

VAC2000

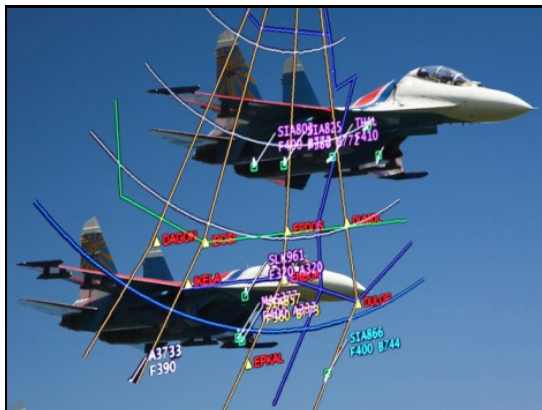
Multi channel video annotation/overlay controller



**Advanced Micro
Peripherals**

THE EMBEDDED VIDEO EXPERTS

The VAC2000 is a real time multi channel video annotation controller for PC/104plus systems. The VAC2000 accepts up to four composite or two s-video of NTSC or PAL analog video inputs from a variety of sources including video cameras, digital video recording equipment or regular TV broadcasts.



The VAC2000 drives a VGA display and provides a composite PAL/NTSC video output for driving a TV monitor. Optionally it can output component RGB to RS170 requirements and TMDS to drive a high-resolution TFT Flat Panel display

The VAC2000 supports per-pixel synchronisation and 256 levels of Alpha Blending of graphics with the live video. The built-in graphics buffer allows high resolution graphical and alphanumeric

Mix live video
with computer
graphics

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information to be placed on the live video stream for real time labelling, titling and annotation applications. The combined annotated information may be recorded on a VCR.

The VAC2000 provides four PAL/NTSC inputs, of which one source is selectable via software. An



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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Text and graphics overlay on live video

Features

- 8 Mbytes memory
- Single +5V power supply
- Composite or S-Video input
- Composite PAL/NTSC and S-Video output
- Optional output to TFT (TMDS) flat panel
- 24-bit color annotation graphics
- Up to 256 levels of alpha-blending
- Optional RGB for RS170 requirements
- Up to 800 x 600 pixels annotation buffer
- 2 Concurrent live video windows
- High performance 2D graphics accelerator
- Live video input from analogue PAL/NTSC
- Compact 3.6in x 3.8in PC/104plus form factor

Built-in

VGA

Graphics Card

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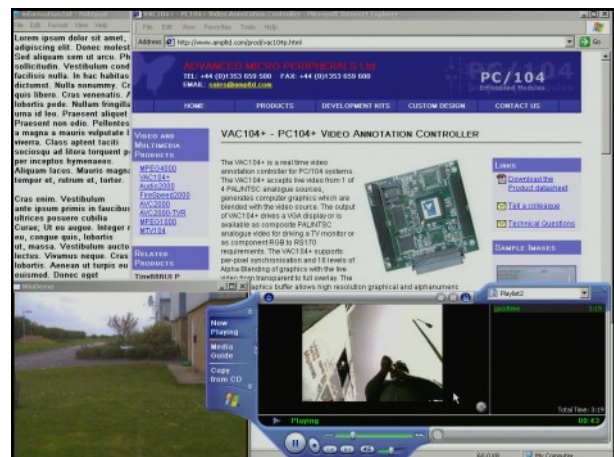
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Operation Summary



VAC2000 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.

VAC2000 displaying a mix of MS-Windows graphics, Internet Explorer, live video and MPEG movie playback.



4



VAC2000 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 PC/104plus bus
Linear mapped Graphics/Annotation frame buffer in memory space

Analogue 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
Maximum 1 S-Video inputs
Dual flash Analogue-to-Digital converters

Analogue 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
Maximum 1 S-Video inputs
Dual flash Analogue-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 S-Video 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 PC/104plus form factor

Software Drivers

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



Ordering Information

The VAC2000 purchasing options are defined by

- * VAC2000 - Video Annotation Controller (0 to 60°C)
- * VAC2000-EXT - Video Annotation Controller (-40 to +85°C)
- * Cable-VAC2K - Cable kit including VGA cable and x3 MMCX to BNC cables
- * Cable-VAC2K-Aux - Additional MMCX to BNC cable

The VAC2000 SDK can be ordered using the following part codes.

- * VACSDK-Windows - VAC2000 SDK for Windows2000/XP & XP-Embedded
- * VACSDK-Linux - VAC2000 SDK for Linux



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