

Live Video Labelling

Avionics and Radar Display

Video Annotation and Titling

Digital Signage

Medical and Industrial Imaging

Mobile Entertainment Systems (MES)

Composite video

output and

VGA output

as standard

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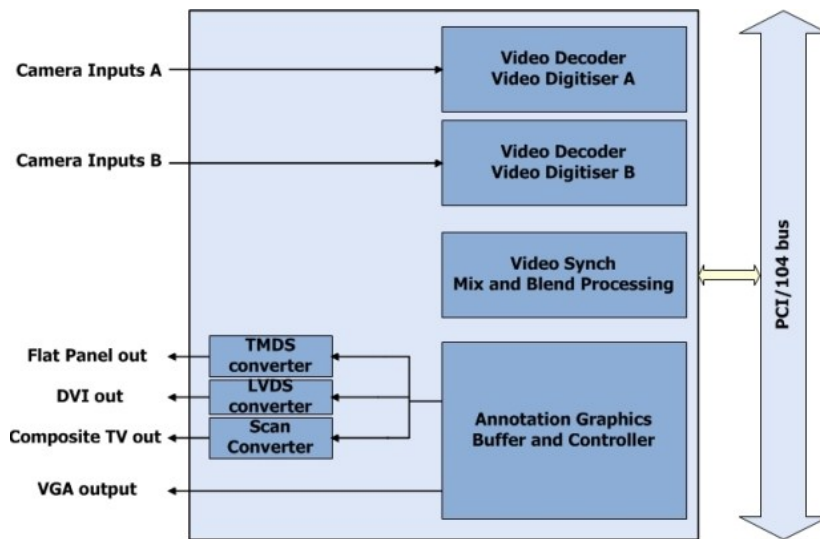
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## PCI/104 Video Annotation Controller Board



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### Block Diagram

### Features

- 8 Mbytes memory
- Single +5V power supply
- NTSC/PAL Composite input and output
- TFT (TMDS) output flat panel
- 24-bit color annotation graphics
- Up to 256 levels of alpha-blending
- Multi-format alpha blending
- Full NTSC and PAL resolution
- Up to 800 x 600 pixels annotation buffer
- 2 Concurrent live video windows
- High performance 2D graphics accelerator
- Enhanced TV encoder with flicker-free hardware
- Compact 3.6in x 3.8in PCI/104 form factor

Built-in

VGA

Graphics Card

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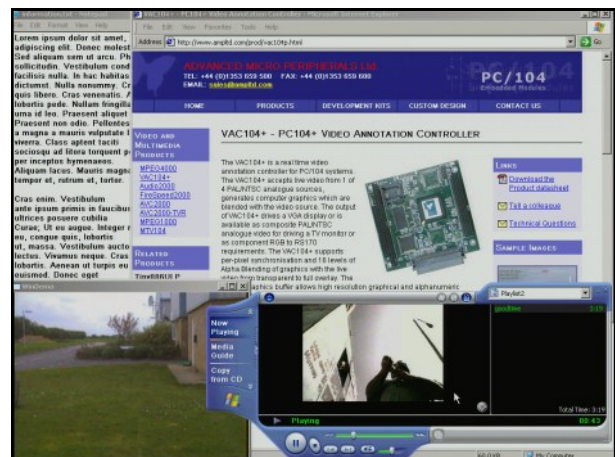
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eVAC2000 showing live video overlaid with semi-transparent tiles displaying text. Note how the blue road sign on the left is visible through the tile with M25 printed on it.

eVAC2000 displaying a mix of MS-Windows graphics, Internet Explorer, live video and MPEG movie playback.



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eVAC2000 displaying two different live video windows together with graphics windows. Translucent text and graphics is overlaid on the live video background via alpha-blending.



### Bus Interface

32-bit PCI/104 bus  
Linear mapped Graphics/Annotation frame buffer in memory space

### Analog Video Inputs-A

2 input PAL/NTSC software selectable multiplexer  
Digital Line video technology for reliable locking to any video source  
Maximum 2 Composite inputs  
Dual flash Analog-to-Digital converters

### Analog Video Inputs-B

2 input PAL/NTSC software selectable multiplexer  
Digital Line video technology for reliable locking to any video source  
Maximum 2 Composite inputs  
Dual flash Analog-to-Digital converters

### 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

### Annotation Graphics

1024 Kbytes annotation buffer (dependent upon display resolution)  
720 x 480 (NTSC) or 720 x 576 (PAL) by 16 bits per pixel  
5-6-5 internal RGB coding  
256-level alpha-blending from transparent to full overlay

### VGA Output

High performance 2-D 64-bit graphics display accelerator with 8MBytes display buffer  
640 x 480, 800 x 600, 1024 x 768 resolution as well as  
720 x 480 (NTSC) and 720 x 576 (PAL).

### Video output

PAL/NTSC composite output (input preview)  
PAL/NTSC composite output (annotated)  
PAL/NTSC output (annotated)

### Miscellaneous

Single +5V at less than 1.15A  
Operating temp 0 °C to 60 °C or -40 °C to +85 °C (ext temp option)  
Standard 3.6 x 3.8in PCI/104 form factor

### Software Drivers

Comprehensive Video Overlay and Annotation SDK for Windows 2000/XP/XP-E, Linux, QNX



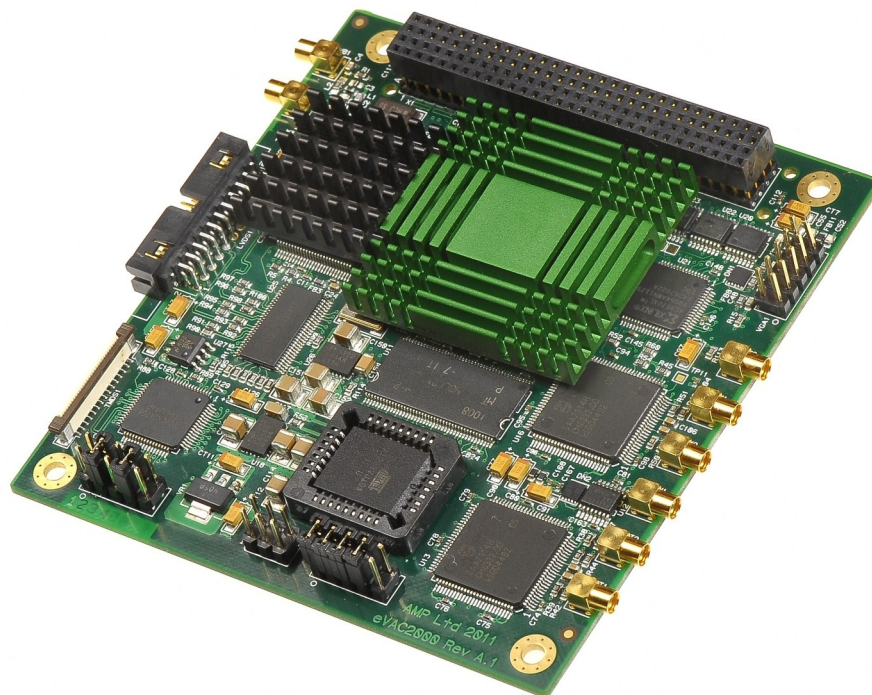
### Ordering Information

The eVAC2000 purchasing options are defined by

- \* eVAC2000 - Video Annotation Controller (0 to 60°C)
- \* eVAC2000-EXT - Video Annotation Controller (-40 to +85°C)
- \* Cable-eVAC2K - Cable kit including VGA cable and x3 MMCX to BNC cables
- \* Cable-eVAC2K-Aux - Additional MMCX to BNC cable

The eVAC2000 SDK can be ordered using the following part codes.

- \* eVACSDK-Windows - eVAC2000 SDK for Windows2000/XP & XP-Embedded
- \* eVACSDK-Linux - eVAC2000 SDK for Linux



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