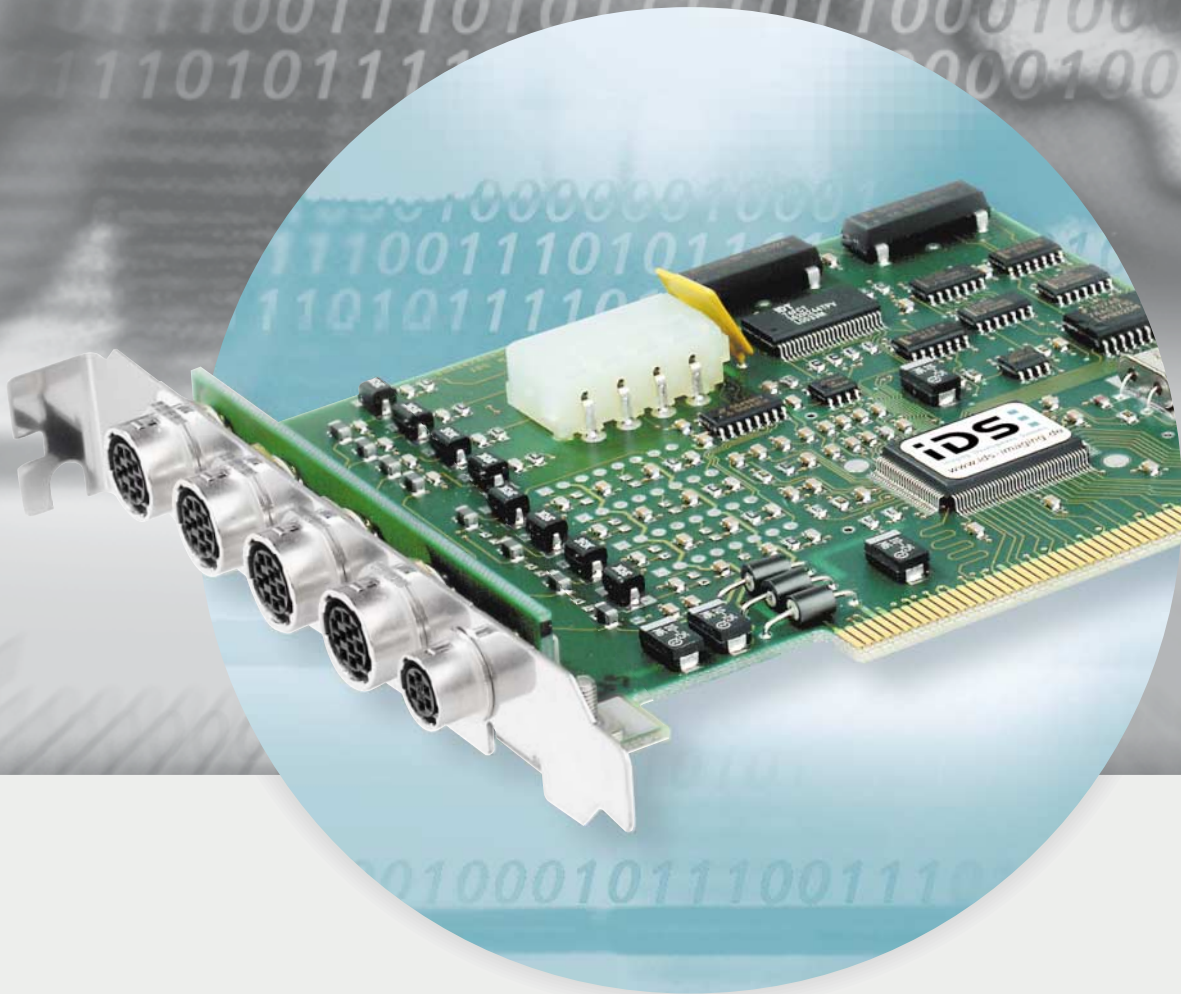


**It's so easy**

**EAGLE**



# EAGLE

High Quality Color- and Monochrome  
Frame Grabber for Industrial Image Processing

- Image resolution 768x576 / DMA bus master
- Multi card operation
- CCIR / PAL / NTSC / SECAM
- 4 x 12-pole Hirose connector with power supply too
- Trigger input (synchronous trigger)
- Video controlled output for flash synchronization
- 1 digital input and 1 digital output (TTL)
- Sync generator for synchronization with cameras on inputs
- Overlay function via DirectDraw
- Software-Development-Kit for Windows 95/98/NT4.0/2000/XP
- HALCON driver available

# Frame

# EAGLE



## EAGLE

The EAGLE is a frame grabber combining the features of an industrial product like an external trigger and industrially suitable plug-in connectors at an extraordinary value for money. It is 100% downwards compatible against the FALCON (plus) frame grabber board.

It offers video input connectors for up to 4 monochrome a/o composite and Y/C color cameras. All current video-standards like PAL, NTSC and SECAM are supported. Especially cameras with a 12-pole Hirose connector (e.g. Teli, Sony, Pulnix, Hitachi, Jai, ...) can be connected via 1:1 cable with an EAGLE. Up to 4 cameras can be power supplied via video connection cables out of the PC. Overload protection is provided by a 2A reversible fuse on the EAGLE.

The connected cameras can be synchronized by the EAGLE. In this mode the input multiplexer can be switched without loss of a field.

## Settings

EAGLE allows various regulations of the digital image data like changing the image size, the image section, the contrast, the brightness, the colour saturation and many more. So that critical video sources can be grabbed, the EAGLE has a special mode which compensates for critical synchronization behavior and allows images to be grabbed in a higher quality.

## Image displaying

Displaying the digitized video data is always done on the VGA screen of the PC. The images are transmitted via the PCI bus in video real time, without almost any CPU-load. The EAGLE supports all of the possible DirectDraw modes: Primary Surface mode, Backbuffer mode and Overlay Surface mode.

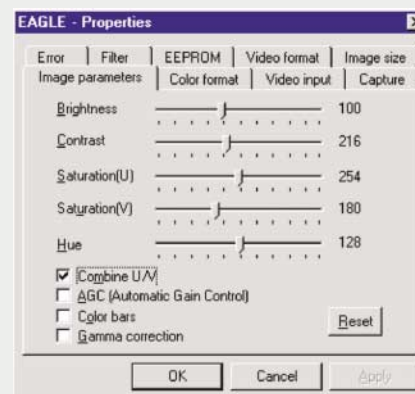
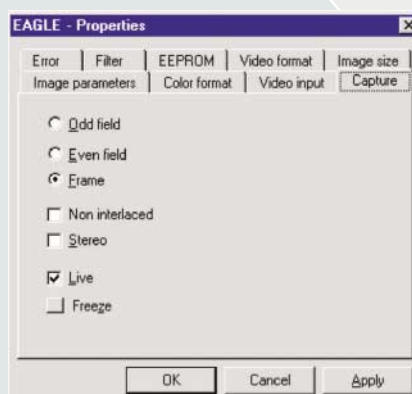
## Direct Draw – advantages

DirectDraw is a Microsoft specified interface for the display of video data with Windows. Until recently frame grabber cards without individual image memory had two display possibilities:

1. Direct transmission into the VGA card. Advantage: Real live image with almost no CPU-load. Disadvantage: Image data overwrote all informations on the screen. The video image would always being in the foreground.

2. Indirect image presentation via the PC system. Advantage: Windows controls the image display. Overlay to the video image is possible.

Disadvantage: Usually no real live image and CPU is working up to 100% towards image display. DirectDraw combines the advantages of both varieties. Real live image with the possibility of overlaying the video image with dialogues, text graphics.



# Grabber

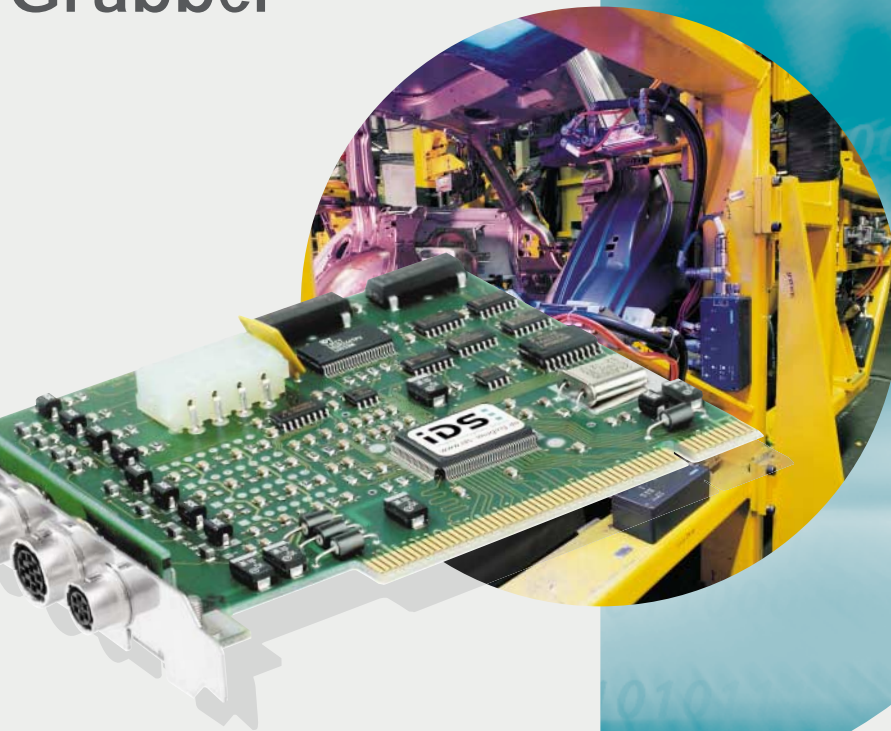


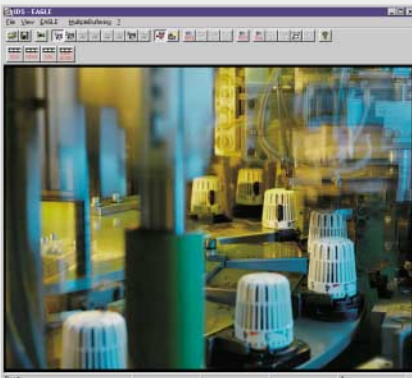
Image sequences are provided with a ring buffer or a list with interlocked image files. For the demonstration of effectiveness of the driver a demo program comes with the EAGLE. The Microsoft Visual C/C++ written source code of this applications shows the programming of the card and helps solving the tasks.

## Further drivers

TWAIN, Video for Windows, HALCON, MIL, NeuroCheck

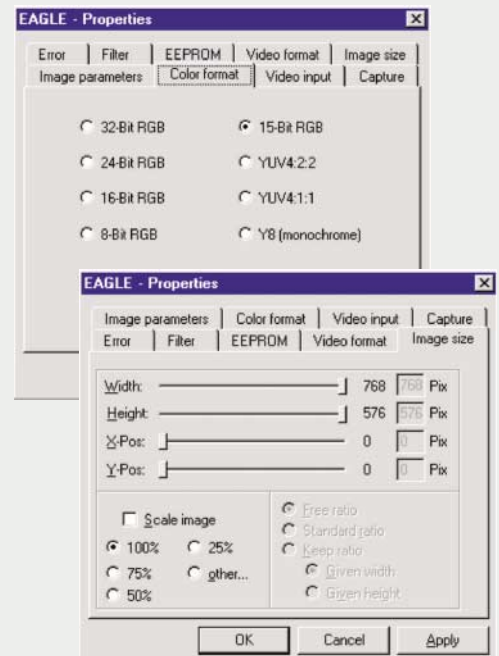
## Areas of typical use

Automatization, Measurement, Industrial Image Processing in Machine- and Plant Engineering.



## Supported color formats with image displaying

EAGLE supports a number of color modes for storage and displaying images. Depending on the modes various amounts of data have to be transmitted via the PCI bus. This results in the PCI-bus-load being dependent on the selected color modes. Color formats with EAGLE can be chosen from: RGB 32, RGB24, RGB 16, RGB15, Y8 (grey scale), YUV 4:2:2



## Overlay

A commonly used function is overlaying of an image with text and graphics without disrupting the live image. DD (DirectDraw) and the mode DD-Backbuffer and DD-overlay surface are included in our frame grabber library and thus offer this possibility. The CPU-load is less than 1%.

The DD-Backbuffer mode is suitable for all graphic cards, yet with the DD Overlay Surface mode only cards supporting this mode are suitable.

## Software Development Kit

A comprehensive SDK makes EAGLE be of unspoken power. Only with this IDS-SDK makes the utilisation of all performance features possible. A great number of flexible SDK-functions except for image displaying and storage is offered to the user.

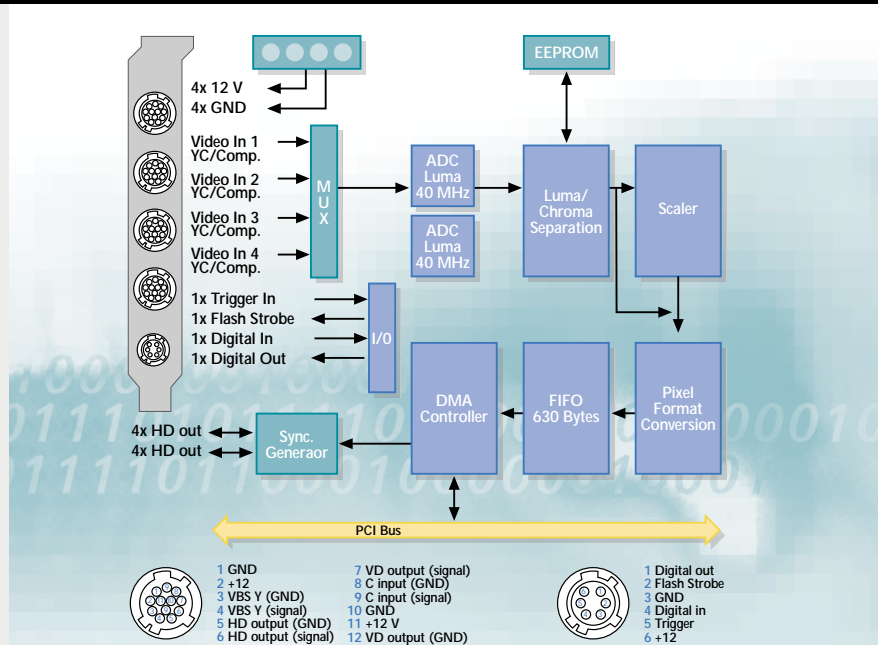


## SDK FUNCTIONS

- Initializing and Termination: Setup and termination of connection to hardware
- Image Digitization and Memory Management: Allocation of memory, handling of several image memories ...
- Double and Multi Buffering: Setup of a memory sequence, ring buffering
- Selection of Operation Modes and Readback of Adjustments: Setup, reset and adjustment of all parameters
- Reading and Writing the EEPROM
- Storage and Loading of Images
- Image Displaying
- Additional DirectDraw Functions: Overlay on/off, displaying the overlay, DD backbuffer mode, DD primary surface mode, DD overlay surface mode
- Event Handling (Interrupt Controlled Image Digitizing)



## BLOCK DIAGRAM



## PACKAGE INCLUDES:

- PCI-board
- Driver for Windows 95,98,ME, NT4.0, 2000, XP
- Documentation

## ORDER DETAILS:

- IS-EAGLE PCI board
- IS-EAGLEquattro PCI board
- IS-CABL-HH3 Video connection cables, male of female, useable for robots, length 3m
- IS-CABL-HH5 Video connection cables, male of female, useable for robots, length 5m

Usk us for other cabel length.