The QuadGrabber is a high-performance 4-channel video capture and overlay controller on a single PC/104-Plus form factor. The QuadGrabber provides a powerful and flexible solution for capturing up to four 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 QuadGrabber allows each of the 4 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. In addition to the video capture the QuadGrabber also provides capture of up to 4 mono audio sources.

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 QuadGrabber features hardware color space conversion to present the captured video data in the format best suited to the end application.
The QuadGrabber is supported by a set of well-documented comprehensive SDKs that minimize development risk and shorten time-to-market. The SDKs are available on popular embedded operating systems such as Windows, Linux, and QNX.

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
QuadGrabber

Quad D1 Video Frame Grabber for PC/104-Plus systems

QuadGrabber Functional Diagram

Features

4 Live NTSC/PAL video inputs
4 x D1 size capture at full frame rate
4 Mono Audio inputs
Arbitrary video window sizing, cropping and scaling
Windows DirectShow/DirectDraw support
Efficient PCI DMA cycle operation
Linux Video4Linux support
Drivers for WinXP-E, Linux, QNX
Robust PC/104-Plus construction
PC/104-Plus Bus Interface
Compliant with PCI Rev. 2.1
132MB/sec bandwidth at 33.33 MHz bus speed
Live video capture to display, memory or disk

Analog Video Input
Up to 4 concurrent composite PAL or NTSC video input channels
Four 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
RGB
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

Video Processing
Arbitrary sizing, cropping, scaling of each video channel

System Requirements
x86 PC-Compatible PC104plus Host Computer
PCI or AGP Display (if Video Preview to host is required)

Miscellaneous
Single +5V supply
Operating temp 0°C to 60°C
Operating temp $-40^\circ$C to $+85^\circ$C (extended temp option)
PC/104-Plus form factor

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

QuadGrabber Video Frame Grabber for PC/104-Plus systems

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

QuadGrabber

Advanced Micro Peripherals Ltd
Cambridge, CB6 2HY, England
Tel (+44) 1353 659500
Tel (+44) 1353 659600
sales@ampltd.com
http://www.ampltd.com

Advanced Micro Peripherals Inc
New York, NY10001, USA
Tel (+1) 212 951 7205
Tel (+1) 212 951 7206
sales@amp-usa.com
http://www.amp-usa.com

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Technical Specification

Rev A.01*

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