

MikroCAD

plus 1.7 x 1.4



Quick Start Guide



LMI TECHNOLOGIES

Getting Started with the MikroCAD 3D Scanner

Congratulations on purchasing a MikroCAD 3D Scanner. This quick start guide provides you with the resources to get you started on 3D scanning.

Downloading the Software

You can download the MikroCAD installer at <http://lmi3d.com/support/downloads/mikrocad>.

If you purchased the MikroCAD software (Standard or Professional), download
14471-x.x.x.x_SOFTWARE_MikroCAD_Standard_Professional.exe.

If you purchased only the scanner, download
14470-x.x.x.x_SOFTWARE_MikroCAD_Scan.exe.

Customer Support

If you have any installation issues, please contact:

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LMI Technologies has sales offices and distributors worldwide. All contact information is listed at lmi3d.com/contact/locations.

Hardware Included with Your MikroCAD Scanner



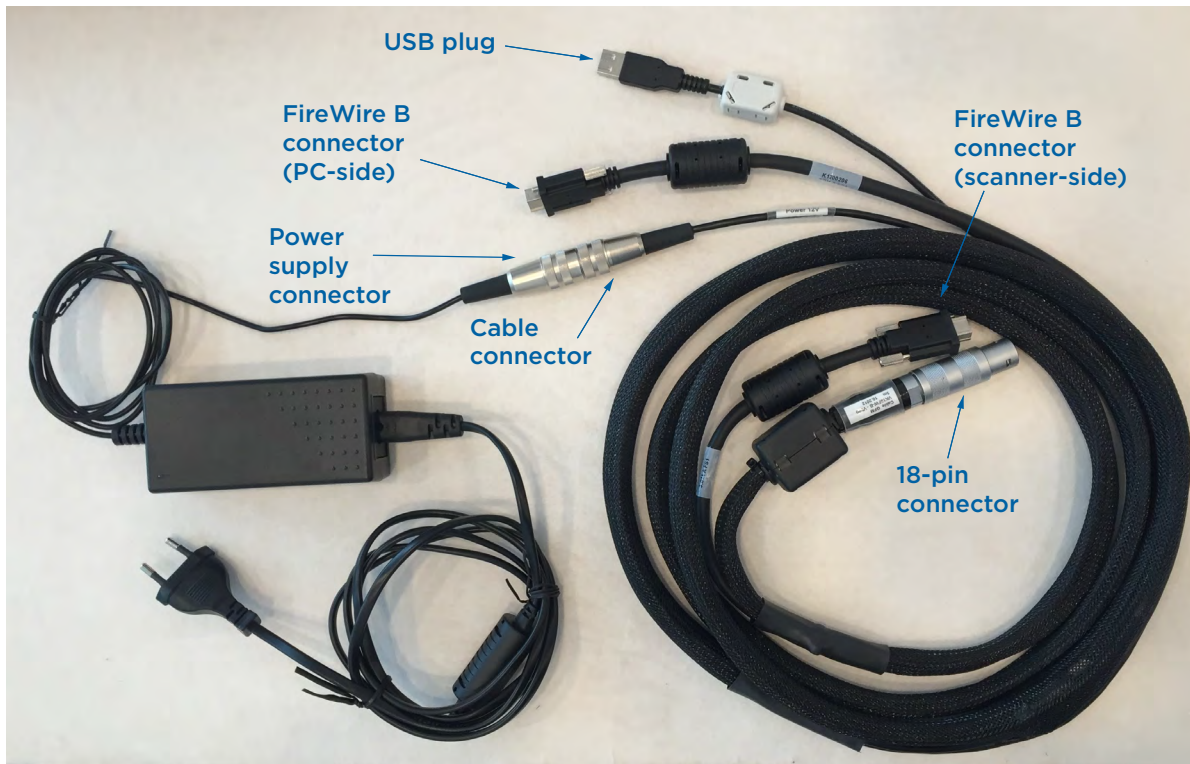
When you receive your MikroCAD 3D scanner, check that all components are included:

Number	Description
1	3D Scanner and stand
2	Calibration kits
3	Cable
4	Power supply
5	MikroCAD software dongle (separate purchase; required for using measurement tools)

IMPORTANT! The FireWire adapter of the computer you use with the MikroCAD scanner must be able to provide 8-36 VDC and 2.75 W. Because most laptops do not provide power over IEEE 1394 (FireWire), you may need to provide external power if you are using a laptop. Refer to pages 67 and 68 in [AW00061108000_Install and Setup Guide pylon Windows.pdf](#) for information on possible laptop configurations (FireWire B only).

IMPORTANT! The scanner has been tested with a Point Grey Research FireWire card (part number FWB-PCIE-02).

Cable Description



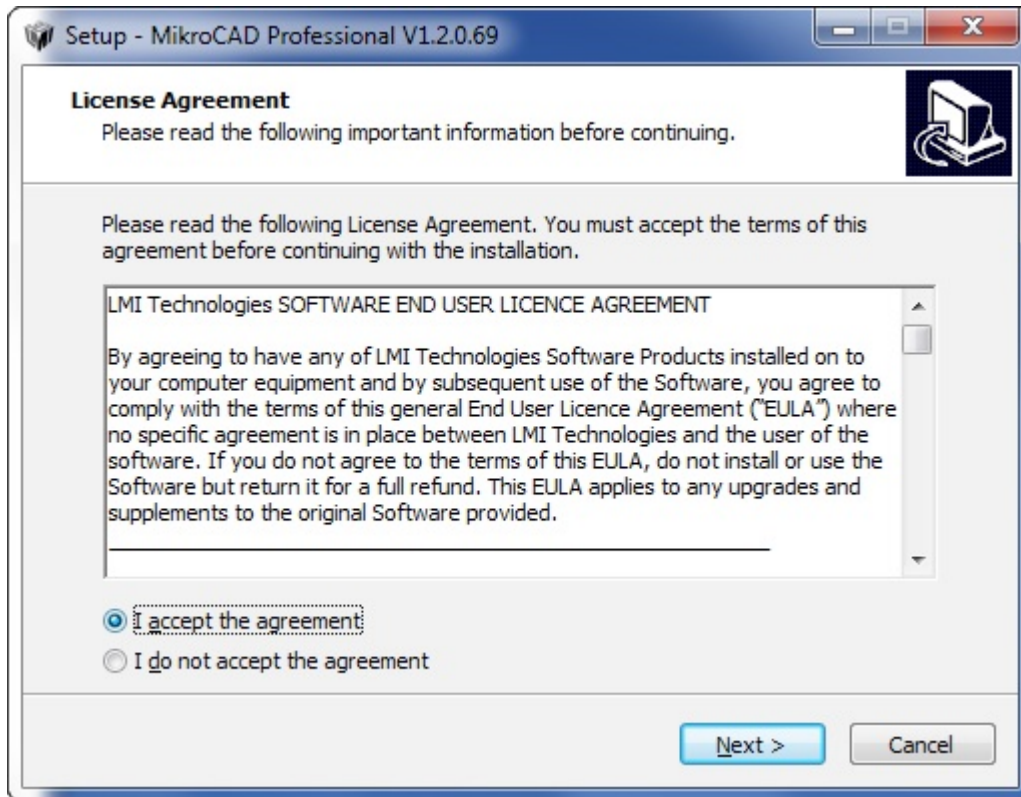
Refer to the cable diagram when connecting the cables to the MikroCAD scanner.

Installing the MikroCAD Software

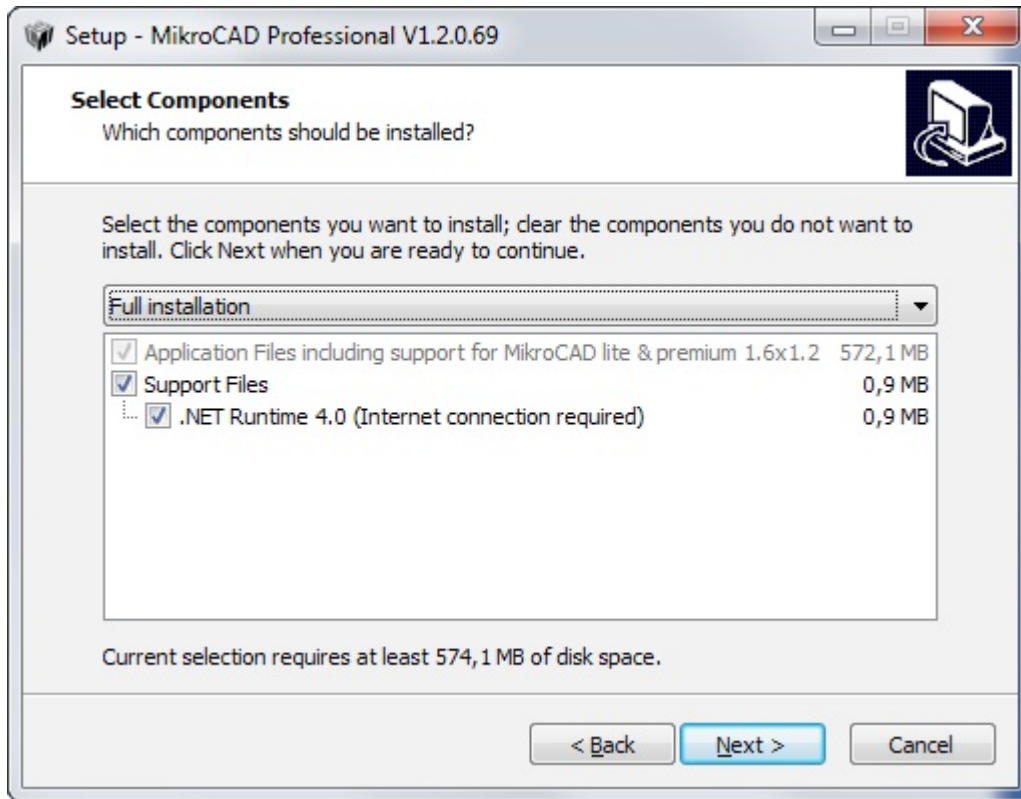
1. After downloading the MikroCAD software installer, double-click it.

See “Downloading the Software” on page 2 for information on downloading the installer.

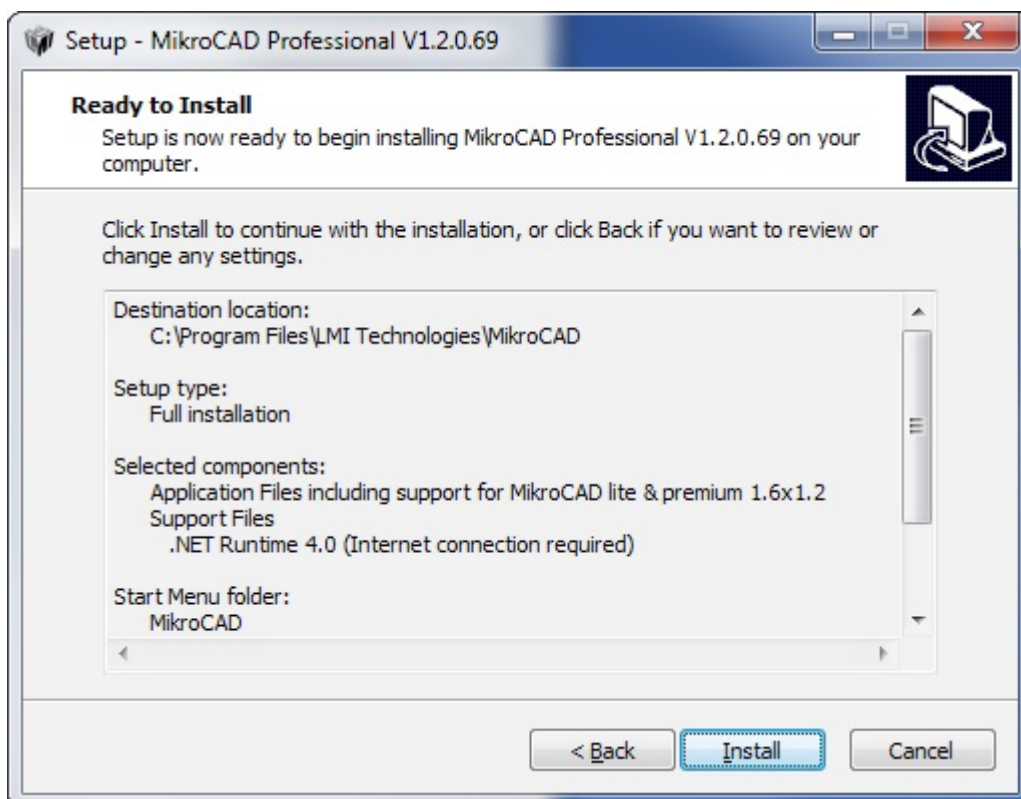
2. Accept the license agreement and then click **Next** repeatedly to step through the installation setup.



You may change the default values if you wish, but we recommend leaving **.NET Runtime 4.0** selected to ensure that it is installed.

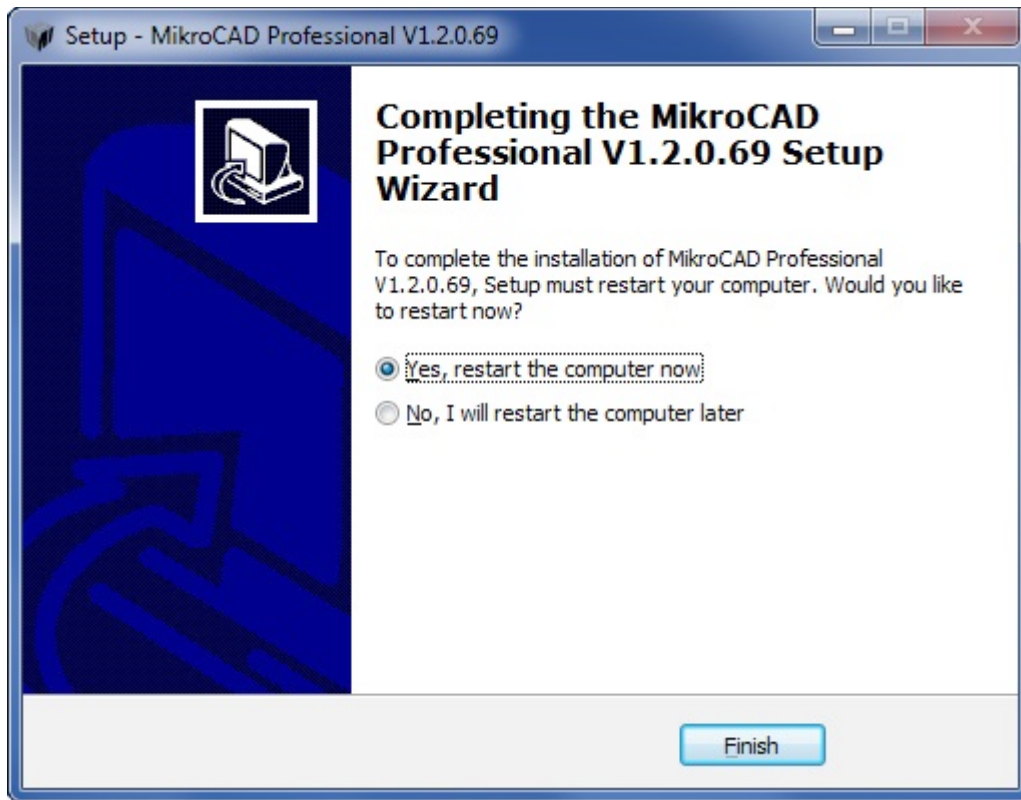


3. Click **Install**.



The installer installs the MikroCAD software.

4. Restart the computer if you are instructed to do so.

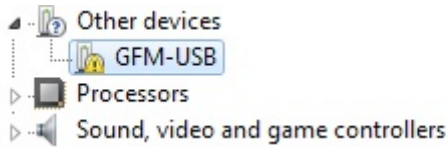


Installing the Projector Driver

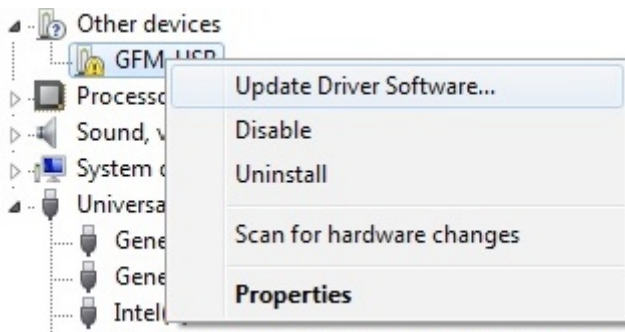
1. Click the Start button, and in the **Search programs and files** field, type `devmgmt.msc`. Then press Enter.

The Device Manager opens.

2. In the Device Manager, find the **GFM-USB** device under **Other Devices**.



3. Right-click the device and choose **Update Driver Software...**

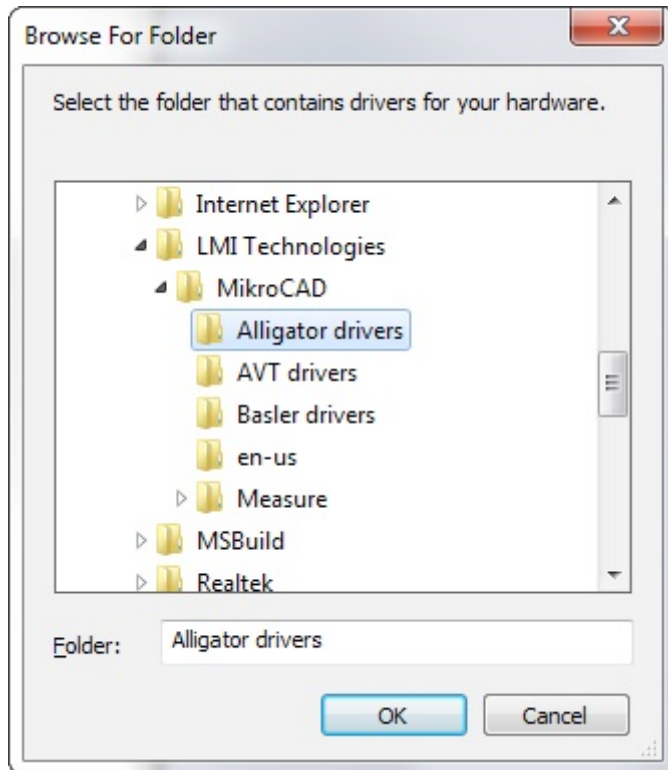


4. In the dialog that opens, choose **Browse my computer for driver software**.

➔ **Search automatically for updated driver software**
Windows will search your computer and the Internet for the latest driver software for your device, unless you've disabled this feature in your device installation settings.

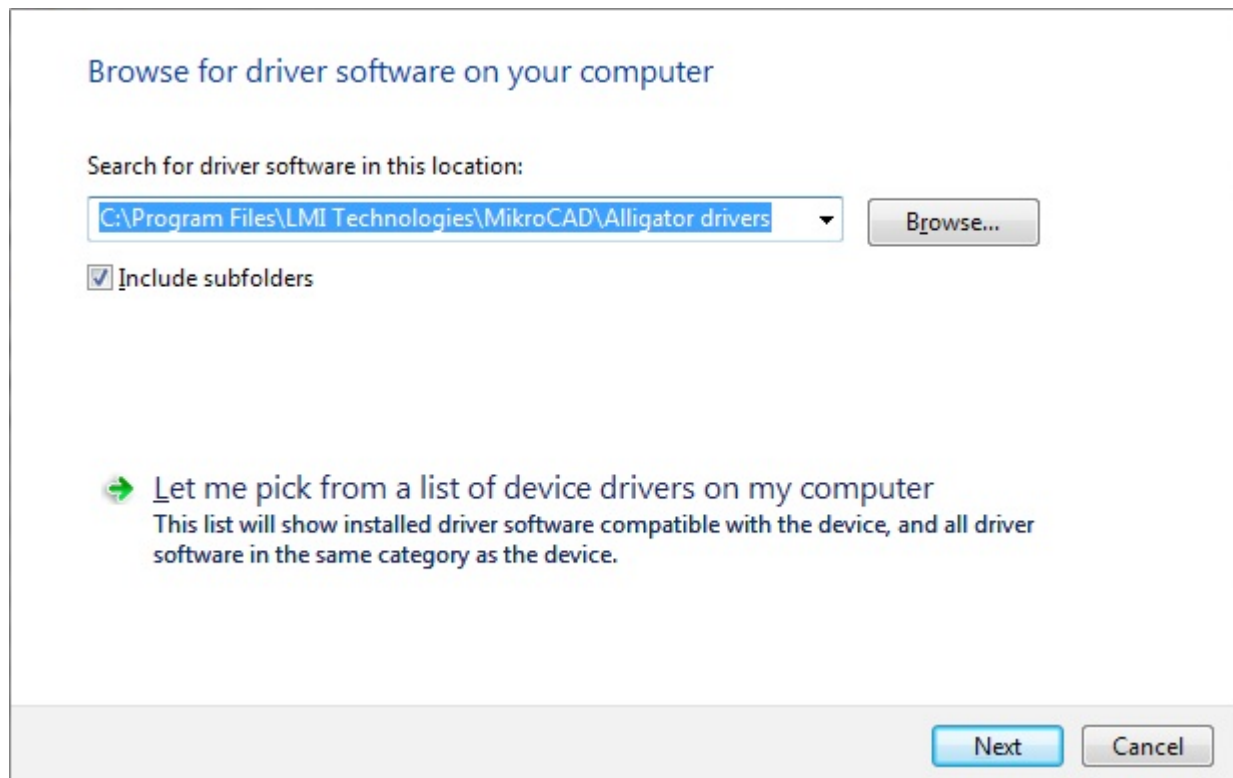
➔ **Browse my computer for driver software**
Locate and install driver software manually.

5. Browse to the folder that contains the projector driver and click **OK**.



By default, the driver is installed in
C:\Program Files\LMI Technologies\MikroCAD\Alligator drivers.

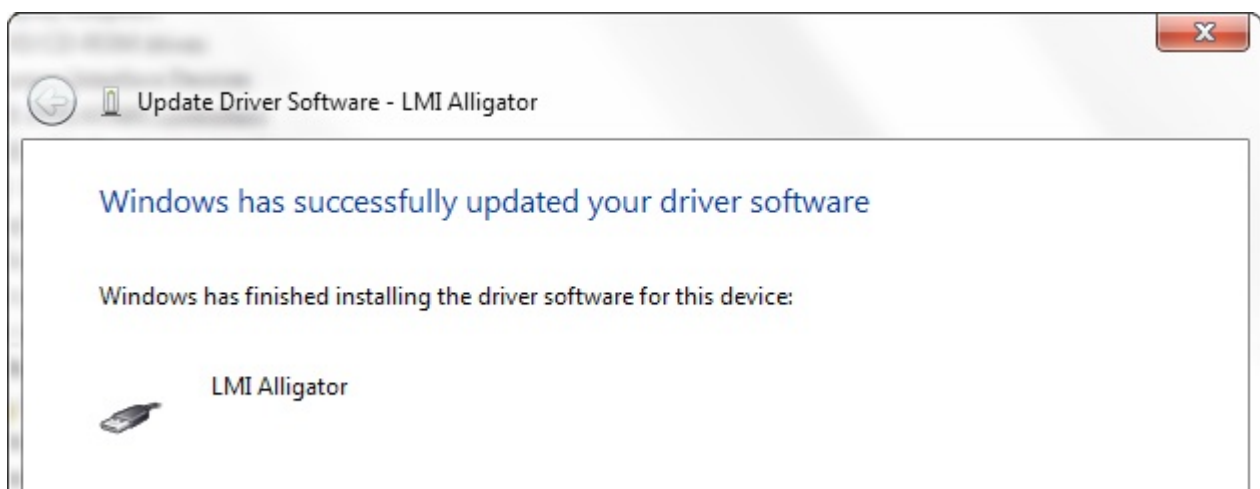
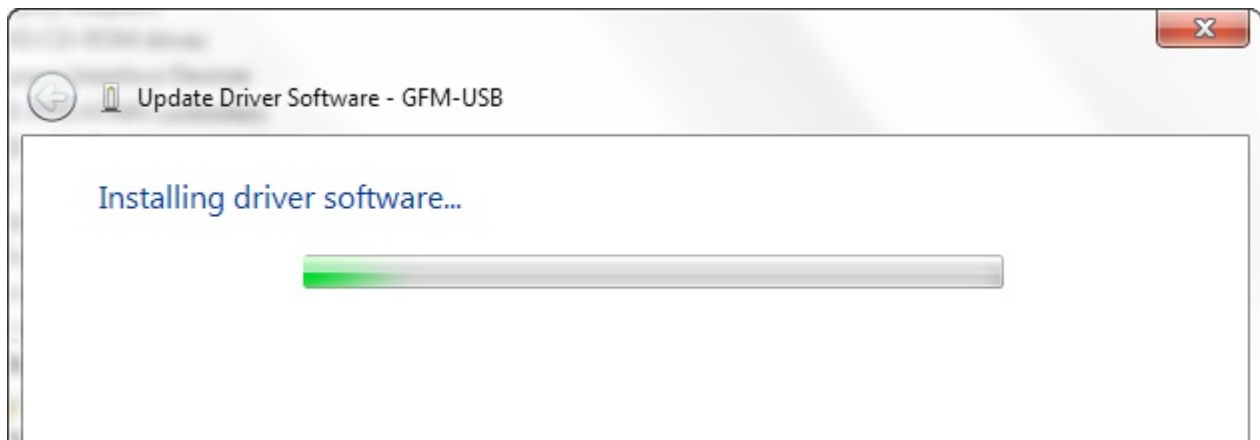
6. In the dialog that opens, click **Next**.



7. In the Windows Security dialog, click **Install**.

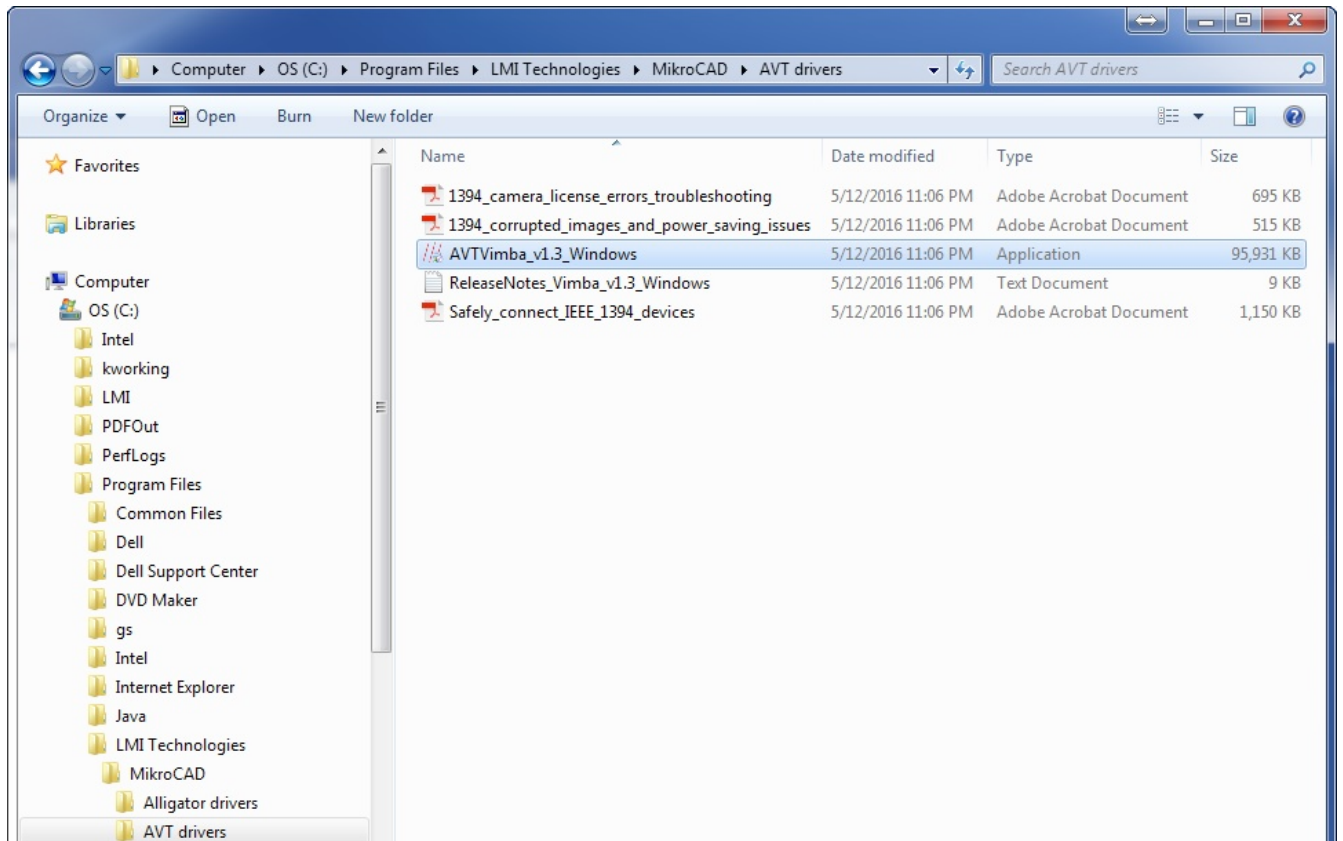


Windows installs the driver software.



Installing the Camera Driver

1. Browse to the location of the Vimba Software Development Kit installer (AVTVimba_v1.3_Windows) and double-click it to launch it.



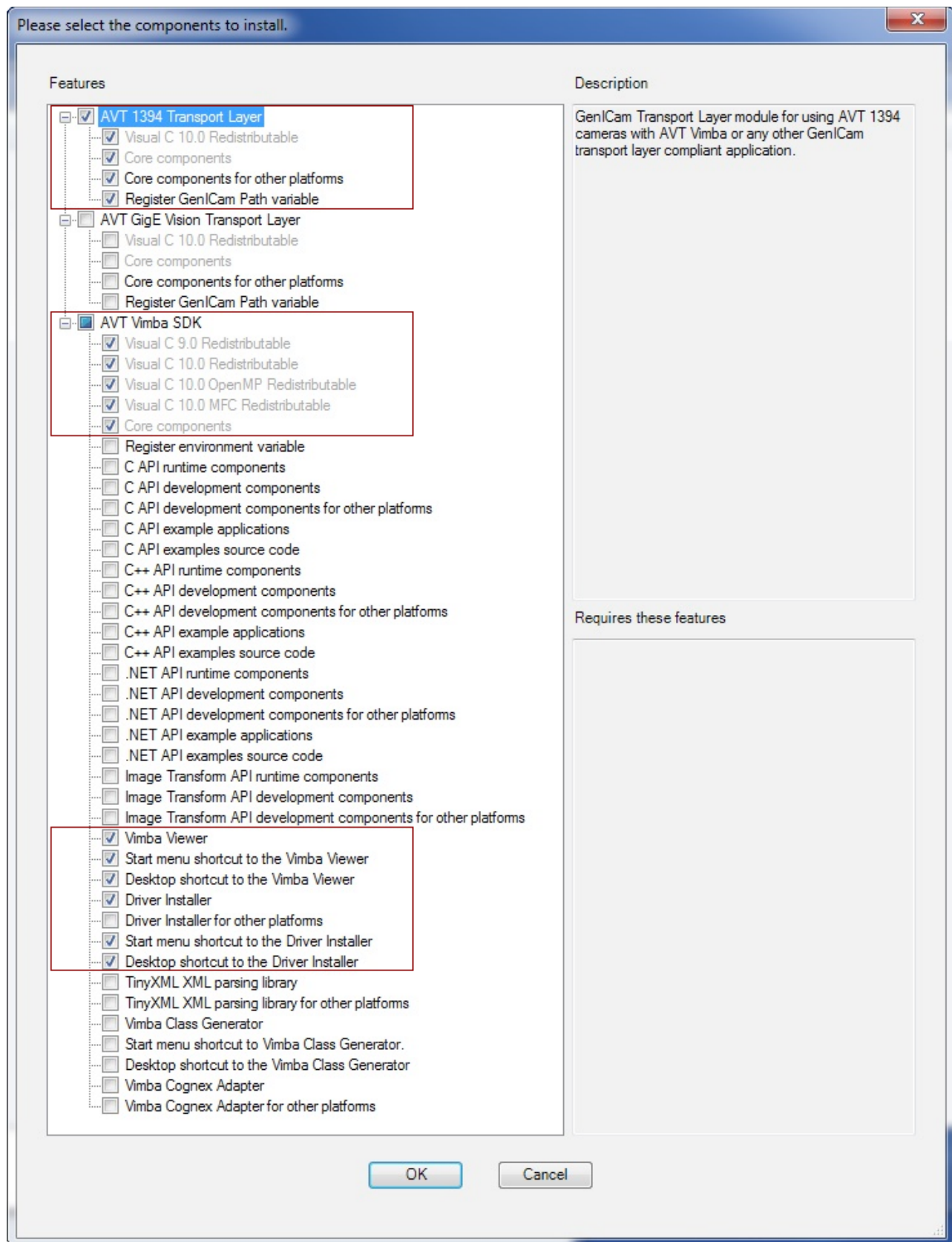
By default, the location is

C:\Program Files\LMI Technologies\MikroCAD\AVT drivers.

2. In the installer, click **Custom Selection**.



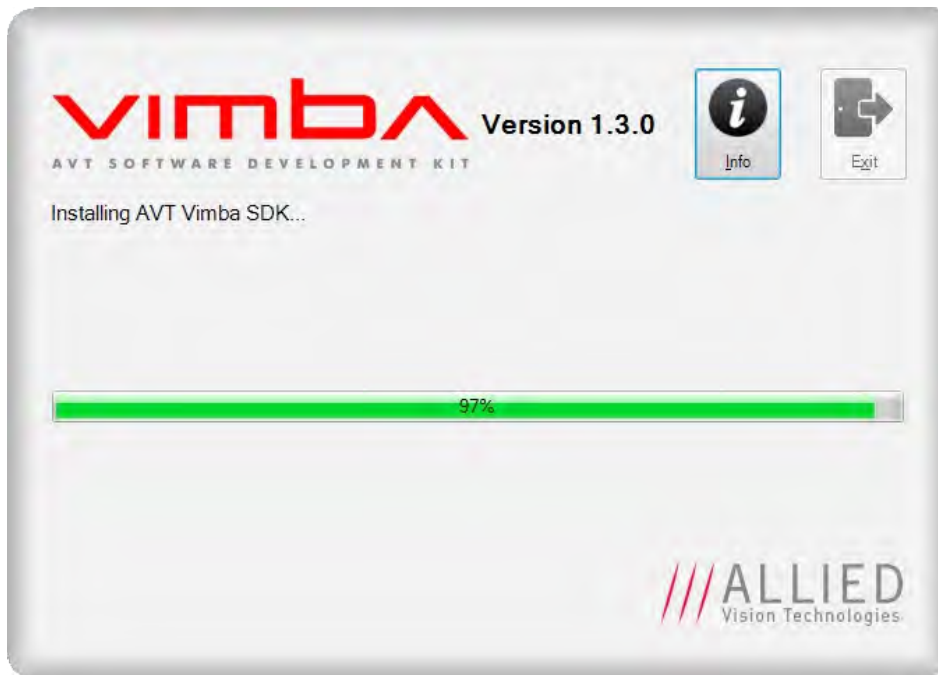
3. In the dialog that opens, check the features indicated below, and then click **OK**.



Although selecting the shortcut features in the last group of features is not required, we recommend selecting them.

4. In the installer, click **Start**.

The installer copies the selected files and drivers to the computer.



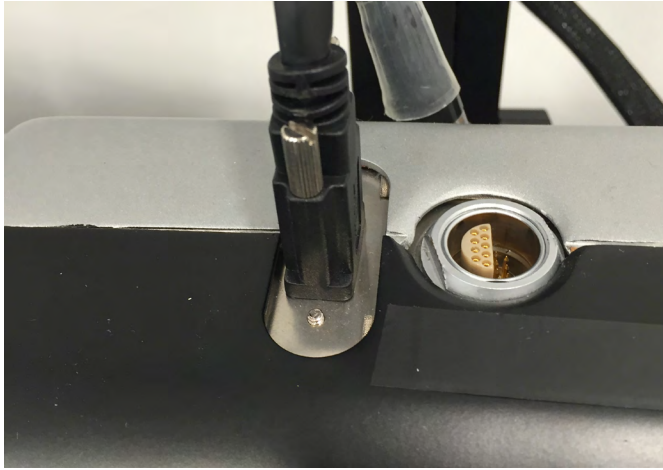
5. In the installer, check the **Install AVT Drivers** option and click **Exit**.



The installer installs the AVT drivers.

Connecting the Scanner Cable

1. Connect the FireWire connector to the scanner.



2. Connect the large 18-pin connector to the scanner.



3. Connect the USB plug to a free USB port on the computer.



4. Connect the FireWire B connector to the FireWire port on the computer.



5. Connect the power supply's connector to the power connector on the cable.



Using the Scanner

1. Plug the power cord into a wall outlet to power up the scanner.

The scanner is ready when the LED on the housing is green.

2. Turn the computer on.
3. If you are going to perform measurements, insert the dongle into a free USB port.



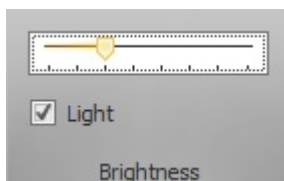
The dongle is required to perform measurements, but not to acquire data.

Windows may install a driver when you insert the dongle.

4. Launch the MikroCAD software.

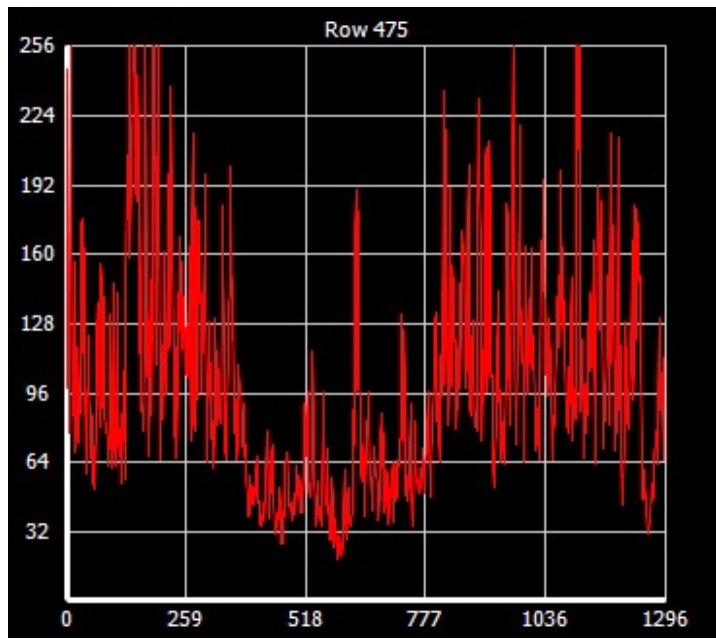
If the scanner is not listed in the scanner selection dialog, or if the scanner repeatedly tries to connect to the scanner, see “Troubleshooting” on page 21.

5. Put the sample below the scanner in the center of the camera image.
6. Configure the brightness using the slider in the MikroCAD software.



Use the **Intensity Profile** graph in the software to guide you. Try to set the brightness so

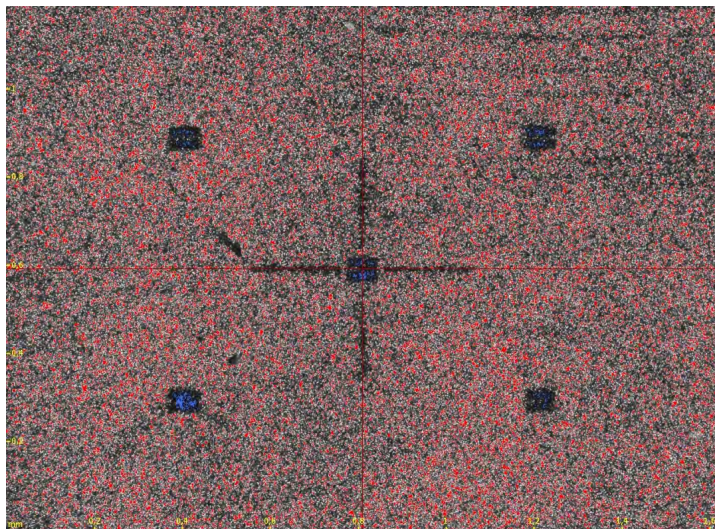
that most of the peaks are below 256 and near the middle of the graph.



If you see no image, see “Troubleshooting” on page 21.

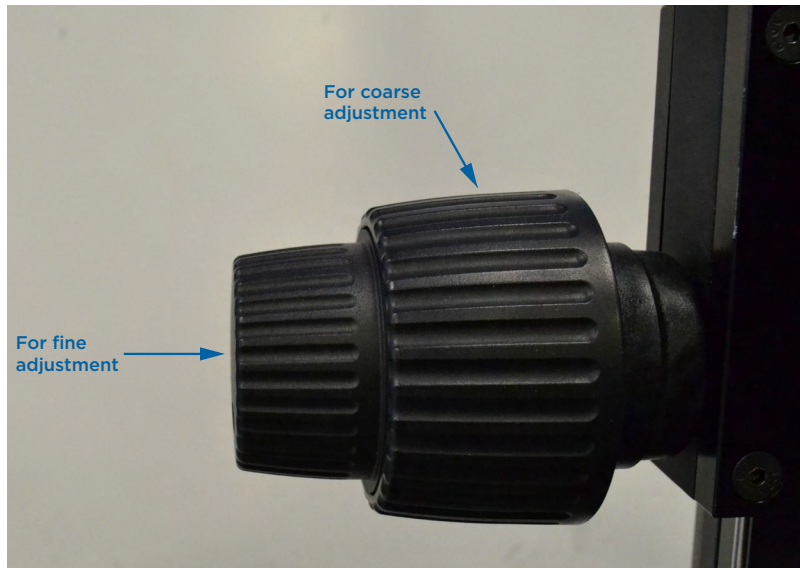
7. Focus the scanner.

To focus the scanner, align the vertical line of the projected cross pattern with the vertical line of the red cross in the MikroCAD software.

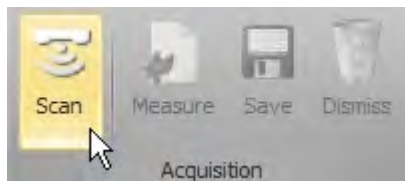


Use the small knob on the column stand to fine-tune the focus. Use the large knob on the

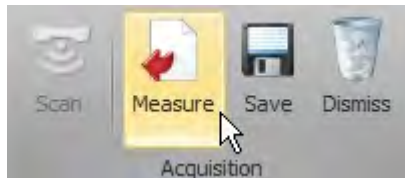
column stand to move the scanner more quickly.



8. On the **Scan** page, in the **Acquisition** group, click on **Scan** to perform a scan.



9. After performing a scan, click on **Measure** in the **Acquisition** group to transfer the acquired data to the measurement tools.



For information on performing measurements on the acquired data, see the integrated measurement software manual.

The scanner does not need to be powered to perform measurements on the acquired data.

10. After using the scanner, close the MikroCAD software **before** disconnecting the scanner.

IMPORTANT! Failing to close the software before disconnecting the scanner may cause damage to the scanner.

Setup of the MikroCAD Series 3D Scanner is now complete.

Troubleshooting

If the MikroCAD software can't connect to the scanner or you see no image in the software, verify the following.

Power and Connections

Check power and connections:

- Ensure that the power cord is plugged into a wall outlet and that the power supply is connected to the cable.
- Ensure that the 18-pin connector is connected to the scanner.
- Ensure that the FireWire and USB cables are connected to the computer.

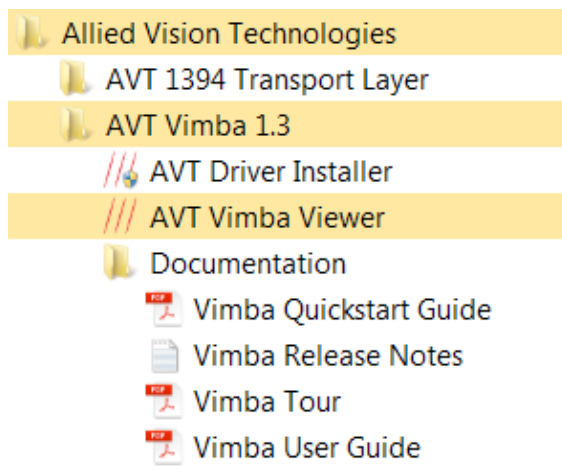
You should see a lit indicator on the power supply and the scanner.

For more information on cables, see “Cable Description” on page 4.

Camera Driver

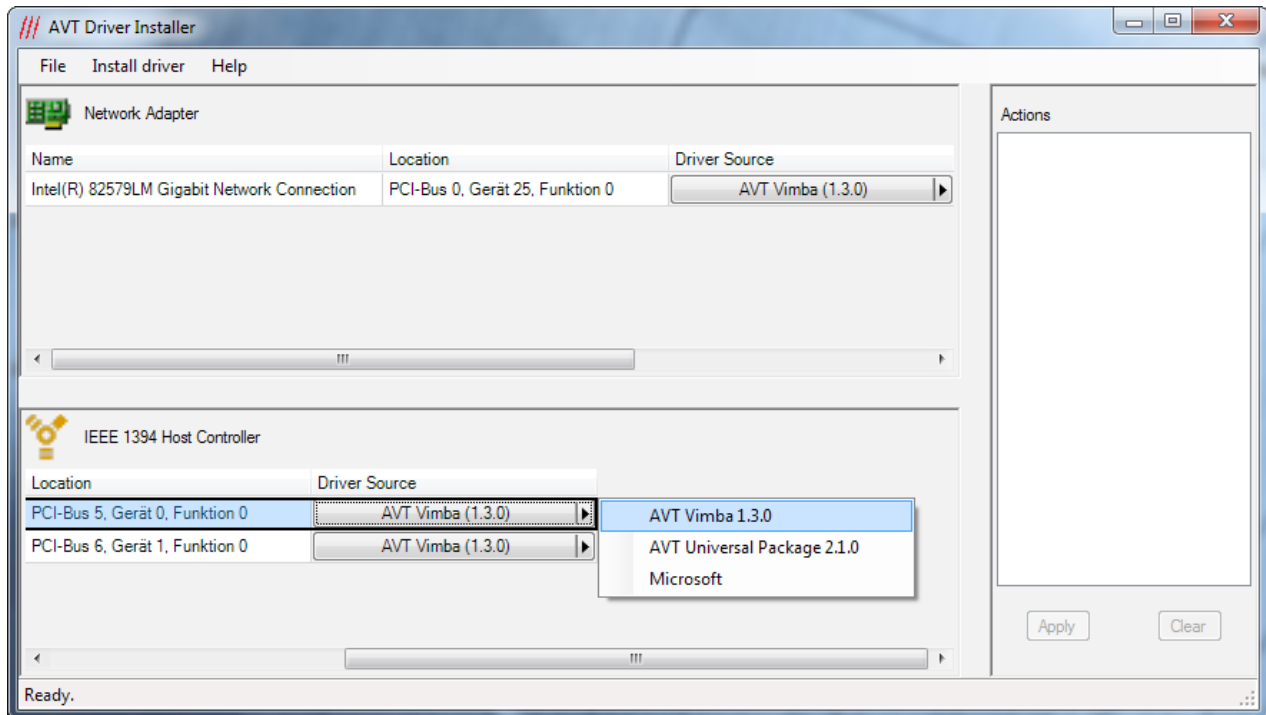
Ensure that the camera driver is correctly installed

1. Launch the AVT Driver Installer:
 - If you chose to install shortcuts in “Installing the Camera Driver” on page 11, find the shortcut to the AVT Driver Installer on the desktop and double-click it.
 - If you chose not to install shortcuts, do the following:
 - a. Click the Start button, and then click **All Programs** in the Start menu.
 - b. In the Start menu, look for an Advanced Vision Technologies folder and click it to expand it and its subfolders to get to **AVT Vimba 1.3**.



c. Click **AVT Driver Installer**.

2. In the AVT driver installer, for each FireWire port, click the drop-down and select **AVT Vimba 1.3.0**.



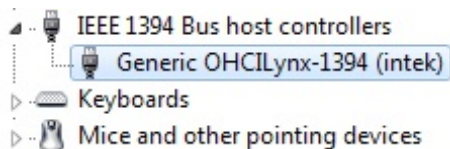
3. If you are instructed to reboot the computer, reboot it now.

If the method above does not help, try the following:

1. Click the Start button, and in the **Search programs and files** field, type `devmgmt.msc`. Then press Enter.

The Device Manager opens.

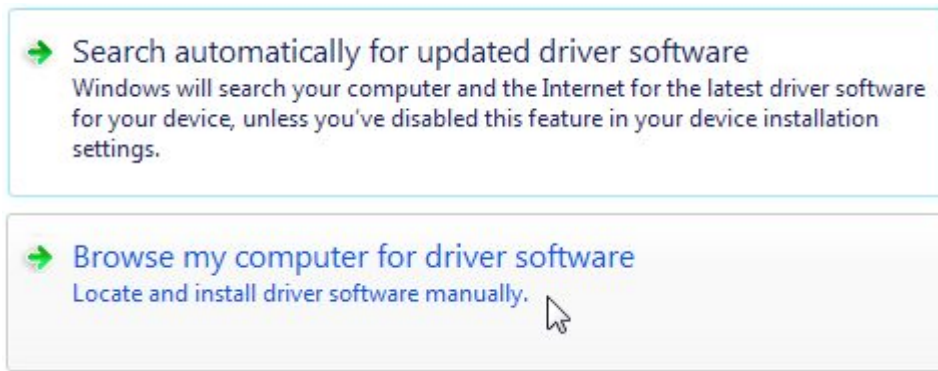
2. In the Device Manager, under **IEEE 1394 Bus host controllers**, look for Generic OHCIlynx-1394 (intek).



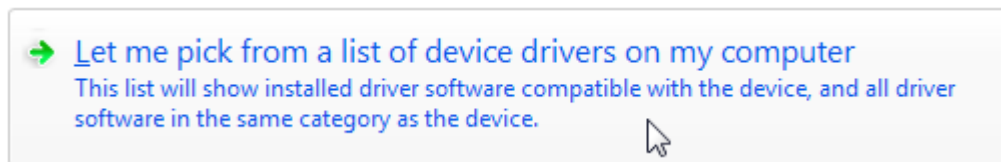
If your FireWire card has more than one port, there will be one entry for each port.

3. Right-click on the Generic OHCIlynx-1394 (intek) driver and choose **Update Driver Software...**

4. In the dialog that opens, click **Browse my computer for driver software**.



5. In the next dialog, click **Let me pick from a list of devices on my computer**.



6. In the next dialog, select the Generic OHCI Lynx-1394 (intek) driver.
7. Click **Next** and follow any remaining instructions in the driver installer.

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