

# VMIX104

PAL/NTSC Video Overlay Controller for PC/104



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.



Alpha-blend  
text and graphics  
onto  
live video

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.



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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

Multiple  
PAL/NTSC  
Inputs.  
Composite  
and S-Video  
Output



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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

Position, size,  
crop and zoom up  
to four live video  
windows

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



Truetype fonts can overlay the live video or be alpha-blended into the live video. Overlay pixels can have up to 64 colours.



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

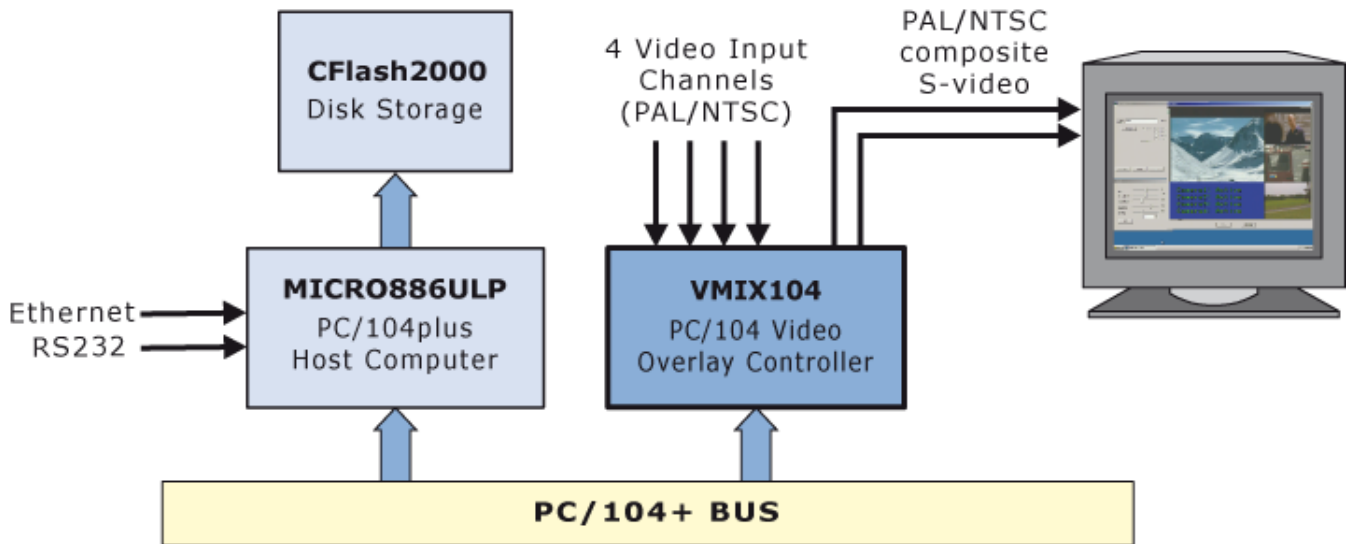
4



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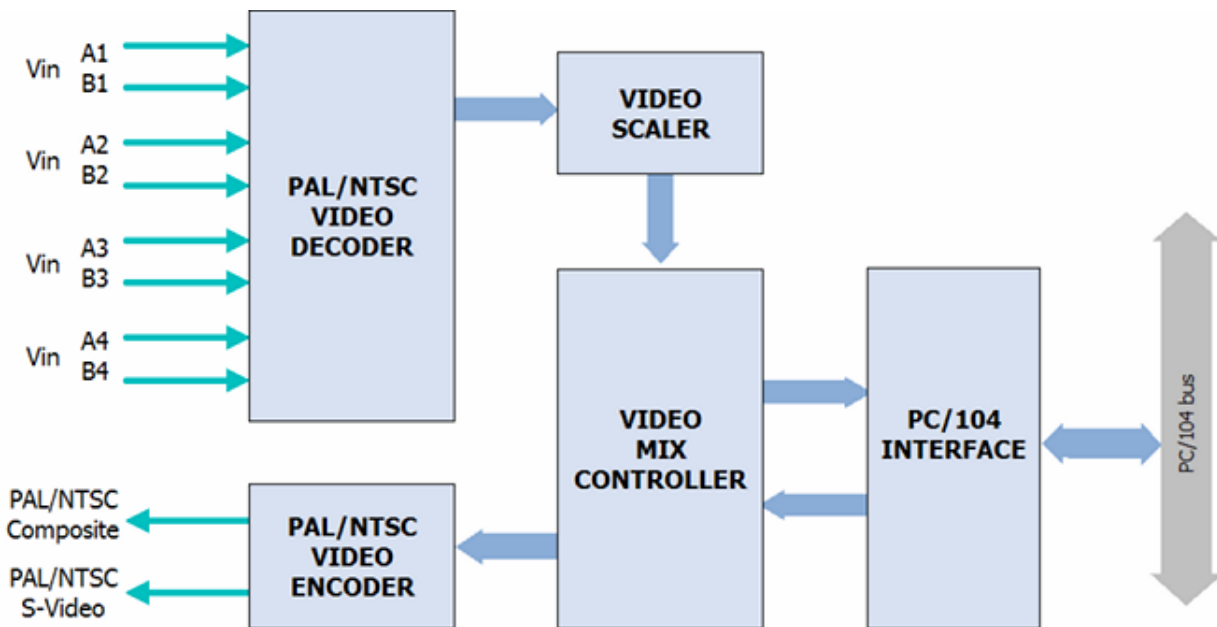
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Operation Summary



**VMIX104 Typical Application**

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**VMIX104 Block Diagram**



**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  
PAL-B, PAL-D, PAL-G, PAL-H, PAL-I, PAL-M, PAL-N

**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

### 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)



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