

# eVAC4000

## PCI-104 Video Annotation and Overlay Controller



**Advanced Micro  
Peripherals**

THE EMBEDDED VIDEO EXPERTS

The eVAC4000 is a real time NTSC/PAL video overlay and video annotation controller for PCI-104 systems. The eVAC4000 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 eVAC4000 accepts up to four composite NTSC or PAL analog video inputs that feed two video paths. Each video path can display any combination of the 4 video inputs, with flexible sizing and positioning under software control.

The eVAC4000 drives VGA and HDMI displays and provides composite and S-video NTSC/PAL video output for display on a TV monitor.

The eVAC4000 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 eVAC4000 is supported by a comprehensive SDK for Windows and Linux including example applications demonstrating video annotation.

Mix live video  
with computer  
graphics

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**eVAC4000 example Annotation**

Annotated output

to

VGA, DVI,

Composite,

S-Video

### Applications

Multimedia Displays

Live Video Labelling

Avionics and Radar Display

Video Annotation and Titling

Digital Signage

Medical and Industrial Imaging

Video Inspection Systems

Vehicle Displays

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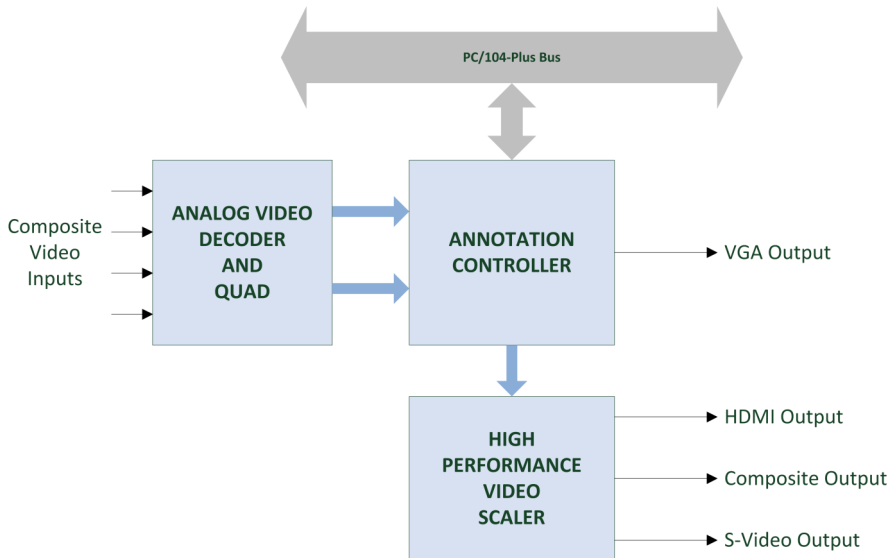
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**eVAC4000 Functional Diagram**

Alpha blend  
graphics/video or  
video/video

### Features

- 4 Live NTSC/PAL/RS-170 video input channels
- 2 concurrent live view windows
- Flexible video input positioning and scaling
- VGA output
- DVI/HDMI output
- Composite NTSC/PAL/RS-170 and S-Video output
- Alpha blending of graphics and Live Video
- Single +5V power supply
- Compact 3.6in x 3.8in PCI-104 form factor

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**Bus Interface**

32-bit PCI-104 bus  
Compliant with PCI Rev 2.1  
132MBytes/sec bandwidth at 33MHz bus speed

**Analog Video Inputs**

Up to 4 concurrent composite NTSC/PAL/RS-170 video inputs.  
Two input video multiplexer per channel (up to 8 cameras)  
10-bit Analog-to-Digital conversion  
Anti-aliasing filters on inputs

**Video Input Formats**

Standard CCIR601-NTSC, CCIR-PAL  
NTSC-M, NTSC-Japan  
PAL-B, PAL-D, PAL-G, PAL-H, PAL-I, PAL-M, PAL-N

**Video Input Adjustments**

Contrast (luma gain) adjustable from 0 - 200% of original value  
Saturation (chroma gain) adjustable from 0 - 200% of original value  
Hue (chroma phas) adjustable from -180 to +180  
Brightness (luma level) can be adjusted from 0 - 255 steps

**Annotation Graphics**

2 live video channels built from any combination of 4 video inputs  
Software selection of size and position of video inputs per channel  
Per pixel alpha blending (RGB 4:4:4)  
Planar alpha-blending (16level)  
16-bit transparent colour

**VGA Output**

Max resolution of 1440x960

**HDMI Output**

Max resolution of 1920x1080

**Analog Video Output**

NTSC/PAL composite video output  
NTSC/PAL S-Video output  
NTSC/PAL composite pass-thru (non annotated)

**Miscellaneous**

Single +5V supply  
Operating temp 0°C to 60°C  
Operating temp -40°C to +85°C (extended temp option)  
Standard 3.6 x 3.8in PCI-104 form factor

**Software Drivers**

Comprehensive Video Overlay and Annotation SDK for Windows and Linux

**Ordering Information**

VAC4000 - Video Annotation Controller (0 to 60°C)  
VAC4000-EXT - Video Annotation Controller (-40 to +85°C)  
Cable-VAC4K - Cable kit for VAC4000

The VAC4000 SDK can be ordered using the following part codes.

VAC4KSDK-Windows - VAC4000 SDK for Windows XP/7/Embedded  
VAC4KSDK-Linux - VAC4000 SDK for Linux

**eVAC4000**