

QuadGrabber

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



**Advanced Micro
Peripherals**

THE EMBEDDED VIDEO EXPERTS

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.

PRELIMINARY INFORMATION (Rev A.02)

Subject to change without notification

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

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

Live Frame Capture
up to 4 full size D1
PAL/NTSC/RS170
video inputs at full
frame rate.



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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

Multi-Camera video
preview to system

VGA

Very Low Latency

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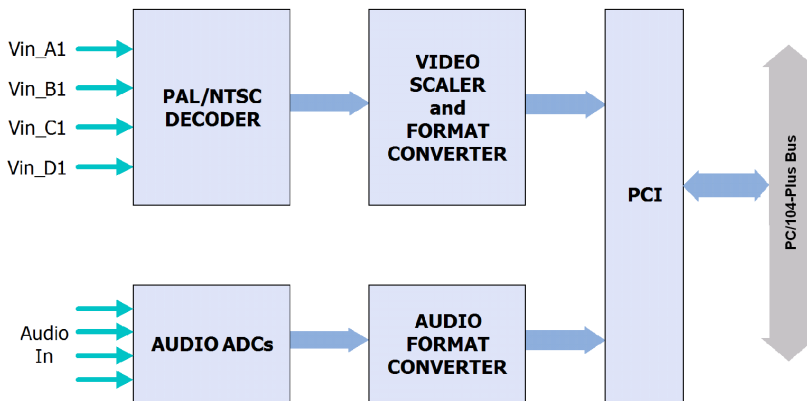
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QuadGrabber Functional Diagram

Windows
DirectShow
and
Linux V4L
support

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

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PC/104-Plus 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

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° to +36°
 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°C to +85°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

Ordering Information

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

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