

# nanoAVC8

8x D1 Video Frame Grabber with Audio for Mini PCI Express



The nanoAVC8 is a high-performance 8-channel video capture and overlay controller on a single Mini PCI Express card. The nanoAVC8 provides a powerful and flexible solution for capturing up to eight concurrent analog video inputs and 4 audio inputs for local system display or software analysis and processing, ideal for embedded Situational Awareness systems in the most demanding environment.



The nanoAVC8 allows each of the 8 video channels to be captured at full D1 size, all at full frame rate. 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 nanoAVC8 features hardware color space conversion to present the captured video data in the format best suited to the end application.

The nanoAVC8 also offers capture of up to 4 mono audio inputs to 8bit raw PCM. All signals are connected to the card via a single high density IDC connector that carries the 8 video and 4 audio inputs.

The nanoAVC8 is supported by drivers for Windows and Linux.

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Subject to change without notification

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Live frame capture  
up to 8 full size D1  
PAL/NTSC/RS170  
video inputs at full  
frame rate.

4 mono audio  
capture channels



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*Photo credit: U.S. Government*

## 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

Multi-Camera video  
preview to system

VGA

Very Low Latency

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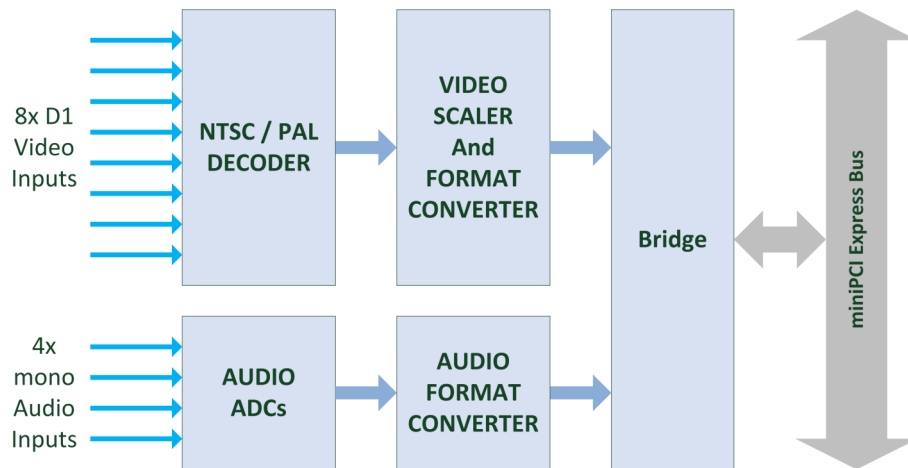
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**Advanced Micro  
Peripherals**

THE EMBEDDED VIDEO EXPERTS



**nanoAVC8 Functional Diagram**

Windows  
DirectShow  
and  
Linux V4L2  
support

## Features

- 8 Live NTSC/PAL video inputs
- 8 x D1 size capture at full frame rate
- 4x mono audio inputs
- Windows DirectShow/DirectDraw support
- Efficient PCI DMA cycle operation
- Linux Video4Linux2 support
- Drivers for Windows, Linux
- Compact Mini PCI Express form factor
- Low Power Operation

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### 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  $-36^{\circ}$  to  $+36^{\circ}$   
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

### Audio Inputs

4 mono audio inputs  
10-bit Analog-to-Digital Converter per channel

### Audio Capture Format

8-bit PCM

### System Requirements

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

### Miscellaneous

Operating temp  $-40^{\circ}\text{C}$  to  $+85^{\circ}\text{C}$   
Standard Full Height Mini PCI Express form factor

### Software Drivers

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

### Ordering Information

**nanoAVC8-EXT**  
8 channel video capture controller with audio ( $-40^{\circ}\text{C}$  to  $+85^{\circ}\text{C}$ )  
**Cable-nanoAVC8**  
Cableset for nanoAVC8 for connecting 8x video, 4x audio.



*Image for illustration only.  
Please see text for full product description*