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
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)
VAC2000

Multi channel video annotation/overlay controller

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
VAC2000 showing live video overlayed 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.

VAC2000 displaying two different live video windows together with graphics windows. Translucent text and graphics is overlayed 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
- 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-Linux - VAC2000 SDK for Linux