

FalconEye Series

FalconEye

PCI Bus Wavelet Video Compression Engine



The FalconEye is a high quality color/monochrome Video Digitizer/Compression Engine, capable of switching the video sources, digitizing, compressing and storing the compressed video data to either fixed or removable media. The compressed data may also be transmitted to a local/remote location through LAN, WAN or Internet. The FalconEye supports colored (NTSC/PAL/Y-C) or monochrome (RS-170/CCIR) video sources. The on board compression hardware is capable of processing 60 fields per second of CCIR601 format of digital video. The FalconEye provides up to 16 Event Inputs and 2 Strobe outputs. Event inputs may be programmed with any combination of AND/OR to generate an Alarm Signal.

Video

Videos from up to 16 cameras (Extended) may be selected for recording/transmission. Up to 8 video sources are supported on the MDR-36 36 pin connector. The total number of active channels and the frame rate of each individual channel are programmable by software. A video output provides a preview of the selected channel on a video monitor.

High-Quality Wavelet Video Compression

The on-board compression engine, using wavelet compression technology, provides a wide range of compression ratios. The compression ratio (or targeted code size) for each channel can be set independently. On Alarm condition, the frame rate and/or the compression ratio may be changed to provide maximum information. The compression engine can be used to perform real time decompression. Or the host may do the decompression while the chip is working on normal recording. This is referred to as Duplex Operation.

Features

- Multi-channel wavelet video compression board
- Real-time digital video compression (5:1 to over 200:1)
- Fast video switching
- 8 video inputs expandable to 16: composite, NTSC, PAL
- Real-time video decompression and playback
- Independent full-frame, real-time video preview
- Software playback of video while continuing to record compressed video
- Video displayed on VGA monitor and video monitor
- 8 Event inputs (may be programmed as alarms)
- 2 Strobe output (may be programmed as alarms)
- Motion detection
- Low-cost digital CCTV and time-lapse recording
- Software Developers Kit for Windows XP, 2000, 98, 95 and NT available
- Multiple boards supported
- CE Approved

FalconEye

Video Display Options

The captured (un-compressed) video may be displayed on the VGA screen with the DirectX support. The FalconEye Utility software supports multiple video source display. The decompressed (playback) video may be displayed on either the VGA screen or video monitor. The preview of the currently selected channel may be displayed on the video monitor. Using DirectX, text and/or graphical information can be overlaid on top of the Video Window of the VGA screen.

Programmable Control/Activity Detection

The FalconEye provides up to 16 Event input signals (8 for the FalconEye Base), which may be connected to motion sensors, contact sensors or other devices. The Event inputs may be programmed for Normal-Open, Normal-Close operation. The Combined Event is fully programmable as any combination of the AND/OR of the Events. The Strobe outputs are TTL level (or Opto-Isolated) signals. The Motion Detection is derived from the video data with software specified ROI and Thresholds. The frame rate and the compression ratio of a specific video channel may be changed based on the Motion Detection.

The System Alarm may depend on the Combined Event AND/OR the Motion Detection. This will activate one of the Strobe Signals.

Extensive Software Support

The FalconEye boards come with the FalconEye Utility, which provides the control to most features of the boards. The Utility works under Windows 9X/Me/2K/XP.

Software Development Kits (SDK) for the Windows Platforms are available, which allow full control of all the capabilities of the FalconEye. OEM's and Integrators may develop more sophisticated security system using the SDKs.

A full-featured application program named FalconWatch is also available separately. It supports multiple boards, multiple video display, all the motion detections and alarm settings. The FalconWatch also provide several sophisticated ways to retrieve and playback a previous recorded sequence for inspection.

FalconEye SPECIFICATIONS

Video Input

- NTSC/PAL, RS-170/CCIR, S-Video (Y/C)
- Very Fast Channel Switching
- 8 composite video, software selectable
- Up to 16 C-V Inputs, with Expansion Module
- CCIR 601 Standard (720x485 or 720x 575) frame size
- Also Supports CIF/QCIF frame sizes
- Programmable Brightness/Contrast/Saturation/Hue
- Color/Monochrome Video
- High Density 36 pin connector (8 Video Inputs)
- One RCA Connector for C-V Input

Compression/Decompression

- Wavelet compression preserves maximum amount of edge information
- Compression ratio 5:1 to over 200:1
- 60 f/s compression on full CCIR601 frame size when no channel switching
- Duplex Operation (simultaneous compress and playback pre-recorded video)
- User defined Target Code Size
- Live Video monitoring the channel being compressed
- Software controlled playback frame rate

Video Output

- Composite Video output to video monitor/VCR
- NTSC/CCIR Standard Video
- Output video sources available:
 - Selected video input from decoder
 - Decompressed video from compression engine
 - Digital video from host (in CCIR 601 format)
- Video Output is available on 36-pin connector and RCA connector

Alarm Controls

- Activity Detection on any channel selected
- Motion Detection on user defined video area
- User defined individual camera alarm
- System Alarm based on camera alarms & Combined Events

I/O Controls

- 8 (16) TTL Event inputs with programmable normal states (normally Open/Close)
- 2 Strobe Outputs (TTL or Opto-isolated)
- Strobe duration controlled by H/W or S/W
- Fully programmable combinations of condition based on the state of Events
- Event may be associated with Channel and triggering an immediate recording

Video and Graphics

- Real time display with VGA card
- Multiple video sources (1/4/16) display on VGA Video Window
- Overlay supported on VGA Video Window
- Real time video-only display to TV video monitor on:
 - Switched input channel
 - Playback of the recorded scene

Host Interface

- PCI 2.1 compliant
- 130 Mbytes/second transfer to/from system memory
- Scatter/gather DMA
- Uncompressed video format: YUV 4:2:2, Y8 monochrome
- Multiple DMA Controller on board for video & compressed code
- Up to 4 boards supported in one system

Others

- One RS-232 interface to control camera pan/tilt/zoom (PTZ)
- Power +12V (500 MA), optionally +12V (2A)
- SDK for Win9X/ME/2K/XP
- Full featured FalconWatch application software available
- CE compliant

Specifications subject to change without notice

