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Software Release Notes

Allied Vision Technologies Third Party FireWire Interface for NeuroCheck© V5.1 (SP7+)

Date: 2007-10-04

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Summary

The AVT NeuroCheck (NC) FireWire Interface creates an interface which allows the usage of IIDC compliant cameras as capture devices for NeuroCheck V5.1 (SP7+).

This document summarizes new features available with this release and the changes since the last major release.

The interface is a software package which consists of three main components:

- Part one implements the NeuroCheck adaptation and is implemented as a dynamic link library (AVTFW2.DLL or AVTNCUNI.DLL).
- The second part consists of the driver for the IEEE1394 device class (FIREDRV.SYS) and required wrapper DLLs (FCTLMAIN.DLL/FGCAMERA.DLL).

Note:

In the second release the AFG.DLL was needed for the camera management and additional AVT specific functions.

- In addition, the camera viewer application AVT SmartView is used as parameterization interface. In practice this means that the NC driver calls AVT SmartView as an additional process and remains open as the dominant process until the application is closed again.

Notes:

- *While SmartView is active NC dialogs are blocked for user access! (i.e. please close SmartView once parameter changes are completed)*
- *SmartView uses Microsoft's GDIPLUS.DLL. The GDIPLUS.DLL is delivered as part of Windows XP. For Win2000 Systems the DLL is installed beside this interface.*

Installation Instructions

Simply execute *AVT_NC-Interface3v1.msi* and follow the interactive instructions and prompts.

Revision History

Revision	Date	Actual State
Initial Release 2.0	2005-08-16	Released
Release 2.1	2005-11-21	Released
Release 3.0	2007-04-26	Released
Release 3.1	2007-10-04	Released

Initial Release: 2.0

Release Date: 2005-08-16

Main Components

File	File Version	Product Version	Description
AVTFW2.DLL	2.0.0.2	2.0.0.0	NeuroCheck Interface
AVTFW2.INI			Settings for AVTFW2.DLL
AFG.DLL	1.0.0.2	1.0.0.0	AVT camera manager
FGCAMERA.DLL	1.0.0.5	2	Wrapper for 1394 driver
FCTLMAIN.DLL	2.2.0.0	2	Wrapper for 1394 driver
FIRECTRL.DLL	2.2.0.0	2	Wrapper for 1394 driver (not used for NC)
FIREDRV.SYS	2.0.0.5	2.0	1394 Driver for W2K/XP
AVT_SMARTVIEW.EXE	1.2.2.0	1.2.2.0	AVT Camera Viewer

New Features

1	Full support of all AVT camera families including smart features
2	Exchange of camera settings by XML files (SmartView compatible)
3	Synchronous and asynchronous (parallel) image acquisition
4	All color formats supported (except 16bit)
5	Extended logging

Bug Fixes

1	None because it is initial version of second edition
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Known Problems

1	It is possible to enable "Deferred Transport" on the camera. In this case NeuroCheck will never receive an image and will hang up in case of synchronous acquisition! (i.e. the camera has a feature beyond what NeuroCheck is currently able to deal with)
2	In case the AVT SmartView viewer application (used as parameterization front end) fails the <i>ResourceOccupation</i> dialog is not accessible.

Open Change Requests

1	If the camera is configured for a deferred transport, the digitize command of NC should request the image from camera buffer.
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Release: 2.1

Release Date: 2005-11-21

Main Components

File	File Version	Product Version	Description
AVTFW2.DLL	2.1.0.0	2.1.0.0	NeuroCheck Interface
AVTFW2.INI			Settings for AVTFW2.DLL
AFG.DLL	1.0.0.3	1.0.0.0	AVT camera manager
FGCAMERA.DLL	1.0.0.5	2	Wrapper for 1394 driver
FCTLMAIN.DLL	2.2.0.0	2	Wrapper for 1394 driver
FIRECTRL.DLL	2.2.0.0	2	Wrapper for 1394 driver (not used for NC)
FIREDRV.SYS	2.2.0.2	2	1394 Driver for W2K/XP
AVT_SMARTVIEW.EXE	1.2.4.0	1.2.4.0	AVT Camera Viewer

New Features

1	Debug settings configured in AvtFw2.ini are now used to enable the logging of AVT SmartView.
2	Update of AVT SmartView (ref. to the release notes of AVT SmartView!)

Bug Fixes

1	Firedrv.sys received an update to avoid blue screens (Windows crashes) under certain conditions.
2	Re-acquisition of AVT's advanced features after configuration is now corrected. Also the shutter adjustment was effected because the problem led to a mismatch of the shutter (by slider) and AVT's advanced shutter settings.

Known Problems

1	It is possible to enable "Deferred Transport" on the camera. In this case NeuroCheck will never receive an image and will hang up in case of synchronous acquisition! (i.e. the camera has a feature beyond what NeuroCheck is currently able to deal with)
2	In case the AVT SmartView viewer application (used as parameterization front end) fails the <i>ResourceOccupation</i> dialog is not accessible.

Open Change Requests

1	If the camera is configured for a deferred transport, the digitize command of NC should request the image from camera buffer.
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Release: **3.0**

Release Date: 2007-04-26

Main Components

File	File Version	Product Version	Description
AVTNCUNI.DLL	3.0.0.0	3.0.0.0	NeuroCheck Interface
AVTNCUNI.INI			Settings for AVTFW2.DLL
FGCAMERA.DLL	2.5.0.0	2.1.0.0	Wrapper for 1394 driver
FCTLMAN.DLL	2.5.0.0	2.1.0.0	Wrapper for 1394 driver
FIRECTRL.DLL	2.5.0.0	2.1	Wrapper for 1394 driver (not used)
FIREDRV.SYS	2.5.0.3	2	1394 Driver for W2K/XP
AVT_SmartView_1_6_1.exe	1.6.1.0	1.6.1.0	AVT Camera Viewer

New Features

1	Auto-detection of data transfer speed (S100, S200, S400, S800) according to bus node capabilities
2	Debayering for RAW8 color format
3	Upgrade of AVT SmartView (ref. to the release notes of AVT SmartView!)
4	Improved S800 support for the Pike camera series
5	New installer

Bug Fixes

1	Firedrv.sys received a general update. Please refer to the FirePackage release notes.
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Known Problems

1	It is possible to enable "Deferred Transport" on the camera. In this case NeuroCheck will never receive an image and will hang up in case of synchronous acquisition! (i.e. the camera has a feature beyond what NeuroCheck is currently able to deal with)
2	In case the AVT SmartView viewer application (used as parameterization front end) fails the <i>ResourceOccupation</i> dialog is not accessible.

Open Change Requests

1	If the camera is configured for a deferred transport, the digitize command of NC should request the image from camera buffer.
2	Support of Guppy interlaced cameras
3	Support of 16 bit image formats

Release: 3.1

Release Date: 2007-10-04

Main Components

File	File Version	Product Version	Description
AVTNCUNI.DLL	3.1.0.1	3.1.0.1	NeuroCheck Interface
AVTNCUNI.INI			Contains settings for AVTNCUNI.DLL
FGCAMERA.DLL	2.5.0.5	2.1.0.0	Wrapper for 1394 driver
FCTLMAIN.DLL	2.5.0.0	2.1.0.0	Wrapper for 1394 driver
FIRECTRL.DLL	2.5.0.0	2.1	Wrapper for 1394 driver (not used)
FIREDRV.SYS	2.5.0.5	2	1394 Driver for W2K/XP
AVT_SmartView_1_7.exe	1.7.0.0	1.7.0.0	AVT Camera Viewer
AVTNCUNI.PED			Contains a link to the AVT SmartView, which is required to configure the camera

New Features

1	Auto-detection of data transfer speed (S100, S200, S400, S800) not only according to bus node features, but also according to cable capabilities
2	Selectable RAW8 debayering transformation
3	Upgrade of AVT SmartView (ref. to the release notes of AVT SmartView)
4	Support of (Guppy) interlaced cameras incl. selection of the deinterlacing method
5	Improved NC interface speed by using a direct kernel buffer access incl. switchable gray buffer handling
6	Improved logging capabilities

Bug Fixes

1	Firedrv.sys received a general update. Please refer to the AVT FirePackage release notes.
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Known Problems

1	It is possible to enable "Deferred Transport" on the camera. In this case NeuroCheck will never receive an image and will hang-up in case of synchronous acquisition! (i.e. the camera has a feature beyond what NeuroCheck is currently able to deal with)
2	In case the AVT SmartView application fails the <i>ResourceOccupation</i> dialog is not accessible. In this case the automatic load/save function in SmartView keeps enabled. While SmartView starts up next time, it tries to load a default XML (usually used by NC).
3	If bus reset happens while SmartView is opened for camera setup, unpredictable system behaviour and non recognition in the NC device manager can be the result.

Open Change Requests

1	If the camera is configured for a deferred transport, the digitize command of NC should request the image from camera buffer.
2	Support of 16 bit image formats