The VMIX104 is a low-power, real-time Video Overlay controller. It is capable of displaying up to four simultaneous live PAL/NTSC video images and it provides a high degree of video overlay functionality.

The VMIX104 undertakes the processor-intensive video processing functions so that the device can be hosted by a low-end PC/104 computer over a standard 8/16-bit PC/104 bus. Built-in multiplexers allow the selection of four sources from up to eight input cameras. Any of the selected inputs may be resized, cropped and repositioned on the output image, and text and graphics can be overlaid or alpha-blended into the live video. Overlay text can be in the form of any Truetype font.
VMIX104

PAL/NTSC Video Overlay Controller for PC/104

The processed image is output as a high-quality composite PAL/NTSC signal suitable for driving a wide range of display devices. The VMIX104 is supported by a suite of drivers for Windows NT/2000/XP and Linux.

Applications

Control Rooms
POS Monitoring
Medical Operating Theatre
Remote video Inspection
Remote Vehicle Application
Traffic Monitoring and Control
Loss Prevention

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Features

Multiplex up to 4 concurrent sources from 8 cameras
Alpha-blending of overlay and live video
Truetype font Text Overlay
Composite PAL/NTSC Video Output
Resize and Reposition 4 Live Video Windows
Text and Borders for each Video Window
Drivers for Windows NT/2000/XP-E and Linux
Compact 3.6 x 3.8in PC/104 form factor
Single +5V power supply
Four real-time video channels can be simultaneously displayed on the screen. The channels can be individually sized and positioned, and can overlap one another. The windows can have text and borders.

Individual windows can be cropped and scaled. Bitmap graphics can be overlaid on the live video or blended in varying levels of alpha-blending.

Truetype fonts can overlay the live video or be alpha-blended into the live video. Overlay pixels can have up to 64 colours.
VMIX104
PAL/NTSC Video Overlay Controller for PC/104

Operation Summary

VMIX104 Typical Application

VMIX104 Block Diagram
VMIX104
PAL/NTSC Video Overlay Controller for PC/104

Technical Specification

**PC/104 Bus Interface**
Standard 8/16-bit PC/104

**Analogue Video Input**
Four concurrent composite PAL or NTSC video input channels
Digital Line-Lock technology for reliable locking to any video source
Two composite video inputs per channel (up to 8 cameras)
Video multiplexer on each channel
Four 10-bit video Analogue-to-Digital converters

**Video Input Formats**
Standard CCIR601-NTSC, CCIR-PAL
NTSC-M, NTSC-Japan

**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

**Video Windowing**
4 Video Windows with Text/Graphics Overlay to PAL/NTSC Output
Title and Border for Video Windows
Video Windows are re-sizeable to full screen
Pan, zoom and scaling on input video
Arbitrary sizing, cropping and positioning of video windows
Vertical and horizontal mirroring per channel

**Text/Graphics Overlay**
Overlay of computer generated bitmap on live video
Overlay of TrueType font text
720x576 bitmap overlay buffer
64 colour overlay
Programmable Overlay/Blend attribute per pixel
Programmable 25%, 50%, 75% Alpha Blending

**Analogue Video Output**
PAL/NTSC Composite Video Output
PAL/NTSC S-Video Output
RS170 Video Output
3 10-bit video Digital-to-Analogue converters

**System Requirements**
X86 PC-Compatible PC/104 host computer
Spare 16 bytes in I/O space
+5V signalling

**Miscellaneous**
Single +5V at less than 800mA
Operating temp 0°C to 60°C or -40°C to +85°C (extended temp option)
Standard 3.6 x 3.8in PC/104plus form factor

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Software
Drivers for Windows-NT/2000/XP, Linux
Sample video overlay application in C/C++ source code

Related Products
- Micro886ULP: Ultra low power PC/104+ Computer
- Tiny886ULP: Ultra low power PC/104+ Computer with Display
- Tiny586DX: PC/104 Computer
- Tiny-C3: PC/104+ Computer
- Tiny-GX86: Ultra low power PC/104+ Geode Computer

Ordering Information
- VMIX104: PAL/NTSC Video Overlay Controller (0 to 60°C)
- VMIX104-Ext: PAL/NTSC Video Overlay Controller (-40°C to +85°C)