



## User Guide

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# Introduction

**AVT FirePackage** is an SDK that provides support for the following application development tools: Visual Studio 6/2003/2005 as well as all programming languages capable of using .NET dlls or plain C dlls.

The additionally provided AVT SmartView viewer application allows customers to operate multiple cameras and save images in a number of formats. Also included are ready-for-use example programs provided as source code. With **AVT FirePackage**, your application immediately supports AVT's 1394a and 1394b digital cameras.

- Advantages**
- FireWire according IEEE1394a/b up to 800 Mbps supported
  - Convenient and powerful viewer application (SmartView) is provided to explore every AVT FireWire camera and their SmartFeatures
  - Direct Bus Access for high performance and high speed applications
  - Support the Pike, Guppy and Stingray feature **Firmware update via FireWire** by using the SmartView application

- FirePackage Restrictions**
- When using the AVT FireWire driver set other devices requiring a different FireWire driver will not work as usual
  - The usage of the AVT FireWire driver set requires a license. This license is already included inside the AVT FireWire cameras. For other devices/cameras, a special license has to be acquired.
  - The AVT FirePackage provides only C, C++ and .NET APIs.
  - This package will not work on 64 bit Windows versions because the driver is not suitable. For this case, please install the AVT FirePackage64.

## Document history

Version	Date	Remarks
V2.0.0	20.03.2008	New Manual 32-bit version AVT FirePackage- RELEASE status

Table 1: Document history

## Manual overview

The manual overview describes each chapter of this manual shortly.

- Chapter *System requirements* on page 8 lists conditions for hardware, operating system and software.
  - **Read the Chapter *Special advice when working with Windows Vista* on page 9.**
- Chapter *Package installation* on page 11 describes how to install **AVT FirePackage** incl. **intek** driver. You can install the **intek** driver automatically or manually.
- Chapter *Components overview* on page 23 describes the SDK components of **AVT FirePackage** and the example projects (for UniAPI and others), you may use immediately to test the AVT camera and acquire your first images.
- Chapter *Package architecture* on page 26 gives you an overview of the package architecture.
- Chapter *Quick start for programmers* on page 27 describes how to work with UniAPI and other examples under Visual Studio 2005. The code snippets are for immediate use in your own projects.
  - **Read the explanations to the User Account Control (UAC) very carefully before starting any project.**
  - **Read the UniAPI online help files for more information.**
- Chapter *Licensing* on page 31 describes the licensing procedure for AVT cameras.
  - **Read the license information before starting any AVT camera.**

## Conventions used in this manual

To give this manual an easily understood layout and to emphasize important information, the following typographical styles and symbols are used:

### Styles

Style	Function	Example
Bold	Programs, inputs or highlighting important things	<b>bold</b>
Courier	Code listings etc.	Input
Upper case	Register	REGISTER
Italics	Modes, fields	<i>Mode</i>
Parentheses and/or blue	Links	( <a href="#">Link</a> )

Table 2: Styles

## Symbols

**Note** This symbol highlights important information.



**Caution** This symbol highlights important instructions. You have to follow these instructions to avoid malfunctions.



**www** This symbol highlights URLs for further information. The URL itself is shown in blue.



Example:

<http://www.alliedvisiontec.com>

## Before operation

We place the highest demands for quality on our software. The **AVT FirePackage User Guide** describes the installation of the **AVT FirePackage** and gives also a quick start for programmers.

**Note** Please read through this manual carefully before operating AVT cameras with AVT FirePackage.



## System requirements

This chapter describes the requirements for installing **AVT FirePackage**:

- Hardware requirements
- Operating system requirements
- Software requirements
- Special advice when working with Windows Vista (UAC)

## Hardware requirements

- PC or laptop with 1 GHz 32-bit (x86) or 64-bit (x64) processor or better
- Built-in IEEE 1394 interface or IEEE 1394 adapter (OHCI) card (one or more) for PCI or PCI Express bus or PC card or ExpressCard with IEEE 1394 port(s)
- One or more AVT 1394a or 1394b cameras connected to the system

**Note** AVT offers a wide range of IEEE 1394 adapters, both 1394a or 1394b for different requirements.



### FireWire hot plug precautions

**Note** Although FireWire devices can be hot-plugged without powering down equipment, **we recommend turning the computer power off, before connecting a digital camera to the system via a FireWire cable.**



## Operating system requirements

- Windows 2000
- Windows XP (32 bit)



## Software requirements

- AVT FirePackage installation file

### Note

The **AVT FirePackage** includes a special IEEE 1394 bus driver from INTEK suitable for all AVT cameras.



## Special advice when working with Windows Vista

This chapter gives you a short introduction to a new technology that Microsoft introduced with Vista operating systems: the so-called **User Account Control**.

### Basic information

**User Account Control (UAC)** is a technology and security infrastructure for Windows **Vista** operating systems. It aims at improving the security of Windows Vista by limiting application software to standard user privileges until an administrator authorizes an increase in privilege level. In this way, only applications that the user trusts receive higher privileges, and malware is kept from receiving the privileges necessary to compromise the operating system. So a user account may have administrator privileges assigned to it, but applications that the user runs do not have those privileges automatically unless the user explicitly authorizes them to have higher privileges.

### Effects

Windows Vista **User Account Control (UAC)** prevents the compilation of example projects if those are opened directly from a location protected by UAC (i.e. C:\Program Files\...).

Therefore, to compile the **AVT FirePackage** example projects under Windows Vista, copy the project to a user-writable location as described in Chapter [Workaround for UAC problems](#) on page 27.

**UAC warning** An example of an **UAC warning** when a program (e.g. **AVT FirePackage** installation program) wants to write in a system folder is the following:

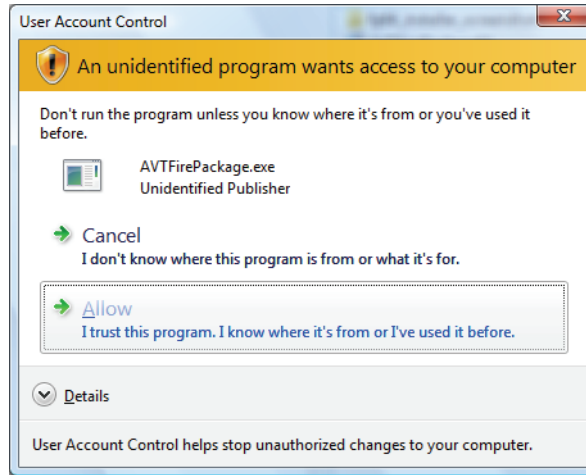


Figure 1: UAC warning: example

Perform the following steps:

1. In this case just click **Allow** because the shown program (AVTFirePackage.exe) is the installer of the FirePackage and needs to write certain files to the system folder for general use.
2. Go on working.

**Note**



You may prevent this UAC warning by right-clicking the **AVTFirePackage.exe** and select **Run as administrator** before you install the software.

# Package installation

## Overview

We assume that you have already installed the IEEE1394 interface card in your system. What happens when you do this is the following:

First of all Plug and Play will find the IEEE1394 interface card and starts searching for appropriate drivers. Normally the standard Microsoft driver for OHCI cards will be installed.

After the IEEE1394 interface card installation is completed, you have to replace the standard Microsoft OHCI driver with the so-called **intek 1394 bus driver (AVT 1394 driver, firedrv.sys)**. In the following we call this driver **intek driver** for abbreviation purposes.

You can do this in two ways:

- Using the **Driver Installation Utility** or
- Installing the driver **manually**

In any of the two cases you start with installation of the **AVT FirePackage**. During this installation you can decide to install the driver automatically or install the driver later manually.

### Note



If you have more than one FireWire card in your system and you want to use other FireWire devices:

- Only replace the standard Microsoft driver for those cards that shall be owned by the **intek** driver.
- The **intek** driver can live side by side with the Microsoft driver when multiple cards are present in your system.

## Installing AVT FirePackage

To install **AVT FirePackage**, perform the following steps:

1. Save and exit out of all currently running applications.
2. Insert the AVT Product CD into your CD-ROM drive or download the **AVT FirePackage** zip file from the AVT web site. Unpack it and start the corresponding \*.exe.

The **Windows Installer** box with a status bar will appear while setup prepares to start the installation process.

Now you are ready to start installing **AVT FirePackage**.

The **Welcome** dialog box will appear:



Figure 2: AVT FirePackage setup: Welcome

3. Read the information in the **Welcome** dialog box.
  - If any programs are running on your system, click **Cancel** to quit the setup program, then close any programs you have running.
  - If you already closed all your programs, click **Next** to continue the installation.

The **Readme Information** dialog box will appear:

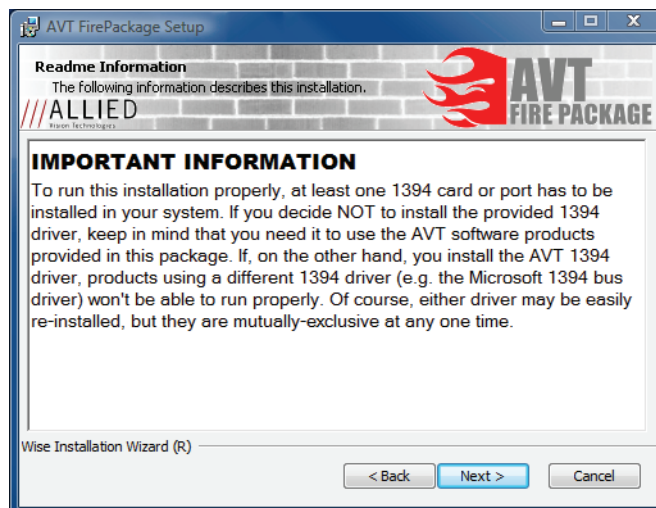


Figure 3: AVT FirePackage setup: Readme Information

4. Read the **IMPORTANT INFORMATION**.
5. Click **Next** to proceed.

The **Destination Folder** dialog box will appear:

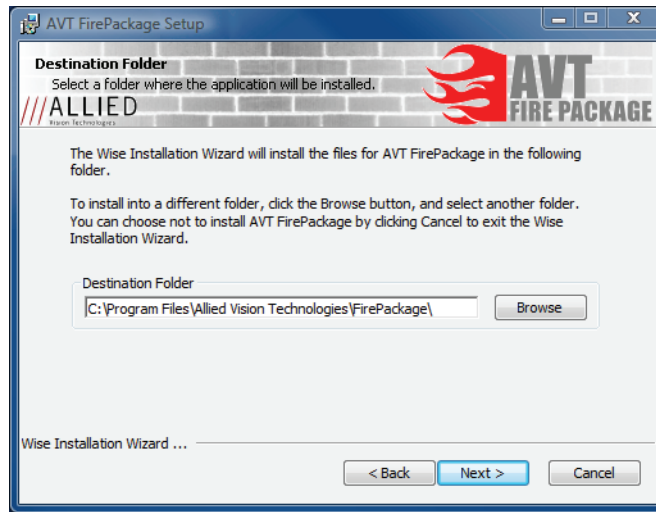


Figure 4: AVT FirePackage setup: Destination Folder

The default location of AVT FirePackage files is  
`C:\Program Files\Allied Vision Technologies\FirePackage`

- If you want to change the location, enter the path for the desired folder and click **Next**.

The **Select Features** dialog box will appear:

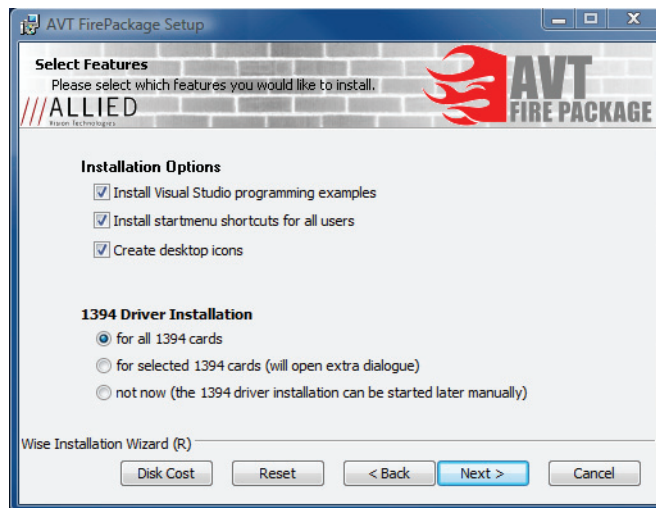


Figure 5: AVT FirePackage setup: Select Features

- Here you set a few general **Installation Options**: Most importantly, you may choose whether or not to install the Visual Studio programming examples (see Chapter *Using the UniAPI under Visual Studio* on page 28). Further options control the creation of startmenu entries and desktop icons.

In the **1394 Driver Installation** section you can choose one of three options:


Option	Description
for all 1394 cards	<p>Default</p> <p>Installs <b>intek</b> 1394 bus driver for all FireWire cards in your system.</p> <p>We strongly recommend this option because the original Microsoft Windows 1394 driver does not function with <b>AVT FirePackage</b>.</p>
for selected 1394 cards (will open extra dialog)	<p>Choose this option if you want to use both AVT cameras and other FireWire devices in your system (e.g. FireWire hard drives).</p> <p><b>Note</b>  Take care that <b>AVT cameras are plugged into a FireWire card</b> different from other FireWire devices that you want to operate with a different driver.</p> <p>A dialog box will appear (see <a href="#">Figure 6: Option: for selected 1394 cards</a> on page 15) where you can choose which cards will be used by FirePackage. Activate <b>Install Microsoft Driver for others</b> check box if other cards shall use the Microsoft driver.</p>
not now (the 1394 driver installation can be started later manually)	<p>Driver configuration will be skipped by the installer. You can install the <b>intek</b> 1394 bus driver later.</p> <p>For more information see Chapter <a href="#">Driver management</a> on page 17.</p>

Table 3: 1394 Driver Installation options

If you chose the option **for selected 1394 cards**, the following window will appear. Make your choices and click **Install**.

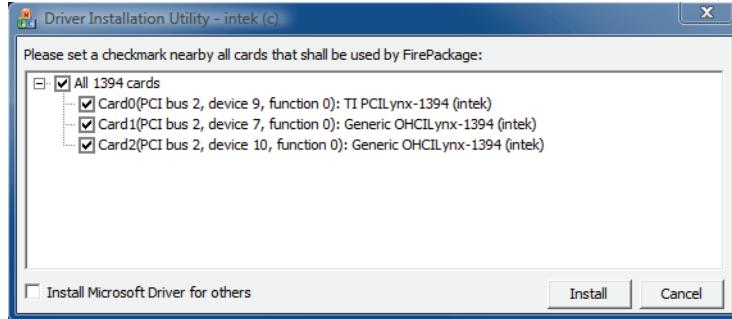


Figure 6: Option: **for selected 1394 cards**

The following dialog will appear:

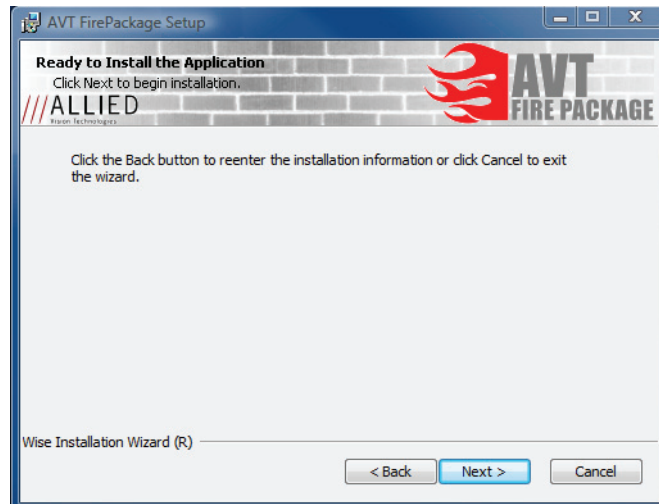


Figure 7: AVT FirePackage setup: Ready to Install the Application

8. Click **Next**.

The following dialog will appear:

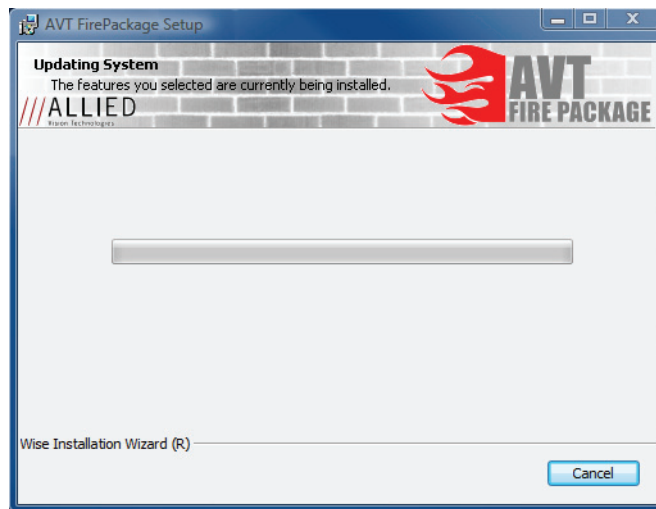


Figure 8: AVT FirePackage setup: Updating System

**AVT FirePackage** will be installed.

Once the installation is finished, the following dialog box will appear:

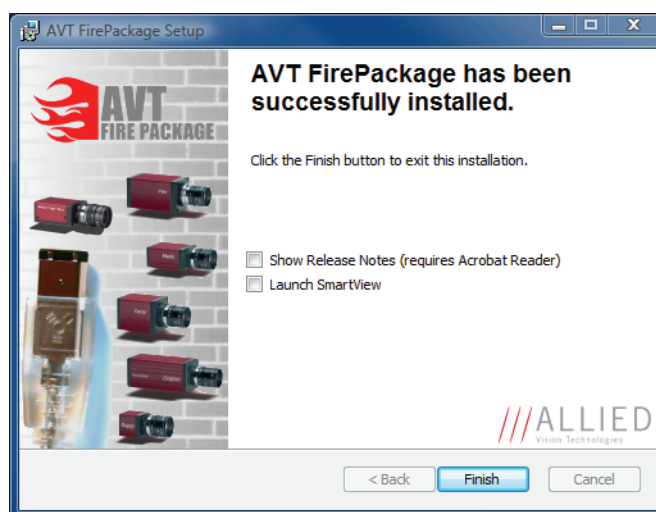


Figure 9: AVT FirePackage setup: Successfully installed

9. Activate **Show Release Notes**, if you want to read the release notes with the last informations and **Launch SmartView** to start SmartView immediately after the installation is finished.
10. Click **Finish** to exit the installer.



**Note**

Depending on your operating system you might need to reboot your system at this point. You will be prompted if a reboot is required; if a message appears, follow the on-screen instructions.

## Driver management

If you have chosen not to install the **intek driver** during package installation or if you want to change a driver that is bound on a device (e.g. changing from Microsoft 1394 driver to **intek driver**), you have the following two choices to do this:

- Using Driver Installation Utility (see Chapter *Using the intek Driver Installation Utility* on page 17) or
- Installing driver manually (see Chapter *Installing driver manually* on page 18)

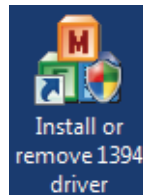
### Using the intek Driver Installation Utility

Perform the following steps:

1. Start **Driver Installation Utility**.

You have two choices to open the Driver Installation Utility:

- **First choice:** Double-click icon on desktop:

**Note**

This is only possible if you have chosen the option **create desktop icons** during the installation process.

- **Second choice:**  
**Start → All Programs → Allied Vision Technologies → FirePackage → Install or remove 1394 Driver**

In both cases the following window will appear:

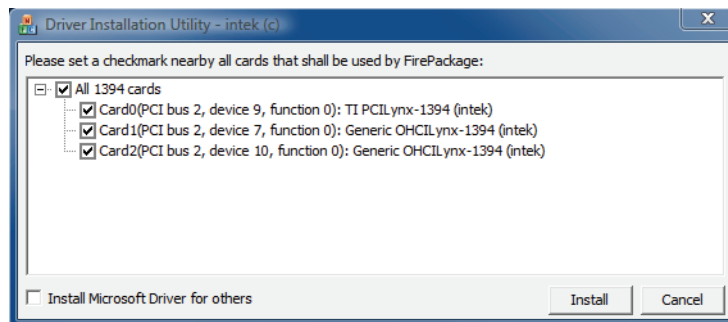


Figure 10: Driver Installation Utility

2. Do the following:
  - Activate the check box of each card that you want to use for your AVT camera(s)
  - Deactivate check box of each card that should not use the **intek** driver. Then the driver that was already bound to that card is used and there is no change.
  - Only activate check box **Install Microsoft Driver for others**, if the Microsoft 1394 is not already bound to other cards.
3. Click **Install**.

## Installing driver manually

In most cases we recommend an installation via the driver install tool (see options **for all 1394 cards** or **for selected 1394 cards** in [Table 3: 1394 Driver Installation options](#) on page 14.) But there may be scenarios where it's advisable to install the driver manually, e.g.:

- If the software package installation via the **Driver Installation Utility** fails, you may try to install the driver manually.
- If an unknown FireWire card cannot be identified by the driver install tool, you have to install the driver manually.

To install the driver manually, perform the following steps under Windows Vista. (Under Windows XP, a similar procedure is necessary.)

1. Call the device manager: click on **Start**, right-click **Computer**, click **Properties** and then click **Device Manager**.

The **Device Manager** window will appear:

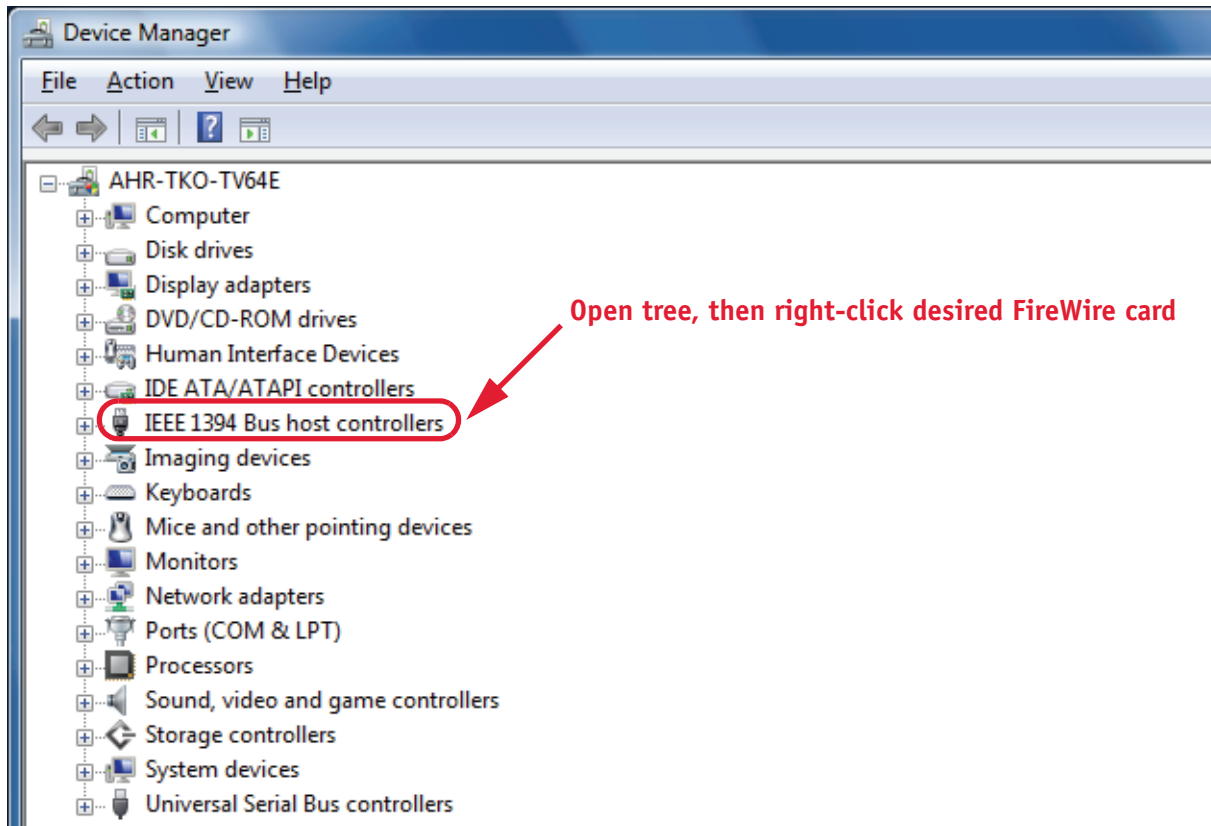


Figure 11: AVT FirePackage: manual driver installation (Device Manager)

2. Open the **IEEE 1394 Bus host controllers** tree, right-click the desired FireWire card and choose **Update Driver Software...**

The following dialog will appear:

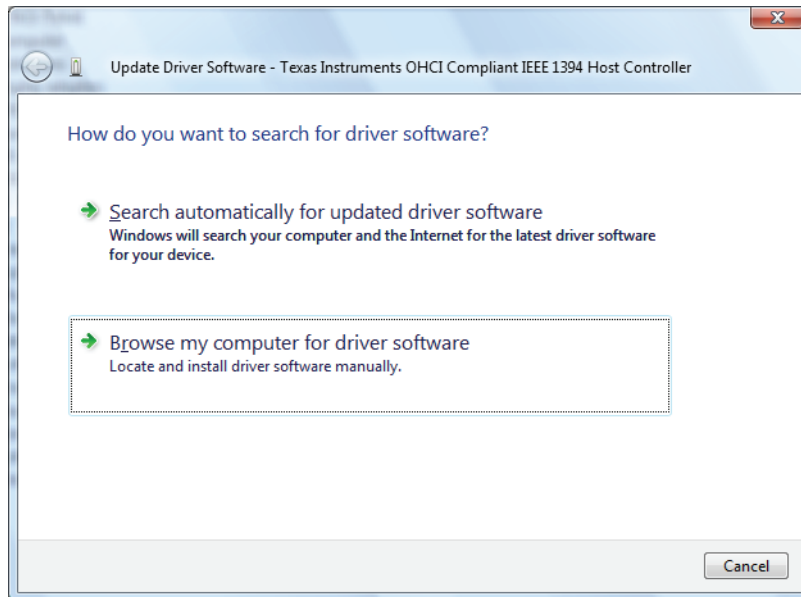


Figure 12: AVT FirePackage: manual driver installation (locate driver manually)

3. Choose **Browse my computer for driver software**.

The following dialog will appear:

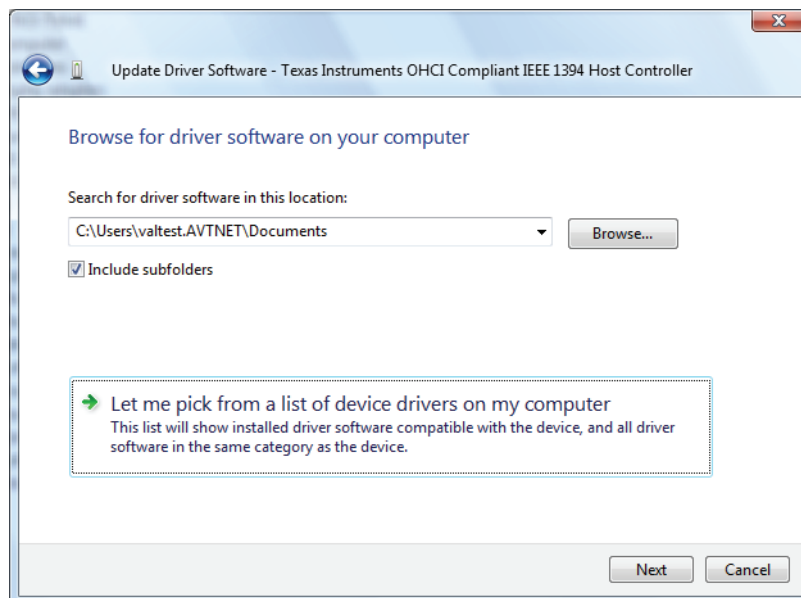


Figure 13: AVT FirePackage: manual driver installation (pick from a list)

4. Choose **Let me pick from a list of device drivers on my computer**.

The following dialog will appear:

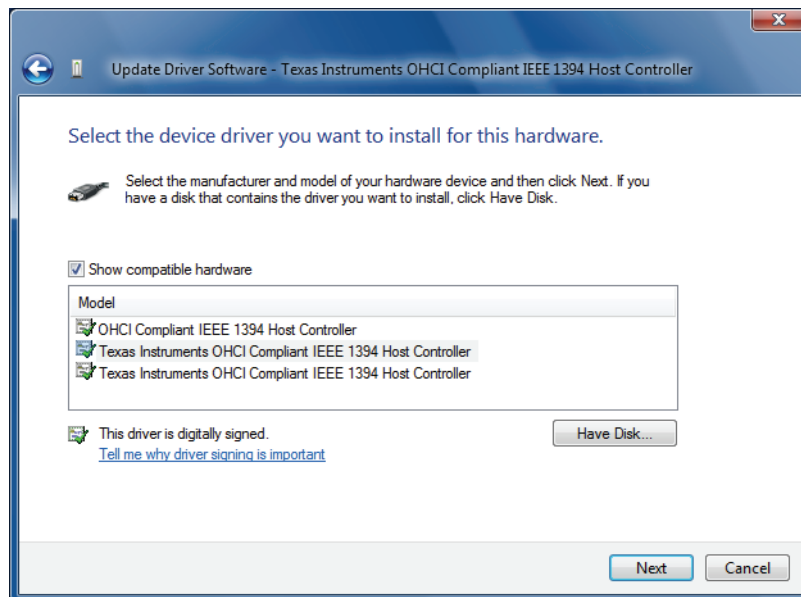


Figure 14: AVT FirePackage: manual driver installation (Select device driver)

5. Click on **Have Disk...**

The following dialog will appear:

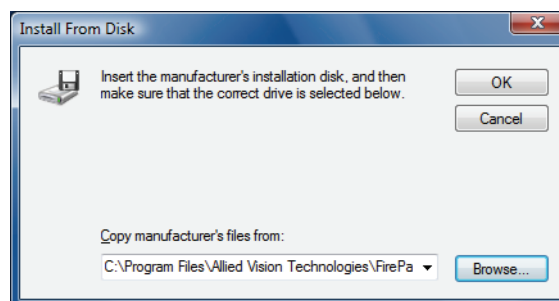


Figure 15: AVT FirePackage: manual driver installation (Copy manufacturer's files)

6. Enter the path to where the **firedrv.inf** has been copied to and click **OK**.  
The default path is:

C:\Program Files\Allied Vision Technologies\FirePackage\Driver\WDM

The following dialog will appear:

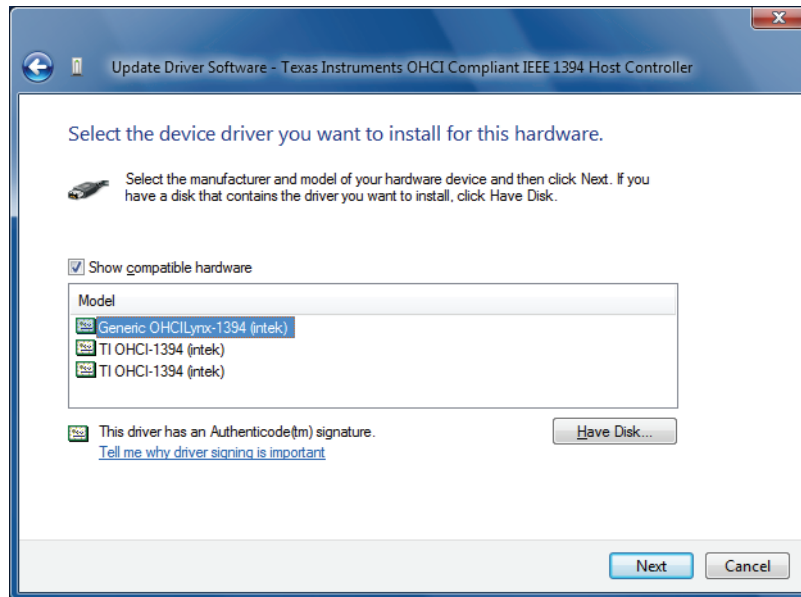


Figure 16: AVT FirePackage: manual driver installation (Choose intek driver)

7. Select the shown hardware with the name **Generic OHCI Lynx\_1394 (intek)** and click **Next**.
8. Ignore all signature warnings and continue until you reach the following dialog:

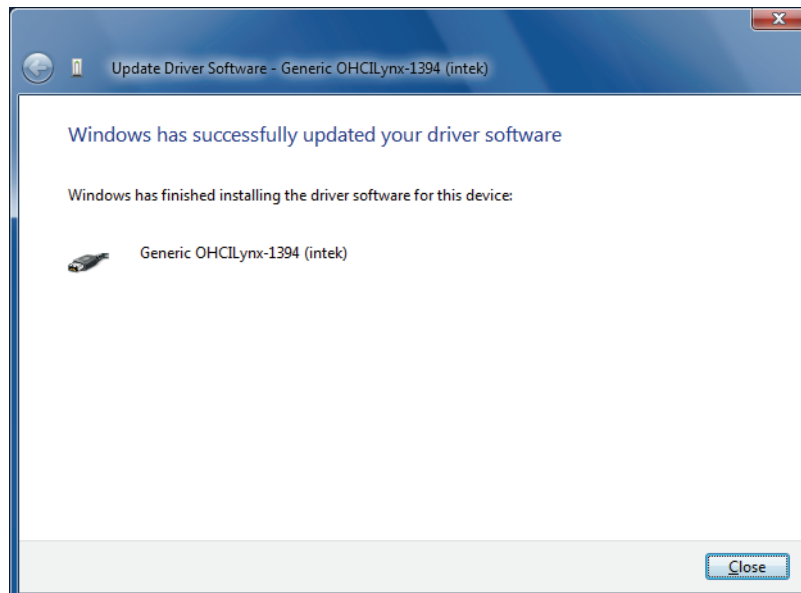


Figure 17: AVT FirePackage: manual driver installation (finished installing driver)

9. Click on **Close**.  
The manual driver installation process is completed.

# Components overview

This chapter describes the **package content** and the **package architecture** of **AVT FirePackage**.

## Package content

The **AVT FirePackage** consists of the following SDK components:

SDK component	Description
Firedrv.sys	High performance IEEE1394 bus driver (including Svcinst.exe)
Svcinst.exe	Easy-to-use driver installation tool
AVT Universal API	<p>Universal C programming interface that is optimized for usage with AVT cameras. The UniAPI consists of two modules:</p> <ul style="list-style-type: none"> <li>• UniControl DLL Provides methods to control the camera and to easily apply its SmartFeatures and to grab images.</li> <li>• UniTransform DLL Driver independent UniAPI component: allows the conversion of image formats and the transaction of color correction. This module is especially designed to support color cameras that only supply RAW images (e.g. GUPPY).</li> </ul> <p>Additionally, .NET wrappers for these DLLs are provided.</p>
FireControl and FireStack API	Two C-type APIs that provide low-level bus access commands to get 100% control over the FireWire bus
FireClass API	C++ class model API built upon the FireStack API

Table 4: AVT FirePackage SDK components

SDK component	Description
FireGrab API	Simple C++ camera API to deal with calls to the driver in a quite simple way via a simplified camera interface  Additionally, there is also a C wrapper and a .NET wrapper for FireGrab.
AVT SmartView	Comprehensive camera viewer optimized for usage with AVT IEEE1394 cameras: <ul style="list-style-type: none"> <li>• Evaluate SmartFeatures</li> <li>• Test AVT cameras</li> <li>• Configure AVT cameras</li> </ul>
FireView	Simple viewer for IIDC-compliant cameras, only supporting standard features. Feature support is discontinued. Does not need any dll, just the installed driver.

Table 4: AVT FirePackage SDK components

In addition for the UniAPI an example collection as well as various CHM help files are provided.

Together with the **AVT FirePackage** the following examples are provided:

Example	... for following SDK component	Description
Grab2Con Project	UniAPI	Minimal console example
MicroView Projects	UniAPI	Simple viewer projects (mostly only single images)  There is one Base viewer project and several extension projects for demonstrating specific aspects of the UniAPI, e.g. for: <ul style="list-style-type: none"> <li>• deinterlacing of GUPPY interlaced images (with or without geometrical correction)</li> <li>• enumerating camera formats</li> <li>• demonstrating the secure image signature (SIS)</li> <li>• grabbing images continually</li> </ul>
UniConsole Project	UniAPI	Minimal console example for UniAPI.NET wrapper
FireDemo Project	FireStack	Viewer based on FireStack
FireGrab Console Project	FireGrab	Minimal console example based on FireGrab (only console output, no GUI)

Table 5: AVT FirePackage UniAPI and other example collection



Example	... for following SDK component	Description
GrabDemo Project	FireGrab	Viewer based on FireGrab
WrapSample Project	FireWrap (FireGrab)	Minimal console example for FireWrap. (FireWrap is a C wrapper for (C++)-FireGrab)

Table 5: AVT FirePackage UniAPI and other example collection

# Package architecture

The following diagram describes the package architecture of **AVT FirePackage**:

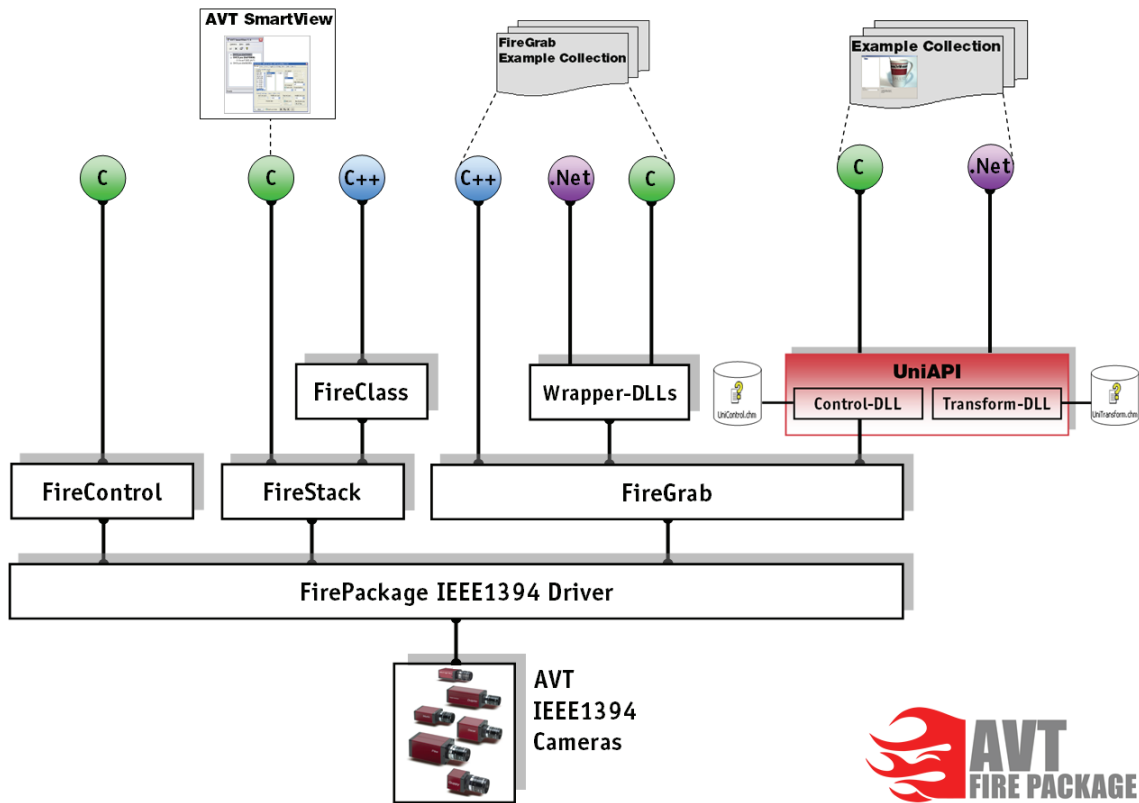


Figure 18: Architecture of AVT FirePackage

## Quick start for programmers

In this chapter you learn how to grab your first images with your AVT camera, open a project under Visual studio and use the given examples to do some typical image acquisition.

**Note** For detailed information either see online help **UniControl.chm** or the other documentation PDFs.



## Working with examples

As already mentioned in [Table 5: AVT FirePackage64 UniAPI and other example collection](#) on page 24, **AVT FirePackage** comes with example projects for UniAPI, FireStack and FireGrab. You can open these projects and adjust them to your needs.

**Note** If **User Account Control (UAC)** is activated, the example projects cannot be compiled directly (i.e. from the `C:\Program Files` directory).



In this case you get one or more error messages:

e.g. *Could not create output directory*

The reason for these messages are missing write permission due to **User Account Control (UAC)**.

Read Chapter [Workaround for UAC problems](#) on page 27.

For basic information on **User Account Control (UAC)** read Chapter [User Account Control \(UAC\)](#) on page 28.

## Workaround for UAC problems

To solve the compiling problems under UAC, perform the following steps:

1. Locate the installation directory:  
e.g.  
`C:\Program files\Allied Vision Technologies\FirePackage`
2. Copy `FirePackage` directory to your desktop (or one of your user directories).
3. On desktop open `Samples` directory and search for `*.sln`.
4. Doubleclick desired `*.sln`.

Visual Studio opens this file.

5. You can work with this files as usual (e.g. compile) without getting the error messages listed above.

## User Account Control (UAC)

**Compiling projects** To compile the example projects under Windows Vista, copy the project to a user-writable location as described in Chapter *Workaround for UAC problems* on page 27.

**Note** For more information on Microsoft Vista User Account Control (UAC) read Chapter *Special advice when working with Windows Vista* on page 9.



**UAC warning** An example of an **UAC warning** when a program wants to write in a system folder is the following:

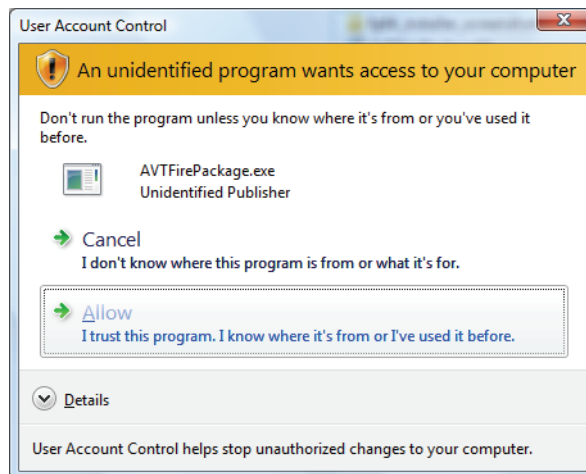


Figure 19: UAC warning

In this case just click **Allow** and go on working.

## Using the UniAPI under Visual Studio

To create your own projects under Visual Studio using the UniAPI perform the following steps:

1. Open **Visual Studio** and create a project using the built-in wizard.
2. Add the following include lines:

```
#include "UniControl.h"
#include "UniTransform.h"
```

3. According to your needs you can add source code: see Chapter [Example code \(code snippets\)](#) on page 29.
4. Go to **Project settings** → **Linker** → **Input** → **Additional Dependencies** and enter the following libraries:  
UniControl.lib UniTransform.lib
5. Save and compile your project in the usual way.

## Example code (code snippets)

Here are some short code snippets you can use in your projects. The code snippets are well documented.

### Initializing API

The following code initializes the API and opens the first camera listed:

---

```
if ( FAILED( UCC_Init() ) )
{
    ; // todo: error handling, init failed
}

// create an array for up to 64 camera ids
UINT32_TYPE arrId[64], nCnt=64;

// get camera ids
if ( FAILED( UCC_GetCameras( &nCnt, arrId ) ) )
{
    ; // todo: error handling, UCC_GetCameras failed
}
if ( nCnt == 0 )
{
    ; // todo: error handling, no camera found
}
else
{
    // select the first camera listed
    ID_TYPE nCamId = arrId[0];

    // open camera
    if ( FAILED( UCC_OpenCamera(nCamId) ) )
    {
        ; // todo: error handling, UCC_OpenCamera failed
    }

    // image acquisition code may be added here...
}
}
```

---

Figure 20: Code snippet: Initialize API and open first camera listed

### Configure a fixed format

The following example shows how to configure a resolution of 320 x 200 pixels and YUV422 color format:

```

UINT32_TYPE nMode = 0;
UINT32_TYPE nColorFormat = E_CC_YUV422;
UINT32_TYPE nHorizontalResolution = 320;
UINT32_TYPE nVerticalResolution = 200;
UCC_PrepareFreeGrab ( nCamId, &nMode, &nColorFormat, &nHorizontalResolution,
                    &nVerticalResolution, NULL, NULL, NULL, NULL);

```

Figure 21: Code snippet: Configure 320x200 and YUV422

### Grabbing a single image

The following example shows how to grab a single image.

The example code uses **UCC\_GrabBitmapImage** to grab a single image in **BGR** bitmap format. The bitmap buffer of an **ATL::CImage** is used for data storage. The example assumes that the utilized camera is a color model.

```

// The variables below are expected to be defined properly.
// The 'extern' declaration is only chosen for syntactical correctness
// as stand-alone example.
extern ID_TYPE nCamId; // id of an already opened camera
extern UINT32_TYPE nHorizontalResolution; // the currently configured image size
extern UINT32_TYPE nVerticalResolution; //

ATL::CImage Image;
Image.Create( nHorizontalResolution , -1 * nVerticalResolution , 24 );
UNI_RETURN_TYPE hr = UCC_GrabBitmapImage( nCamId , (UINT8_TYPE*) Image.GetBits() , INFINITE );

```

Figure 22: Code snippet: Grab a single image in BGR bitmap format

#### Note



For more information see **UniControl.chm** online help: Related pages, Chapter **Code snippets**.

You find this online help in the installation directory, subdirectory doc, i.e. (standard installation) the following directory:

C:\Program Files\Allied Vision Technologies\FirePackage\Doc

For a more detailed description of how to get started with UniAPI see **UniControl.chm** online help: Chapter **Getting started**.

# Licensing

In order to run a camera with **AVT FirePackage**, your system (PC or laptop) or your camera needs a license. All AVT cameras have an embedded license.

This license will be read out with the help of a license file on the PC.

The system determines which license file will be used. First the system examines the file specified by the subkey `LicenseFile` in

```
[HKEY_LOCAL_MACHINE\SOFTWARE\intek\FirePackage]
```

**Note** The **AVT FirePackage** installer uses by default the following file:



```
C:\WINDOWS\system32\avtfplic.txt
```

If no registry key is found, the file name **LICENSE.TXT** is assumed, which has to be in the same directory as the used DLL (**FCTLMAIN.DLL**, **FGCamera.DLL** or **FireCtrl.DLL**).

**Note**

- By default **AVT FirePackage** will look for the DLLs in the current directory.
- Normally the DLLs are used from the Windows System32 directory.



A typical license file for AVT cameras looks like this:

```
* FireControl License File
1EEAF9B450220075 Devicecontained Offset=F1000008 (AVT)
...
...
```

After the top line starting with \*, each line contains one license. The line after the top line is exactly as shown above.

The license file will be read from top to bottom until a valid license is found.

# Redistribution of AVT FirePackage components

Distribution of **AVT FirePackage**-based software also requires the redistribution of **AVT FirePackage** components. The actual set of necessary components depends on the utilized API. This section describes the redistribution of components on a file basis. When this approach is chosen, it lies in the responsibility of the packager that all required components are installed on the target system. Alternatively, the whole installer package provided by AVT may be integrated in third-party installers.

## Note



To assure compatibility with installers provided by AVT, predetermined component GUIDs should be used for all redistributed components. Component GUIDs are listed at the end of this chapter.

## Mandatory requirements

The following requirements are mandatory for the installation of any other **AVT FirePackage** component to be installed on a target system.

### Intek license requirements

A valid **intek** license file needs to be present in the same directory as the utilized DLL (usually at %SYSTEMROOT%\system32\LICENSE.TXT) or in any path pointed to by the registry entry  
HKLM\SOFTWARE\intek\FirePackage\LicenseFile

This registry key is not overwritten during a subsequent **AVT FirePackage** installation.

### Intek driver requirements

The **intek** host controller driver needs to be installed for each 1394 controller to be used with **AVT FirePackage** components.

In dependency of the operating system used the driver files can be found at different locations:



Windows Vista, XP or 2000	Windows NT4
Driver files can be found inside the <b>AVT FirePackage</b> installation folder under <code>Driver/WDM</code> .	Driver files are stored in <code>Driver/WinNT4</code> .

Table 6: Locations for driver files

## .NET Framework requirements

.NET components of the **AVT FirePackage** require the .NET Framework version 2.0 to be installed on the target computer. Furthermore, redistributed **.NET** components need to be installed either side by side with the application or into the target system's Global Assembly Cache.

www



For detailed information see

[http://msdn2.microsoft.com/en-us/library/yx7xezcf\(VS.80\).aspx](http://msdn2.microsoft.com/en-us/library/yx7xezcf(VS.80).aspx)

## Requirements matrix for API files

In dependency of the application programming interface (API) used for the development of an application, different files need to be installed on the target system. The following table provides an overview about the files that belong to a certain API.

API	C++	C	.NET
FireStack		FCTLMMAIN.dll (1)	
FireControl		FireCtrl.dll (1)	

Table 7: File requirement reference matrix for AVT FirePackage APIs

API	C++	C	.NET
FireGrab	FGCamera.dll (1)	FGCamera.dll (1) FGWrap.dll (1)	FGCamera.dll (1) FireWrap.Net.dll (2)
UniAPI		FGCamera.dll (1) UniControl.dll (1) UniTransform.dll (1)	FGCamera.dll (1) UniControl.dll (1) UniTransform.dll (1) UniControl.Net.dll (2) UniTransform.Net.dll (2)

Table 7: File requirement reference matrix for AVT FirePackage APIs

(1) These files have to be stored in the application folder or in a folder referenced in the PATH variable (usually %SYSTEMROOT%\system32)

(2) These files have to be referenced in the target application project directly, and are found by the application via .Net assembly cache.]

## Requirements matrix for the usage of AVT SmartView

In case the AVT SmartView application should be used, the following files need to be installed on the target system:

- FCTLMAIN.dll (1)
- SmartView.exe has to be installed
- GdiPlus and MSXML3 components provided by Microsoft need to be installed on the target system. GdiPlus is normally included on XP and Vista systems, but not on Windows 2000 systems

(1) This file has to be stored in the application folder or in a folder referenced in the PATH variable (usually %SYSTEMROOT%\system32)

## Component GUIDs

The MSI installer engine allows a single file to be installed by more than one installer package at a time. However, special care needs to be taken to prevent conflicts between installation packages redistributing AVT components and a possibly installed AVT FirePackage.

When installed to the mentioned location, the files below should be installed as single-file **MSI Components** and the following **Component GUIDs** should be used:

File	Component GUID
%SYSTEMROOT%\system32\FCTLMAIN.DLL	{9C351B2D-E8CE-64C5-DB8F-4EF089D72EB6}
%SYSTEMROOT%\system32\FireCtrl.DLL	{D427FE2B-AFF1-07F3-1C85-0DA9FB1ED9F0}
%SYSTEMROOT%\system32\FGCamera.dll	{B597DEDC-ECDD-914F-53F8-F16EC045B761}
%SYSTEMROOT%\system32\UniControl.dll	{28D51CD2-0722-4743-A0E9-D4C7C7D9B991}
%SYSTEMROOT%\system32\UniControl.Net.dll	{8C425415-3BEA-4D51-8D62-559110697C00}
%SYSTEMROOT%\system32\UniTransform.dll	{E36218E9-603F-442D-B85F-B84F41079680}
%SYSTEMROOT%\system32\UniTransform.Net.dll	{43A3B69E-CA0E-4807-B3F7-2A92D5D56EA3}

Table 8: MSI components and component GUIDs

If these files are installed to locations other than %SYSTEMROOT%\system32, self-generated GUIDs should be used instead.

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