

AVC4000

Video Capture and Overlay Controller

The AVC4000 is a 4-channel video capture and overlay controller on a single PC/104plus form factor. The AVC4000 provides a powerful and flexible solution for capturing up to four concurrent analogue video inputs for local system display or software analysis and processing.

The AVC4000 features built-in video multiplexers that allow the selection of four sources from up to 8 inputs. The selected inputs can be scaled, cropped and positioned under software control and alpha blended with OSD text and graphics. The captured video data can be captured continuously to system memory or disk for either immediate local display or further processing. The capture engine of the AVC4000 features hardware colour space conversion to present the captured video data in the format best suited to the end application.



The AVC4000 also features composite and S-video analogue outputs for live monitoring and connection to existing DVR systems.

Applications

- High performance image capture
- Vehicle-based Video Capture
- Situational Awareness
- Law Enforcement
- Crime Scene Recording
- Remote Video Surveillance
- Multi-camera Security Application
- Asset Monitoring
- Traffic Monitoring and Control
- Video Acquisition and Analytics



Features

- 4 Live video inputs selectable from 8 composite video sources.
- 1 x D1 size capture at full frame rate
- 4 x D1 size capture at 1/4 frame rate
- 4 x CIF size capture at full frame rate
- Flexible video window positioning and sizes
- Composite and S-Video output
- Text Overlay: Time, Date stamp etc
- Up to 4 AVC4000 cards per system
- Drivers for Win-NT/2000/XP-E, Linux, QNX



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THE EMBEDDED VIDEO EXPERTS

Display, capture

and process

up to 4 full size D1

video inputs.

Live video preview

to system VGA,

Composite, S-Video

outputs.

Alpha blend

text and graphics

on to

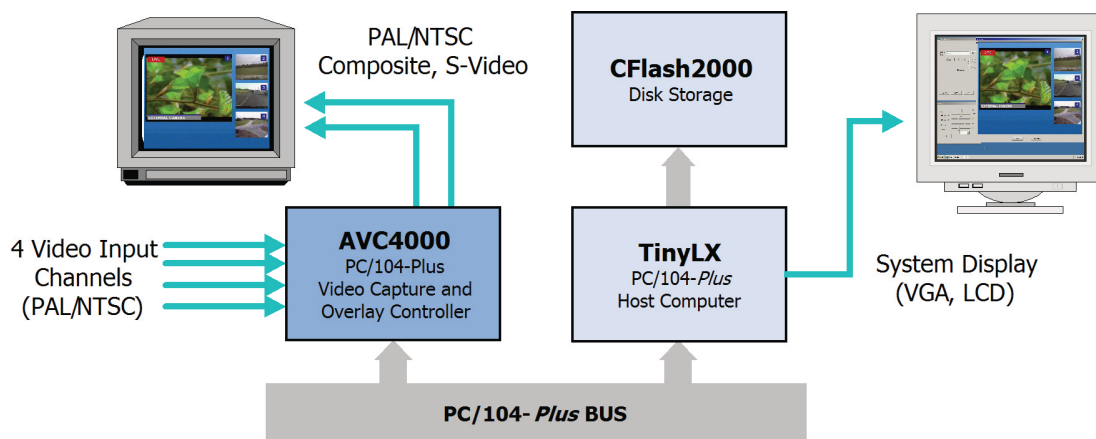
Live Video



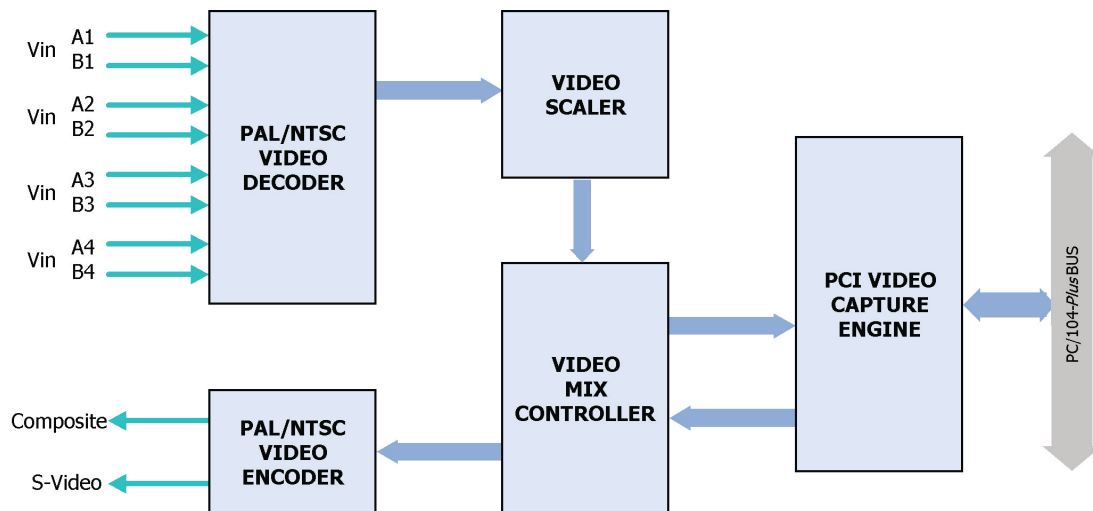
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Operation Summary



AVC4000 Application Diagram



AVC4000 Block Diagram

AVC4000

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Technical Specification

PC/104plus Bus Interface

Compliant with PCI Rev 2.1
132MBytes/sec bandwidth at 33.33 MHz bus speed
Live video capture to display, memory or disk

Analogue Video Input

Up to 4 concurrent composite PAL or NTSC video input channels
Two input video multiplexer per Channel (up to 8 cameras)
Four 10-bit Analogue-to-Digital converters
Anti-aliasing filters on inputs

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
Hue (or chroma phase) adjustable from -180 to +180
Brightness (or luma level) can be adjusted from 0 - 255 steps

Video Formats

RGB: 24bit, 16bit, 15bit
YUV: YUV422, YUV411

Video Processing

Flexible arrangement of 4 video channels within single D1 video stream at full frame rate
Multiplexed video mode offering multiple D1 channels at reduced frame rate
Arbitrary sizing, cropping and positioning of video windows

Text/Graphics Overlay

Overlay of computer generated bitmaps on live video
720x576 bitmap overlay buffer
64 colour overlay
Programmable alpha blend level attribute per pixel (0%, 25%, 50%, 75%)

Video Output options

Real-time Preview to host VGA display
Preview to Composite PAL/NTSC output
Uncompressed RGB/YUV for downstream applications

System Requirements

x86 PC-Compatible PC/104+ Computer
PCI or AGP Display (if Video Preview to host is required)
Spare REQ/GNT on PC/104+ Bus
3.3V or 5V signalling PC/104+ bus

AVC4000

Rev 1.02*

Video Capture and Overlay Controller

Technical Specification

Miscellaneous

Single +5V at less than 1A
Operating temp 0 °C to 60 °C or -40 °C to +85 °C (extended temp option)
Standard 3.6 x 3.8in PC/104-Plus form factor

Software Drivers

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

Ordering Information

AVC4000 Video Capture and Overlay Controller (0 to 60 °C)
AVC4000-Ext Video Capture and Overlay Controller (-40 °C to +85 °C)



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** This bulletin contains preliminary product information and is subject to change*



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