AVC8000nano

8x D1 Video Frame Grabber for mini PC1 Express

Advanced Micro Peripherals
THE EMBEDDED VIDEO EXPERTS

The AVC8000nano is a high-performance 8-channel video capture and overlay controller on a single Mini PCI Express card. The AVC8000nano provides a powerful and flexible solution for capturing up to eight concurrent analog video inputs for local system display or software analysis and processing, ideal for embedded Situational Awareness systems in the most demanding environment.

The AVC8000nano allows each of the 8 video channels to be captured at full D1 size, all at full frame rate. The video can be scaled, cropped and positioned under software control.

The captured video data can be streamed continuously to system memory or disk for either immediate local display or further processing. The capture engine of the AVC8000nano features hardware color space conversion to present the captured video data in the format best suited to the end application.

The AVC8000nano is supported by drivers for Windows XP-Embedded and Linux.

Rev A.00
Subject to change without notification

Live Frame Capture

up to 8 full size D1

PAL/NTSC/RS170

video inputs at full

frame rate.

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Windows® Embedded Partner

EMBEDDED-PC PC/104 MODULES

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Multi-Camera video preview to system VGA

Very Low Latency

Applications

High performance image capture

Vehicle-based Video Capture

Real-time Situational Awareness

Law Enforcement

Crime Scene Recording

Remote Video Surveillance

Multi-camera Security Application

Asset Monitoring

Traffic Monitoring and Control

Video Acquisition and Analytics

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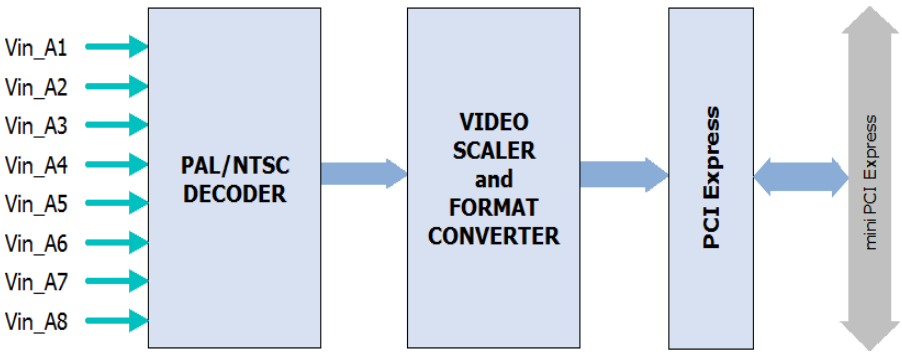

AVC8000nano Functional Diagram

Windows DirectShow and Linux V4L support

Features

8 Live NTSC/PAL video inputs

8 x D1 size capture at full frame rate

Arbitrary video window sizing, cropping and scaling

Windows DirectShow/DirectDraw support

Efficient PCI DMA cycle operation

Linux Video4Linux support

Drivers for WinXP-E, Linux

Robust PC/104-Express construction

Low Power Operation

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Technical Specification

Mini PCI Express Bus Interface

Full height Mini PCI Express card
Live video capture to display, memory or disk

Analog Video Input

Up to 8 concurrent composite PAL or NTSC video input channels
Eight 10-bit Analog-to-Digital converters
Anti-aliasing filters on inputs

Video Input Formats

NTSC-M, NTSC-Japan, NTSC (4.43), RS-170
PAL-B,G,N, PAL-D, PAL-H, PAL-I, PAL-M, PAL-CN, PAL-60
SECAM

Video Input Adjustments

Contrast (or luma gain) adjustable from 0 - 255% of original
Saturation (or chroma gain) adjustable from 0 - 200% of original
Hue (or chroma phase) adjustable from –36° to +36°
Brightness (or luma level) can be adjusted from –128 to 127 steps
Software adjustable Sharpness, Gamma and noise suppression

Video Capture Formats

RGB555, RGB565
YCbCr 4:2:2
YCbCr 4:1:1

Video Processing

Arbitrary sizing, cropping, scaling of each video channel

System Requirements

x86 PC-Compatible with mini PCI Express socket
PCI VGA Display (if Video Preview to host is required)

Miscellaneous

Operating temp 0˚C to 60˚C
Operating temp –40˚C to +85˚C (extended temp option)
Standard Full Height Mini PCI Express form factor

Software Drivers

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

Ordering Information

AVC8000nano	Video Capture and Overlay Controller (0 to 60˚C)
AVC8000nano-EXT	Video Capture and Overlay Controller (-40˚C to +85˚C)

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