

VAC104plus

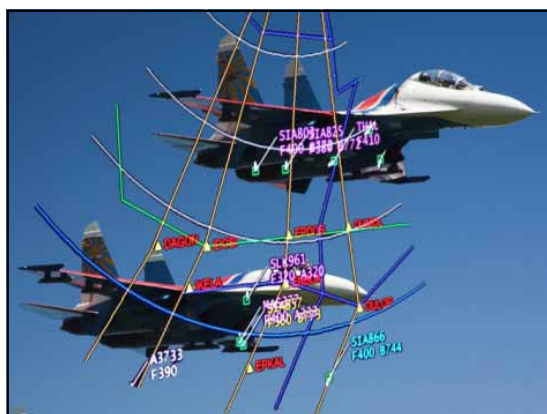
PC/104plus Video Annotation Controller



**Advanced Micro
Peripherals**

THE EMBEDDED VIDEO EXPERTS

The VAC104plus is a real time video annotation controller for PC/104plus systems. It accepts live video from four PAL/NTSC analogue sources and generates computer graphics which are blended with the video source.



The VAC104plus 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 VAC104plus 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.

Mix live video
with computer
graphics

VAC104plus

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The VAC104plus provides four PAL/NTSC inputs, of which one source is selectable via software. An enhanced version, the VAC104-I-AB supports two simultaneous camera inputs enabling two live video windows to be displayed from a total of eight sources.



Composite video
output and
VGA output
as standard

Applications

Multimedia Displays

Live Video Labelling

Avionics and Radar Display

Video Annotation and Titling

Advertising Message Insertion

Medical and Industrial Imaging

Mobile Entertainment Systems (MES)

Advanced Micro Peripherals Ltd
Cambridge, CB6 2HY, England
Tel (+44) 1353 659500
Tel (+44) 1353 659600
sales@ampltd.com
<http://www.ampltd.com>



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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 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 (option)

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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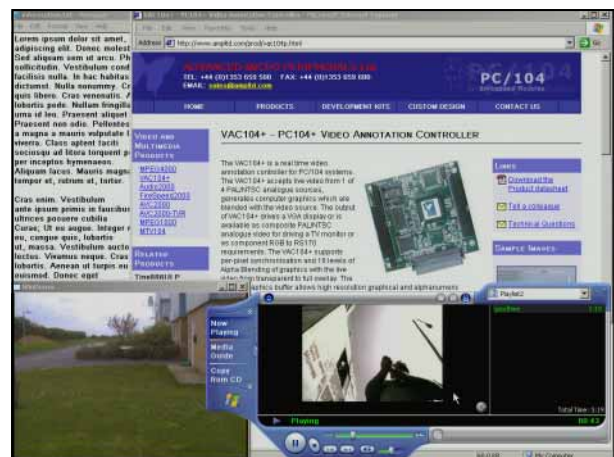
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Operation Summary



Single-channel VAC104plus 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.

Single-channel VAC104plus displaying a mix of MS-Windows graphics, Internet Explorer, live video and MPEG movie playback.



Dual-channel VAC104 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

4 input PAL/NTSC software selectable multiplexer
Digital Line video technology for reliable locking to any video source
Maximum 4 Composite inputs
Maximum 2 S-Video inputs
Dual flash Analogue-to-Digital converters

Analogue Video Inputs-B

3 input PAL/NTSC software selectable multiplexer (option)
Digital Line video technology for reliable locking to any video source
3 Composite and 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

Video output Adjustments

Contrast adjustable from 0 - 156% of input
Saturation from 0 - 200% of input
Brightness from 0 - 128% of input
Hue adjust from 0 to 358deg Subcarrier shift

VGA Output

Main System display output
640x480 to 2048x1024 by 16M colours
8MBytes display buffer

Video output

PAL/NTSC composite output
PAL/NTSC S-Video output

Flat Panel Output

640x480, 800x600, 1024x768 Resolution TMDS to flat panels (option)

Miscellaneous

Single +5V at less than 1A
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, Linux, QNX

Ordering Information

The VAC104plus purchasing options are defined by **VAC104-I-12/O-VT5** where
I denotes the video input types and

O denotes the display output types as follows.

Input types Set 1 to A for Camera Input A
 Set **1** and **2** to **AB** for Camera Inputs A and B resulting in two live video windows

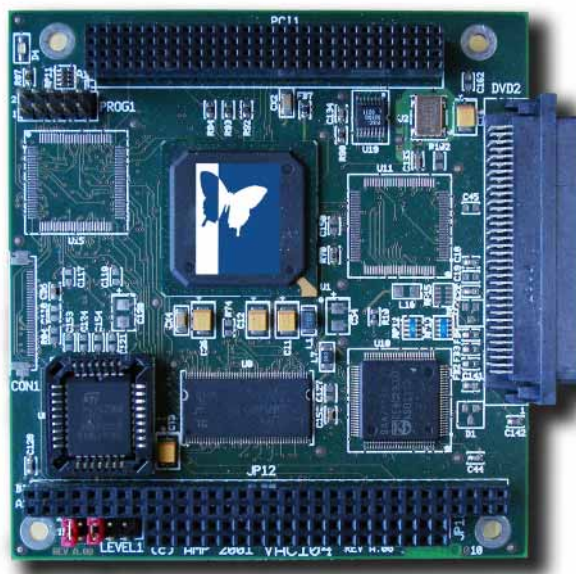
Output Types VT implies standard VGA and Composite TV/RS170 outputs
 Set 5 to F for Flat Panel TMDS output

Examples

VAC104-I-A/O-VT One live video window on VGA and Composite TV/RS170 outputs

VAC104-I-AB/O-VT Two live video windows on VGA and Composite TV/RS170 outputs

VAC104-I-AB/O-VTF Two live video windows on VGA, Composite TV/RS170 and TMDS outputs



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