

**It's so easy**

**FALCON-Family**



# FALCON-Family

FALCON, FALCON-LP, FALCONplus,  
FALCONquattro, FALCONquattro express

More than 70.000 worldwide sales.  
The Frame Grabbers for Standard Video Signals.

	<p><b>FALCON</b>  as standard: 1 SVHS-input, 2 CVBS*-inputs,  EEPROM, PAL, NTSC, SECAM</p>	<p><b>Application</b>  medical technology  industrial automation  safety engineering</p>
	<p><b>FALCON-LP</b>  1 SVHS-input, 2 CVBS*-  EEPROM, PAL, NTSC, SECAM  integration into mini-PCs with Low Profile  PCI-slot</p>	<p>medical technology,  industrial automation  safety engineering</p>
	<p><b>FALCONplus</b>  4 CVBS*-inputs, 1 CVBS *-output,  EEPROM, PAL, NTSC, SECAM, an input-  device specially developed by IDS to grant  top speed switching rates of the input  channels , 4 Trigger, 8 digital inputs ,  8 digital outputs, Hardware Watchdog  optocoupler for dig. I/O as option</p>	<p>safety engineering  industrial automation  medical technology</p>
		<p>safety engineering  industrial automation  medical technology</p> <p>safety engineering  industrial automation  medical technology</p>



# FALC

## Direct precise video digitalisation

The FALCON-family supports all colour- and monochrome cameras with SVHS- or composite video output. Up to 768 x 576 pixels are digitized very precisely and directly transferred into the PC-RAM. The image size is hardware-set by a scaler.

## Much tempo between the inputs

High switching rates between the inputs are vitally important especially in safety engineering and industry. FALCONplus and FALCONquattro set high standards here: the maximum possible performance for a cost that's really unusual.

## If you still want more: parallel frame grabbing from several cameras

FALCONquattro can in addition capture in parallel from video signals that are definable per channel. Up to 120 frames per second is possible. Settings like image size, brightness, contrast, ... are definable for each channel.

## Multi-board support is also possible

Due to its interrupt-sharing capability, the IDS-driver supports simultaneous operation of several cards in one PC. With each additional board the number of framegrabbers are increased in the PC – with FALCONquattro the increase is by four. That means with four FALCONquattro's you can have 16 frames digitized simultaneously. Please contact us concerning the bandwidth of your PC. It affects image size and colour depth.

## Common settings

You can set all parameters like image size, region of interest, contrast, brightness, colour value and colour saturation conveniently in the digitized video data.

## Video images in real-time

The video signals are displayed as live images on the VGA-monitor of the PC – they are transferred via the PCI-bus in video real-time without no CPU-loading.

## Overlays in the live image

What is extraordinary about the IDS FALCON-series: you can blend flicker-free overlay-information into the live video image: graphics, date and time, overlays with CAD-data and much more. This feature is already contained in the development kit.

With support from DirectDraw (DD) and the modes DD-back-buffer and DD-overlay-surface (not compatible with all VGA-cards), you can use the desired mode depending on the VGA-card in use. These settings involve virtually no CPU-loading.

## Keep your VGA-card – thanks to DirectDraw

DirectDraw, defined by Microsoft, is the interface between VGA card and framegrabber for video display under Windows. It is supported by the FALCON-family in all modes of displaying. So you can still apply your present VGA-card and completely utilise all attributes like colour formats, onboard memory, scaling up of the video image, alpha blending, image reflection etc. Here there is in most cases virtually no CPU-loading.

## Digital inputs and outputs, maximum safety

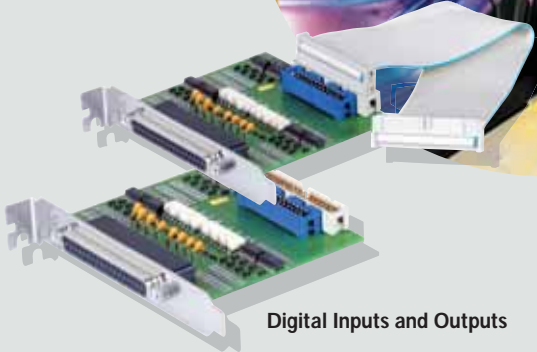
12 digital inputs and 8 digital outputs offer much scope for external sensors like photo sensors, proximity switches, motion detectors or a control unit. You can set directly 24 V voltage level by an optocoupler card available as an option. The inputs (12 mA/channel) are protected against short-circuits and false polarities; an outside fuse protection against overcurrent exists (100 mA/Channel).

PRODUCT NAME	FIELD OF APPLICATION Medical, Industry, Surveillance		SVHS-VIDEO Input	CVBS-VIDEO Input	SIMULTANEOUS GRABBING		CVBS-VIDEO Output	FRAME RATE (fps)	TRIGGER (TTL)	DIGITAL INPUTS (TTL)	DIGITAL OUTPUTS (TTL)	BNC-CONNECTORS			OPTIONAL OPTOCOUPLER I/O	OPTIONAL SLOT EXTENSION	SWITCHABLE 75 - TERMINATION	HARDWARE WATCHDOG
FALCON	M, I, S	1	2	-	-	6-30	optional	optional	optional	-	-	-	-	-	-	-	-	-
FALCON-LP	M, I, S	1	2	-	-	6-30	optional	optional	optional	-	-	-	-	-	-	-	-	-
FALCONplus	M, I, S	-	4	-	1	12-30	4	8	8	5(4in/1out)	•	-	•	•	•	•	•	•
FALCONquattro	M, I, S	-	16 (4x4 Inputs)	4	-	50-120	4	8	8	5(4in/1out)	•	3	•	•	•	•	•	•
FALCONquattro express	M, I, S	-	16 (4x4 Inputs)	4	-	50-120	4	8	8	5(4in/1out)	•	3	•	•	•	•	•	•

Identical Driver and SDK for all listed products.

Driver Support for: Windows 98, ME, NT4.0, 2000, XP and LINUX

# ON

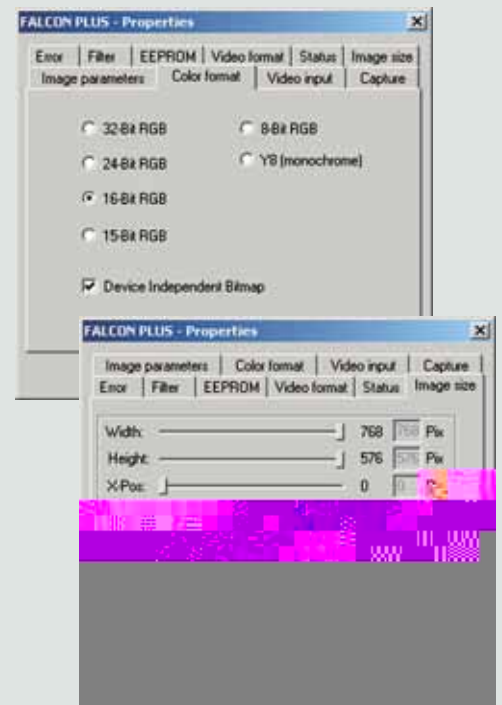


Digital Inputs and Outputs

### WDM-driver, TWAIN-driver and Active-X available

You can perform the integration into standard programs with the free WDM-driver, TWAIN-driver, VFW-driver or an Active-X.

When you want to blend a flicker-free overlay (e.g. graphics or text) into the live image, then just use the interfaces provided. Besides, our driver permits direct 3D-viewing, image processing from 3D-cameras and storage of video sequences. To allow you to see the performance of our SDK, we provide many demo programs as application. The source code of these applications are written in C/C++ programming for the boards and helps you with the integration of the board into your own programs.



### Unique: the Software Development Kit (SDK)

The extensive and high-performance SDK is the greatest strength of the FALCON-family. With it, we enable you to utilise all attributes of your hardware. Memory management like single memory management or ring buffer- and double buffer management are also well integrated as the DirectDraw interface for flexible displaying of the video images.

- Up to 16 video inputs
- One video output (FALCONplus and FALCONquattro/quattro express)
- High speed switching in multiplex mode (FALCONplus and /quattro express)
- Up to 12 digital inputs / 8 digital outputs
- Multi-board support for all boards (up to 16 channel frame grabber = 4 x FALCONquattro)
- Real Time Hardware Scaling x- and y- Direction, Interpolated
- Text- and graphics-overlay in live image by DirectDraw
- Hardware Watchdog (FALCONplus and /quattro express)
- Software Development Kit for Windows 2000, XP and LINUX
- Very easy programming and examples in source code
- WDM- TWAIN-, Active-X-, VfW-drivers available free of charge
- Easy integration of external codecs like MPEG4 with FALCAVI-DLL

### The SDK all you need:

- **Initialization and termination**  
Setup and termination of the interface to the hardware
- **Image acquisition and memory management**  
Allocation of the image memories, switching of the image memories, ...
- **Double- and multiple-buffering**  
Setup of the list of image memories, ring buffer, interlock of memories, ...
- **Selection of the operation modes and re-reading of the settings**  
Setting, cancelling of all parameters
- **Reading and writing of the EEPROMs**
- **Saving and loading of images**
- **Video display**
- **Additional DirectDraw-funtions**  
Overlay on/off, overlay display, DD back-buffer mode, DD primary surface mode, DD overlay surface modus
- **Event handling (interrupt-controlled framegrabbing)**



Source code is included in scope of delivery

### The FALCAVI-library is included free of charge

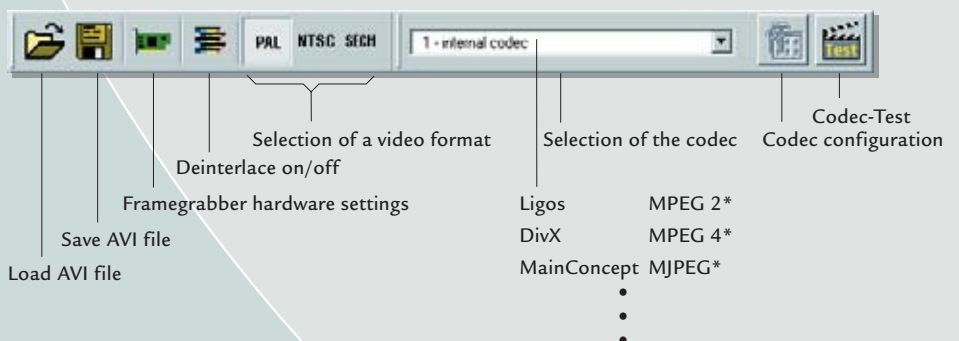
The substantial extension library FALCAVI permits the recording of video sequences and whole movies on harddisc in different formats (e.g. MPEG4, MPEG2, MPEG1 or MJPEG). Since driver version 4.0 it is included as free of charge within the delivery – together with the program SoftComp for demonstration of the library.



SOFTCOMP

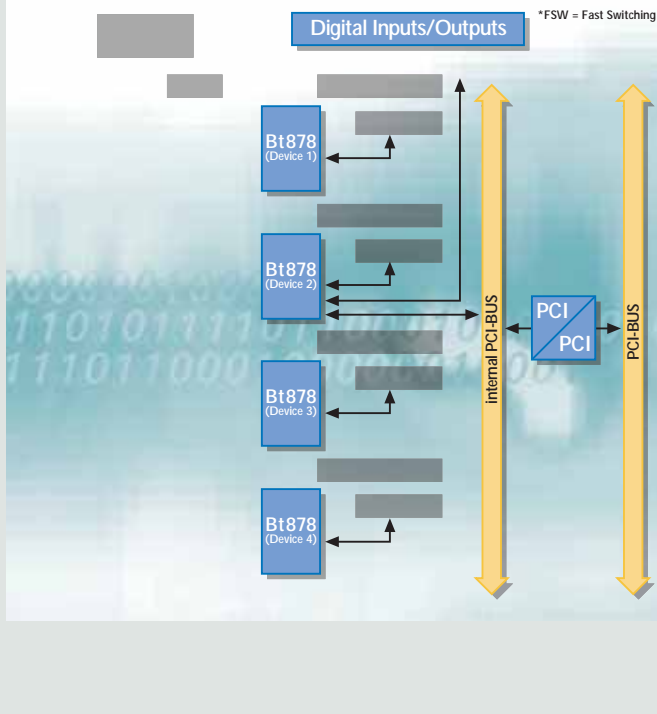
### Functional range of the FALCAVI-library

- Initialization and termination
- Handling of AVI files  
Writing of video streams into file  
Replay functions for playback of video streams
- Compression and decompression by the installed codecs
- Writing and reading of video sequences on resp. from the harddisc
- Deinterlacing functions (eliminates the interlace effect of the two half-images in case of motion)

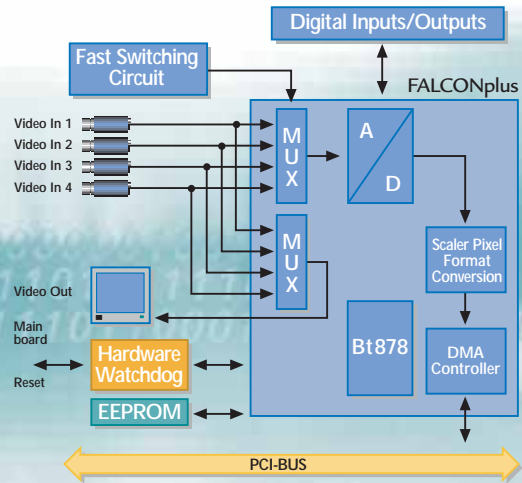


\*) no part of delivery

## BLOCK DIAGRAM FALCONquattro



## BLOCK DIAGRAM FALCONplus



### DELIVERY:

- PCI-board
- Driver for Windows 95, 98, ME, NT4.0, 2000, XP and LINUX
- Extension library FALCAVI with MPEG4-, MPEG2-, MPEG1- und MJPEG-support
- documentation

### ORDER DETAILS:

- |                      |  |
|----------------------|--|
| ■ AA.0010.1.00130.00 | FALCON – PCI-board   |
| ■ AA.0010.1.00541.00 | FALCON-LP – PCI-board  |
| ■ AA.0010.1.00240.00 | FALCONplus – PCI-board   |
| ■ AA.0010.1.00420.00 | FALCONquattro – PCI-board  |
| ■ AA.0010.1.02810.00 | FALCONquattro express – PCI-Express board                                  |
| ■ SL.0010.3.02300.00 | Slot-4 –Extension board with 4 BNC-sockets incl. connecting cable          |
| ■ SL.0010.3.02200.00 | Slot-D26 Extension board with 2DSUB26-sockets, 16 x Video In               |
| ■ AA.0010.1.02210.00 | Opto I/O III with 4 digital inputs and 8 outputs. Terminal strip connector |

**Please note: the FALCON-boards are sold as OEM-products to corporate clients only.**