


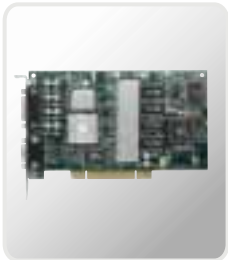
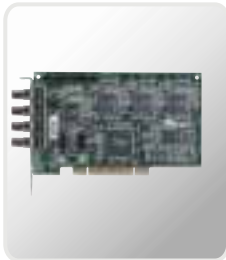
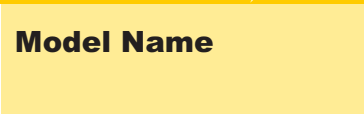


Video Application Solutions

Overview

ADLINK's Angelo series of frame grabbers provides a solution for high performance video applications with the best performance to cost ratio for standard video input in color (PAL/NTSC) or in monochrome format (CCIR/EIA). Its design is ideal for digital video recorders (DVR), intelligent transportation systems (ITS), remote building surveillance systems, and parking lot management systems. All Angelo products are FCC and CE certified.

The Angelo RTV series provides 4 channels of real-time video acquisition and includes CompactPCI and PCI bus models. The PCI-MPG24 is ideal for high density surveillance applications with on board hardware MPEG4 video compression capability.

Frame Grabber Selection Guide

				
				
				
				
Model Name	PCI-MPG24	RTV-24	cRTV-44	cRTV-24
Video Input Standard	Color (PAL/NTSC), Monochrome (CCIR/EIA (RS-170))			
Resolution	**Full D1	640 x 480 [NTSC/EIA (RS-170), 768 x 576 (PAL/CCIR)]		
Max. Video Input	4	4 - 16*	4	4
Form Factor	PCI	PCI	6U cPCI	3U cPCI
Sampling Rate	33MHz		Up to 66MHz	
Max. Frame Rate	120fps			
Connector Interface	BNC x 4			
Real-Time Video Capture	Yes			
Hardware MPEG4 Video Encoding	Yes	No		
MPEG4 Video Decoding	Yes		No	
Windows Driver	Windows 2000/XP/XPe	Windows 98/NT/2000/XP/XPe		
Linux Driver	Yes			
LabVIEW Driver	No	Yes, Angelo-LVIEW		
Microsoft DirectX 8.0 above	Yes			
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* RTV-E4 four channels extension board (optional)

** Full D1: 720 x 480 (NTSC), 720 x 576 (PAL)

Angelo PCI-MPG24

4-CH MPEG4 Hardware Real-Time Video Compression Card ••



Features

- 4-CH MPEG4 hardware video encoder
- Real-time Full D1* video encoding up to 120fps
- Supports real-time video raw data preview
- On-board 64MB SDRAM memory buffer
- On-board TTL I/O lines
- Built-in watchdog timer
- Security protection circuit
- Supports Microsoft® DirectX®

Applications

- Digital Video Recorder (DVR)
- Intelligent Traffic Monitoring Systems
- Remote Surveillance Systems
- Factory Monitoring Systems

Software Support

- Microsoft® DirectX®
- Microsoft® Visual Studio .net®, Visual C++® and C++ Builder
- Microsoft® Windows 2000/XP/XPe
- Sample programs included
- Linux driver: Red Hat 9.0 at Kernel 2.4.23

ViewCreator for DirectX Utility

ViewCreator helps developers to quickly evaluate initial tests and functions.



Ordering Information

PCI-MPG24

4-CH MPEG4 Hardware Real-Time Video Compression Card

Introduction

The PCI-MPG24 is a MPEG4 hardware video compression card that provides 4 channels of real-time Full D1* MPEG4 video encoding and a preview function for digital video surveillance applications. This 32-bit, 33MHz PCI bus frame grabber simultaneously captures and encodes four video analog streams in real time. It accepts standard composite color (PAL, NTSC) or monochrome video formats (CCIR, EIA) camera input. System integrators will benefit from a watchdog timer (for fault-tolerant applications) and easy-to-use standard connectors.

Real-time Video Encoding

Supports real-time Full D1*, quarter or downscale video size encoding. Full D1* video format:

- NTSC (720 x 480) at 30fps per channel, 4-CH total up to 120fps
- PAL (720 x 576) at 25fps per channel, 4-CH total up to 100fps

Adjustable Video Quality

Bit and frame rates are adjustable to fit variable bandwidths, as seen in remote Internet applications.

I, IP, IBP, and IBBP GOP structures are programmable for enhanced video quality.

Real-time Raw Data Preview

- **Single channel:** real-time preview at VGA resolution.
- **4 channels:** simultaneously real-time preview at quad resolution.

Video Decoding

Enhanced software decodes video for playback or remote client monitoring. The PCI-MPG24 card is not needed for playback.

Video Saving

The PCI-MPG24 saves video in the AVI video file format. Users can playback AVI file by Microsoft® Windows® Media Player®.

I/O Lines

TTL compatible I/O lines are provided, supporting 4 inputs, 4 outputs, and one +5V output for device control.

Watchdog Timer

A hardware watchdog is available on the Angelo PCI-MPG24. The watchdog is able to monitor the PC's application operation and will automatically reset the PC after a programmable inactivity time-out. This ensures a reliable operation of remote systems.

Minimum System Requirements

- **Platform:** Pentium III, 850MHz CPU, and 512MB SDRAM or above.
- **VGA display:** AGP 4X above (Not recommended VIA or SiS VGA Chipset solution).
- **Display setting:** 800 x 600 above resolution, 16-bit above color format.
- **OS:** Windows 2000 Professional with SP4 or Windows XP Professional with SP1
- **Software requirement:**
For end users: Microsoft DirectX 9.0 End-User Runtime
For developers: Microsoft DirectX 9.0 SDK
DivX Video Decoder (Optional)

As software decoding consumes system resources, a system platform upgrade must be made for system decoding.

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Angelo RTV-24

4-CH Real-time Video Capture Board for Standard Cameras ♪



Features

- Four color video digitizers operating in parallel
- Up to 120fps in 32-bit, 33MHz/66MHz PCI bus
- Color (PAL / NTSC), monochrome (CCIR / EIA) camera
- Up to 16 channels extension
- On-board TTL I/O lines
- Built-in watchdog timer
- User Friendly ViewCreator utility
- Software trigger supported

Applications

- PC Based Surveillance System
- Digital Video Recorder (DVR)
- Factory Monitoring System
- Machine Vision Inspection System
- Scientific Research Instrumentation
- Medical Research Instrumentation

Software Support

WDM driver

The driver's supports VC++/VB/C++ Builder/Delphi programming under Windows 98/NT/2000/XP/XPe platforms with DLL.

LabVIEW driver

Angelo-LVIEW

Linux driver

Red Hat 7.3, kernel 2.4.18 above

ViewCreator

ViewCreator assists developers to evaluate initial tests and functions.



Ordering Information

Angelo RTV-24	4-CH real-time video capture board for standard cameras
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Introduction

General

The Angelo RTV-24 acquisition board is designed without compromise for security and video surveillance applications. It's the ideal device for PC based multiple-channel digital video recording.

This 32-bit, 33MHz/66MHz PCI bus frame grabber can capture simultaneously four analog video streams in real time. It accepts standard composite colors (PAL, NTSC) or monochrome video formats (CCIR, EIA).

The resolution is programmable including square-pixel (640 x 480 or 768 x 576) and broadcast resolution. Before captured images are transferred to the PC's memory, images can be scaled down using available selectable ratios.

Arbitrary cropping to regions of interest is possible. The RTV-24 generates bitmaps in all popular color formats such as RGB, YUV, planar or packed.

System integrators also benefit from a watchdog for fault-tolerant applications and easy-to-use standard connectors.

Image Acquisition

Frame Rate: 30 full-frame images acquired per second for each channel.

Color Image: Color video format is compatible with the following composite video input formats: NTSC-M, NTSC-Japan, PCL-B, PAL-D, PAL-G, PAL-H, PAL-I, PAM-M, PAL-N and SECAM

Monochrome Image: The monochrome video acquisition is compatible with CCIR and EIA (RS-170).

Optional Scaling: The acquire images or portions of images can be optionally scaled:

- Acquisition of a programmable area of interest.
- Scaling of the image. (down to 1:16)
- Adjustment of hue (for NTSC signals), contrast (0 to 200%), brightness and saturation. (0 to 200% for U and V signals)
- Automatic chrominance gain control.

RTV-E4 Extension Board (Optional)

- Channel Extension
 - Expandable up to 16 channels.
 - Channel extension interface.
 - ◆ 10-pin ribbon cable to onboard 10-pin header connector for channel extension. Each header adds 4 video input channels.
 - ◆ Three 10-pin header connectors onboard.



I/O Lines

The Angelo RTV-24 is fitted with TTL compatible I/O lines, supporting 4 inputs, 4 outputs and 4 soft trigger lines with protection against overloads and electrostatic discharges. Every line may be configured as an input or output or can be used to trigger an acquisition or report an alarm condition.

RTV-I4 Isolated GPIO Board (Optional)

- General Purpose I/O Lines.
 - All I/Os are TTL compatible and support 4 inputs, 4 outputs, and 4 soft trigger lines.
 - I/O interface.
 - ◆ Two onboard 10-pin header connectors.
 - ◆ The I/O lines are pulled high internally and have the following characteristics:

Voltage	Min.	Max.
Input High Voltage (20μA)	2.0V	5.25V
Input Low Voltage (-0.2μA)	0.0V	0.80V
Output High Voltage (-1.0mA)	5.0V	--
Output Low Voltage (100mA)	--	0.50V

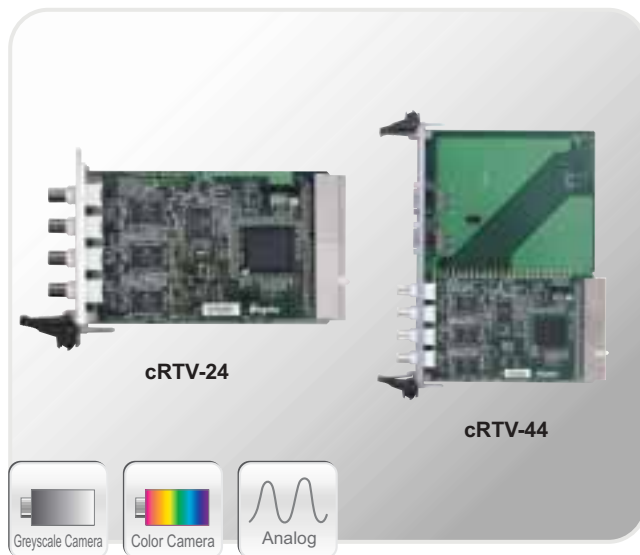
Watchdog

A hardware watchdog is available on the Angelo RTV-24. The watchdog is able to monitor the PC's application operation and will automatically reset the PC after a programmable inactivity time-out. This ensures a reliable operation of remote systems.



Angelo cRTV-24/44

3U/6U CompactPCI 4-CH Real-time Video Capture Board ::



Features

- Four color video digitizers operating in parallel
- Up to 120fps in 64-bit, 66MHz CompactPCI bus
- Color PAL / NTSC, monochrome CCIR / EIA camera support
- On-board TTL I/O lines
- User Friendly ViewCreator utility
- Channel status report LEDs

Applications

- PC Based Surveillance System
- Digital Video Recorder (DVR)
- Factory Monitoring System
- Machine Vision Inspection System
- Scientific Research Instrumentation
- Medical Research Instrumentation

Ordering Information

Angelo cRTV-44	6U CompactPCI 4-CH real-time video capture board
Angelo cRTV-24	3U CompactPCI 4-CH real-time video capture board

Introduction

General

The Angelo cRTV series is a CompactPCI acquisition board designed without compromise for security and video surveillance applications. It's the ideal device for PC based multiple-channel digital video recording. This 64-bit, 66MHz CompactPCI (including 32-bit and 33MHz) frame grabber can capture simultaneously four analog video streams in real time. It accepts standard composite colors (PAL, NTSC) or monochrome video formats (CCIR, EIA).

The resolution is programmable including square-pixel (640 x 480 or 768 x 576) and broadcast resolution. Before captured images are transferred to the PC's memory, images can be scaled down using available selectable ratios.

Arbitrary cropping to regions of interest are possible. The RTV series generates bitmaps in all popular color formats such as RGB, YUV, planar or packed.

System integrators also benefit from a watchdog for fault-tolerant applications and easy-to-use standard connectors.

Image Acquisition

Frame Rate: 30 full-frame images acquired per second for each channel.

Color Image: Color video format is compatible with the following composite video input formats: NTSC-M, NTSC-Japan, PCL-B, PAL-D, PAL-G, PAL-H, PAL-I, PAM-M, PAL-N and SECAM

Monochrome Image: The monochrome video acquisition is compatible with CCIR and EIA (RS-170).

Optional Scaling: The acquired images or portions of images can be optionally scaled:

- Acquisition of a programmable area of interest
- Scaling of the image (down to 1:16)
- Adjustment of hue (for NTSC signals), contrast (0 to 200%), brightness and saturation (0 to 200% for U and V signals)
- Automatic chrominance gain control

Channel Status LED

The Angelo cRTV series provide channel status is monitored by four dedicated LEDs.

I/O Lines (Angelo cRTV-44)

The Angelo cRTV-44 is fitted with TTL compatible I/O Lines, supporting 4 inputs, 4 outputs lines with protection against overloads and electrostatic discharges.

Software Support

WDM driver

The drivers support VC++/VB/C++ Builder/ Delphi programming under Windows 98/NT/2000/XP/XPe platforms with DLL.

LabVIEW drivers

Angelo-LVIEW

Linux driver

Red Hat 7.3, kernel 2.4.18 above

ViewCreator

ViewCreator assists developers to evaluate initial tests and functions.



GE-ME-X52000

4-CH Real-time Video Capture Compact Vision Platform



Features

- Utilizes ADLINK's wide-ranging experience in vision applications
 - Machine Vision, Surveillance, Intelligent Transportation System
- Based on extensive research on ideal system requirements for vision applications
 - Compact, Fanless, anti-vibration and anti-shock
- Flexible, and expandable design for machine automation, factory automation
 - AC/DC power input, optional remote I/O, and motion control modules

Specifications

System Specifications

CPU	Low Voltage Intel® Pentium® M 1.4GHz
Cache	1MB / 2MB on-die Advanced Transfer Cache (ATC)
System Memory	One SODIMM socket for up to 1GB DDR333
Chipset	Intel® 855GME Graphics and Memory Controller Hub (GMCH) Intel® I/O Controller Hub 4 (ICH4)
VGA	On-board VGA controller built-in AGP (3D hyper pipelined architecture) Up to 1600 x 1200 in 32-bit color at 85Hz refresh rate Video memory sharing from main memory with Intel® Dynamic Video Memory Technology (DVMT) Up to 64MB of dynamic video memory allocation
USB	Two USB ports, USB 2.0 compliant
IEEE 1394 (Optional)	Texas Instruments TSB43AB23 1394a-2000 OHCI PHY/link-layer controller Three IEEE-1394 ports (two external , one internal)
Ethernet	Intel® 82562EM 10BaseT/100BaseT x 1 Intel® 82541PI 1000Base-T/100Base-TX/10Base-T x 1 (Optional)
Super I/O Chipset	Chipset Winbond® W83627HF
Hardware Monitoring	Built-in Winbond® W83627HF, monitoring CPU temperature, voltage and battery, +3.3V, +5V, +12V voltage
COM Port	COM1/ COM2: 16550 UART compatible ports with RS-232 interface, COM2 also supports RS-422, RS-485
Parallel Port	One high-speed parallel port, SPP/EPP/ECP mode
Keyboard/Mouse	Combined PS/2 type mini-DIN connectors
Floppy Interface	None
Watchdog Timer	Time-out timing selectable, 1-255 seconds
Power Supply	AC input: 100 VAC to 220 VAC, Max. output : +5V 11.5A, +12V 3A, -12V 0.5A DC input (Optional): 10VDC to 30VDC, Max. input current: 13A at 10VDC, Max. output: +5V 10A, +12V 1.5A, -12V 0.3A
Operating Temp.	-10° ~ 50°C
Humidity	0% ~ 90%
Dimensions	183 x 140 x 95.36 mm (wall mount kit not included) [16.84 mm(H) for each extension kit]
Power Consumption	With 512MB DDRAM +5V 5.5A, +12V 300mA Test conditions: (1) CPU 100% loading (2) No HDD, CD ROM, extension module
Power Output	+5V Max. 1A, +12V Max. 1A
Storage	50 pin socket for CompactFlash Type I/II One 44-pin IDE HDD (Optional)
Operating System	Windows® XP/Xpe, Fedora 3 with kernel 2.6.9

Camera Interface

CCD Support	Color: PAL/NTSC Monochrome: CCIR/EIA Interlaced
Resolution	VGA
Frame Rate	30 fps
Video Input	BNC x 4

GE ME-W52000

4-CH Double speed, On-the-fly Inspection Compact Vision Platform



Features

- Utilizes ADLINK's wide-ranging experience in vision applications
 - Machine Vision , Surveillance, Intelligent Transportation System
- Based on extensive research on ideal system requirements for vision applications
 - Compact, Fanless, anti-vibration and anti-shock,
- Flexible, and expandable design for machine automation, factory automation
 - AC/DC power input, optional remote I/O, and motion control modules

Specifications

System Specifications

CPU	Low Voltage Intel® Pentium® M 1.4GHz
Cache	1MB / 2MB on-die Advanced Transfer Cache (ATC)
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USB	Two USB ports, USB 2.0 compliant
IEEE 1394 (Optional)	Texas Instruments TSB43AB23 1394a-2000 OHCI PHY/link-layer controller Three IEEE-1394 ports (two external , one internal)
Ethernet	Intel® 82562EM 10BaseT/100BaseT x 1 Intel® 82541PI 1000Base-T/100Base-TX/10Base-T x 1 (Optional)
Super I/O Chipset	Chipset Winbond® W83627HF
Hardware Monitoring	Built-in Winbond® W83627HF, monitoring CPU temperature, voltage and battery, +3.3V, +5V, +12V voltage
COM Port	COM1/ COM2: 16550 UART compatible ports with RS-232 interface, COM2 also supports RS-422, RS-485
Parallel Port	One high-speed parallel port, SPP/EPP/ECP mode
Keyboard/Mouse	Combined PS/2 type mini-DIN connectors
Floppy Interface	None
Watchdog Timer	Time-out timing selectable 1-255 seconds
Power Supply	AC input: 100 VAC to 220 VAC, Max. output : +5V 11.5A, +12V 3A, -12V 0.5A DC input (Optional): 10VDC to 30VDC, Max. input current: 13A at 10VDC, Max. output: +5V 10A, +12V 1.5A, -12V 0.3A
Operating Temp.	-10° ~ 50° C
Humidity	0% ~ 90%
Dimensions	183 x 140 x 95.36 mm (wall mount kit not included) [16.84 mm(H) for each extension kit]
Power Consumption	With 512MB DDRAM +5V 5.5A, +12V 300mA Test conditions: (1) CPU 100% loading (2) No HDD, CD ROM, extension module
Power Output	+5V Max. 1A, +12V Max. 1A
Storage	50 pin socket for CompactFlash Type I/II One 44-pin IDE HDD (Optional)
Operating System	Windows® XP, Windows® XP Embedded

Camera Interface

CCD Support	Progressive or interlaced single-tap
Resolution	up to SXGA (1280 to 960)
Frame Rate	60 fps
Video Input	Hirose 12 pin female x 4

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