ConnectorView™ Plus

Pass / Fail Analysis Software

For CI-1000 USB2, ViewConn® and DI-1000

Installation & User's Manual

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System Requirements:

        Operating System: Windows XP® SP2 or SP3, Vista® or Windows 7®
        Processor: 32-bit or 64-bit
        Free Space: 45MB
        Portal: USB2.0

Package Contents:

        ConnectorView Plus CD
        ConnectorView Plus Installation & User's Manual
        USB2.0 2-Port Hub
        USB Dongle (Hardware Key)

ConnectorView Plus uses the position of the defects/contamination at the time of the test to determine a Pass/Fail rating. Loose items may later cause a failing result.

Even if a "Pass" rating is given, if there are highlighted items on the screen, the connector should be cleaned.

If after cleaning, the defects remain in place and the connector again passes, it can be assumed the items are defects rather than loose debris, and the connector can be used.

Introduction

Thank you for your purchase of Lightel's ConnectorView Plus software and your use of a Lightel video microscope.

This manual provides detailed installation and use instructions. We suggest that you keep it available for future reference.

Your use of and other rights with respect to the Lightel's ConnectorView Plus software and the accompanying USB Dongle as well as the information contained in this Installation and User's Manual is subject to, and governed by, the End User License Agreement which is set forth on the CD which contains the ConnectorView Plus program. Before you can utilize the ConnectorView Plus software, you must indicate your acceptance of the terms of the End User License Agreement. Only after such acceptance has been indicated will you be able to use the software.

ConnectorView Plus software may be installed on multiple computers and used with multiple Lightel devices. Each computer will have ConnectorView (standard) features available, when a Lightel USB Dongle is not being utilized.

The 2-port USB Hub has been provided as a convenience so that both your Lightel device and the USB Dongle can share a single USB port on your computer. It is optional to use the hub. This hub has been tested and provides sufficient power for your Lightel device.

THE USB DONGLE IS YOUR KEY TO UNLOCK THE FULL CONNECTORVIEW PLUS FUNCTIONALITY. IT MUST BE ATTACHED TO A COMPUTER FOR THE PASS / FAIL ANALYSIS AND REPORTING FEATURES TO BE ACTIVE. LOSS OF THE DONGLE WILL DISABLE THESE FEATURES AND MAY VOID YOUR LICENSE.

IF YOU HAVE PREVIOUSLY INSTALLED LIGHTEL VIDEO CAPTURE SOFTWARE 1.22 ON YOUR COMPUTER, READ THIS CAREFULLY.

Both applications can reside on your computer; however, do not attempt to use the CI-1000-USB2 Video Adapter, ViewConn or DI-1000 with the v1.22 software (for USB1.1). A system crash may result.

We recommend that if you no longer need v1.22 for use with a CI-1000-USB Video Adapter, it be uninstalled using Windows Uninstaller to avoid any chance of error.

Installation

1. Install USB Video Driver

The CI-1000/CI-1100 and ViewConn share common drivers, however, 32-bit and 64-bit drivers and procedures differ. The DI-1000 uses a different driver. Please be certain to follow the instructions which apply to your device and system.

(Throughout this manual, all items and instructions which apply to the CI-1000 will also apply to the CI-1100. Future references to "CI" will cover both videoscopes.)

If you have previously installed a Lightel driver for your device and an earlier version of Lightel image capture software, it will not be necessary to reinstall the driver.

1.1 CI and ViewConn 32-bit Systems (other than Windows 7)

CI-1000/CI-1100: Attach the handset probe to the CI-1000-USB2 Video Capture device and plug the USB cable into your computer. Windows will automatically display the screen below.

ViewConn: Attach the mini-B USB cable to ViewConn and plug the cable into your computer. Windows will automatically display the screen below.

Note: *the screens shown below are for Windows XP. Screen images may differ with other operating systems.*

Click the "No, not this time" radio button, then click [Next].

Click the "Install from a list or specific location (Advanced)" button, and then click [Next].

Load the **Lightel ConnectorView Plus CD** into the CD drive of your computer and use [Browse] to point the file path to folder "32-bit Driver" within the "CI and ViewConn Folder".

Click [OK]. After a few seconds, you will see the following screens.

Click [Next].

Click [Finish] to complete the USB video driver installation.

1.2 CI and ViewConn 32-bit Systems with Windows 7

Before attaching your Lightel USB device,
*disconnect from the Internet.*

Load the **ConnectorView Plus Driver & Software CD** into the CD drive of your computer and attach your CI or ViewConn USB device.

Windows 7 will soon display a message that the driver installation was unsuccessful. This is normal without an Internet connection.
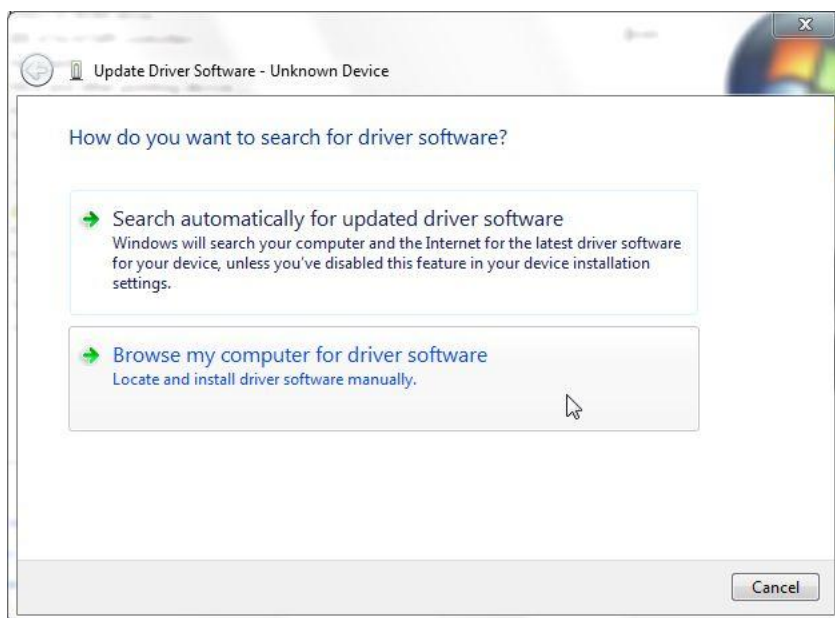
Left click on the "Start" button and open the Control Panel.

Open the Device Manager and select the "Unknown Device" under "Other devices."
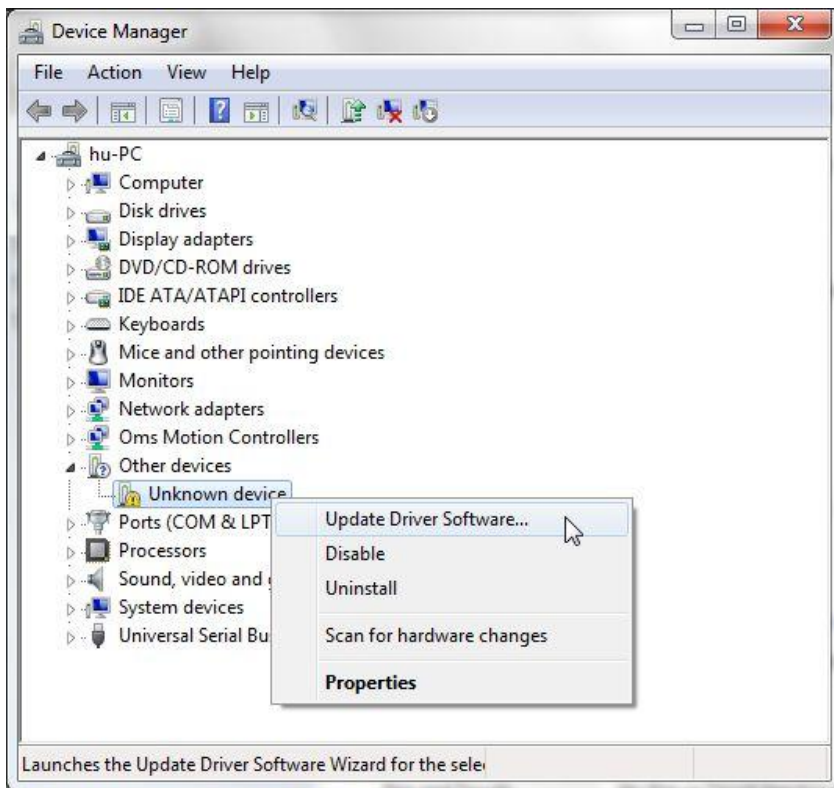
Right click to open the menu and select "Update Driver Software…"
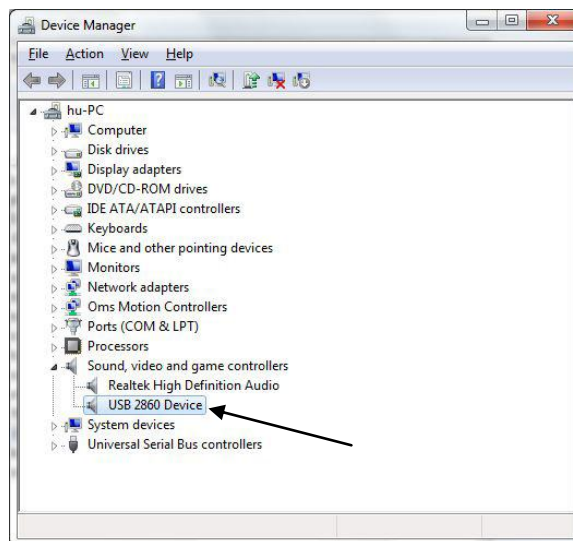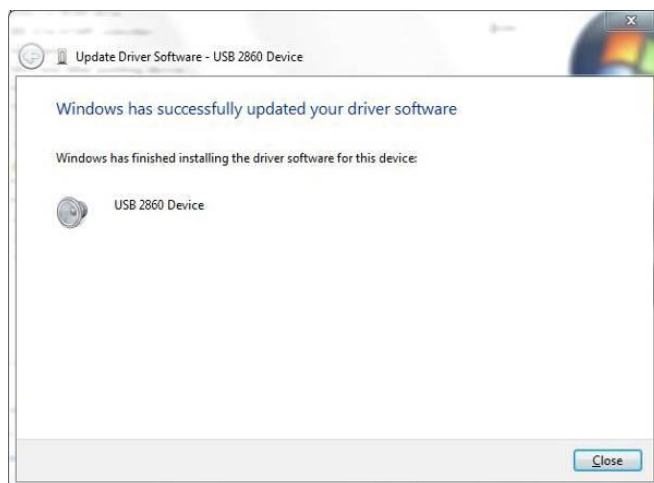
Select "Browse my computer for driver software"

Use the "Browse" button to point the file path to the folder "32-bit Driver" within the "CI and ViewConn Folder" and then left click on it so that the path shows in the address bar. Click [Next].
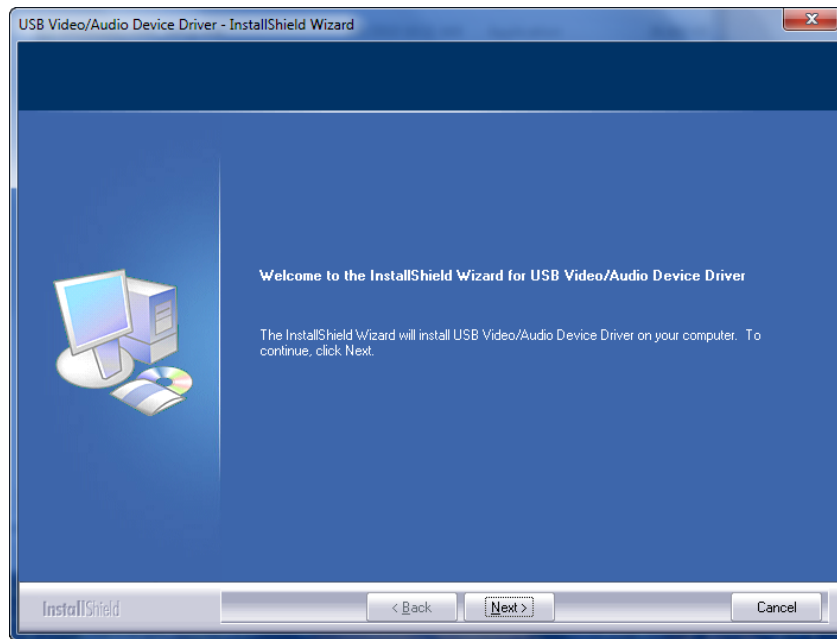

The USB 2860 video driver will be installed and will now be listed in your Device Manager.

1.3 CI and ViewConn 64-bit Systems

Without plugging in your Lightel USB device, open the "64-bit Driver" folder in the "CI and ViewConn" folder on the **ConnectorView Plus Software and Driver** CD. Click on "EM28xxDriver64_Setup.exe." This will start the installation process.

Follow the instructions on the screen.
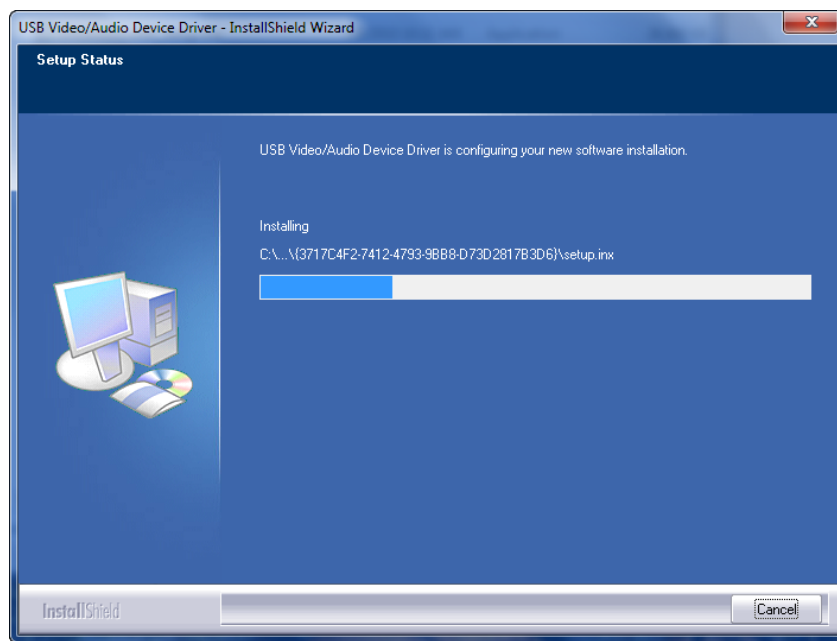
When completed, you will need to restart your computer before using the USB device.
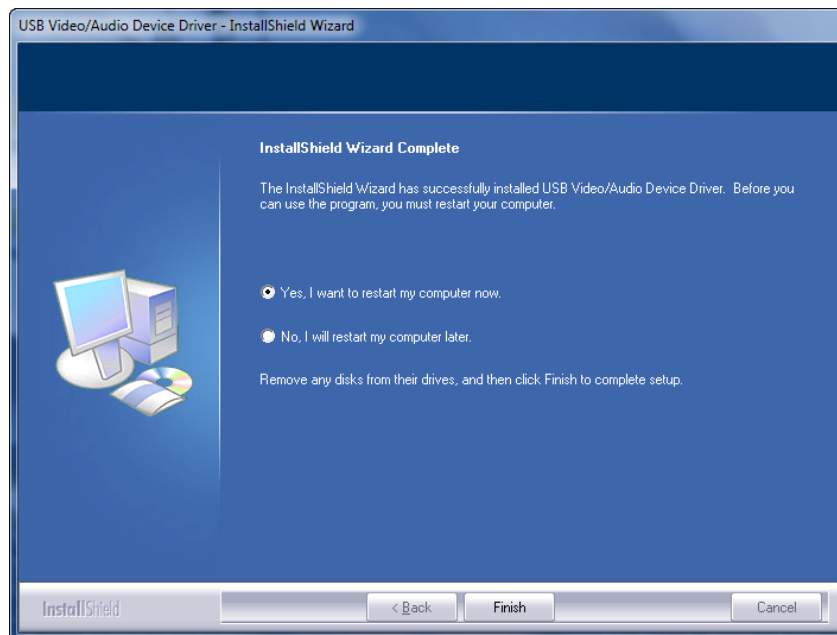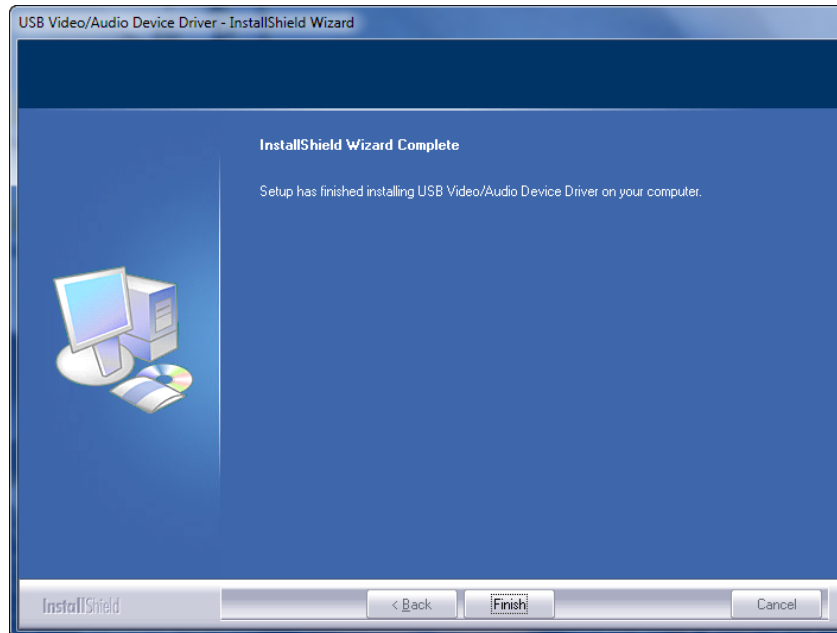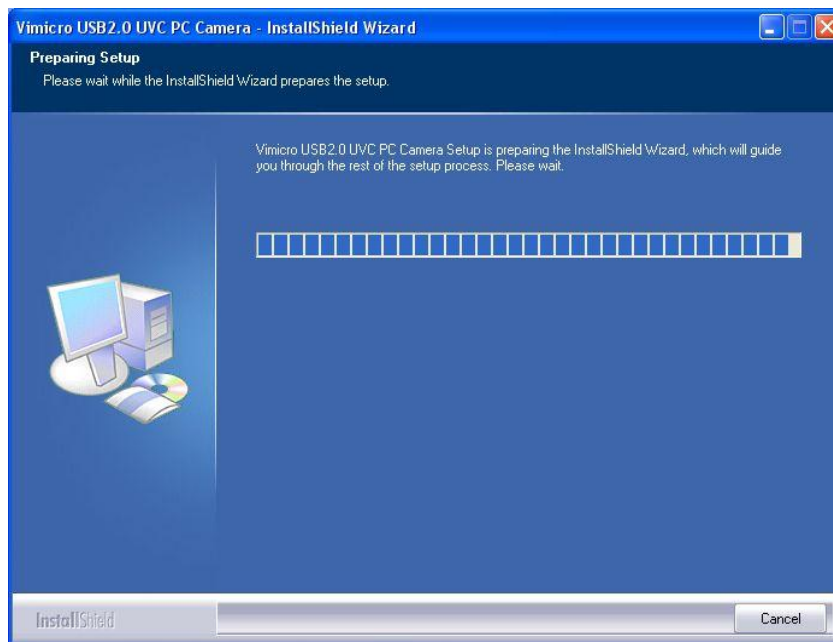
1.4 DI-1000

Plug DI-1000 probe into one of the computer USB ports.

It is recommended that when you use the DI-1000 you connect through the same path originally used to install the driver. That is, if you use the supplied USB hub when installing the DI-1000 driver, you should in the future connect the DI-1000 through the hub. Changing the path may require that you reinstall the driver from this new path. Otherwise, the computer may not correctly identify the DI-1000 and may use a default Windows driver.

On the Lightel **ConnectorView Plus CD**, open the "DI-1000 folder", select the appropriate Driver folder and run "Vimicro_Driver_Setup.exe". The following screen will be displayed.
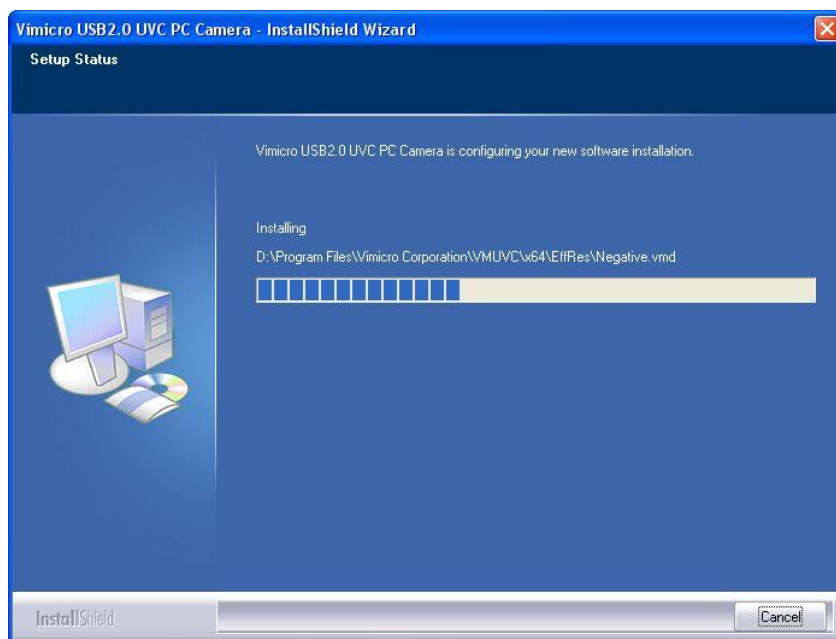

If you did not Plug DI-1000 probe before run "Vimicro_Driver_Setup.exe", the following warning will occur.

Plug DI-1000 probe into one of the computer USB ports as discussed above and click [Yes] to continue the installation.
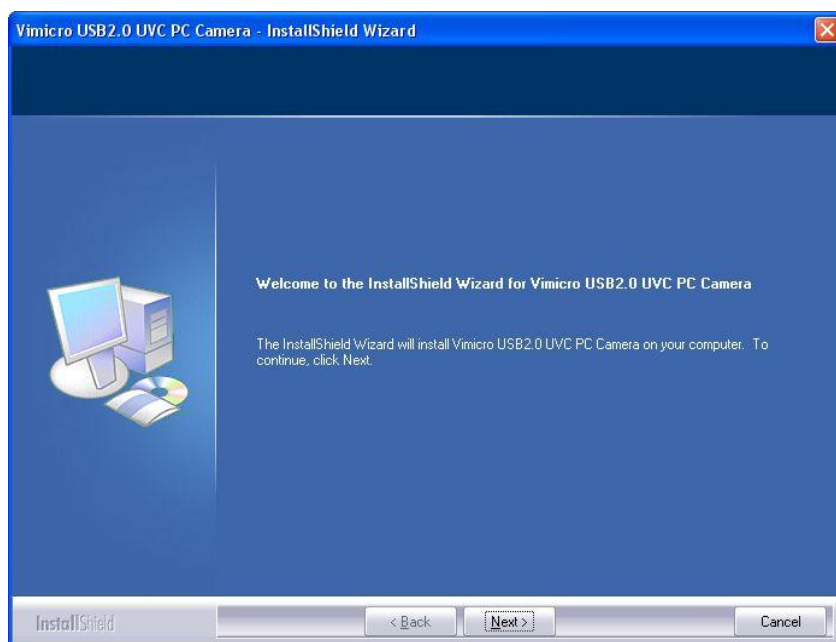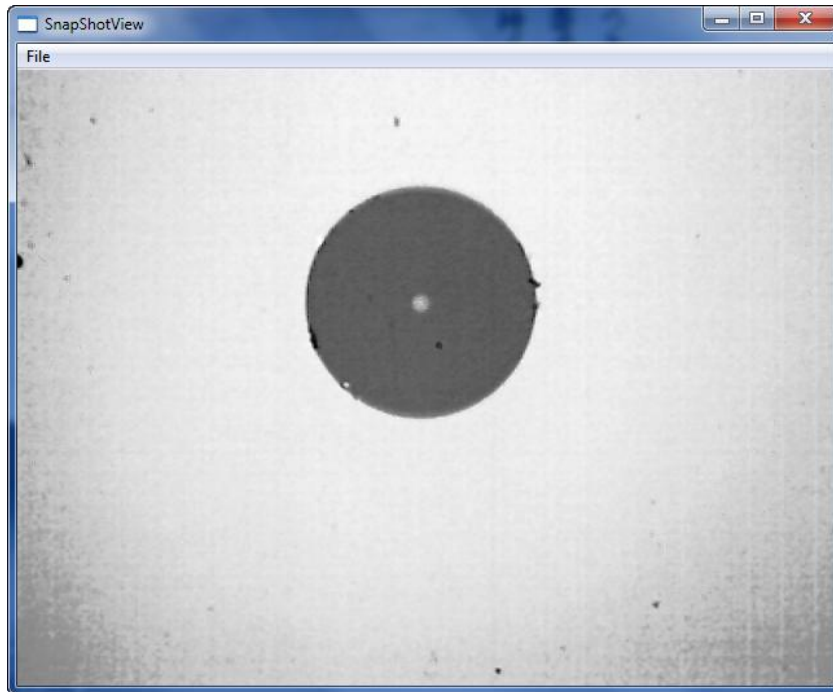
Click [Next] to continue the installation.

This installation may take several minutes. When the "InstallShield Wizard Completed" screen shows, click "Finish" to close the wizard.

Windows XP SP2, Windows Vista and Windows 7 provide a camera driver (*USB Video Class*) for some video cameras including the DI-1000 probe. This default driver, however, does not provide functionality for all DI-1000 features. If you find some features on your probe unusable, please check the"DI-1000 Driver Troubleshooting" section at the end of this manual (Section 8.4.)

Note for 64-bit systems: The portion of the driver which controls the DI-1000 capture button does not self install on these systems. Instead pressing the button will open a new window "Snap Shot View."

Follow the directions in Troubleshooting (Section 8.6) to correct the button function.

2. Install ConnectorView Plus

Locate the **Lightel ConnectorView Plus** CD on your computer, and click on the Setup.exe file to start the installation.
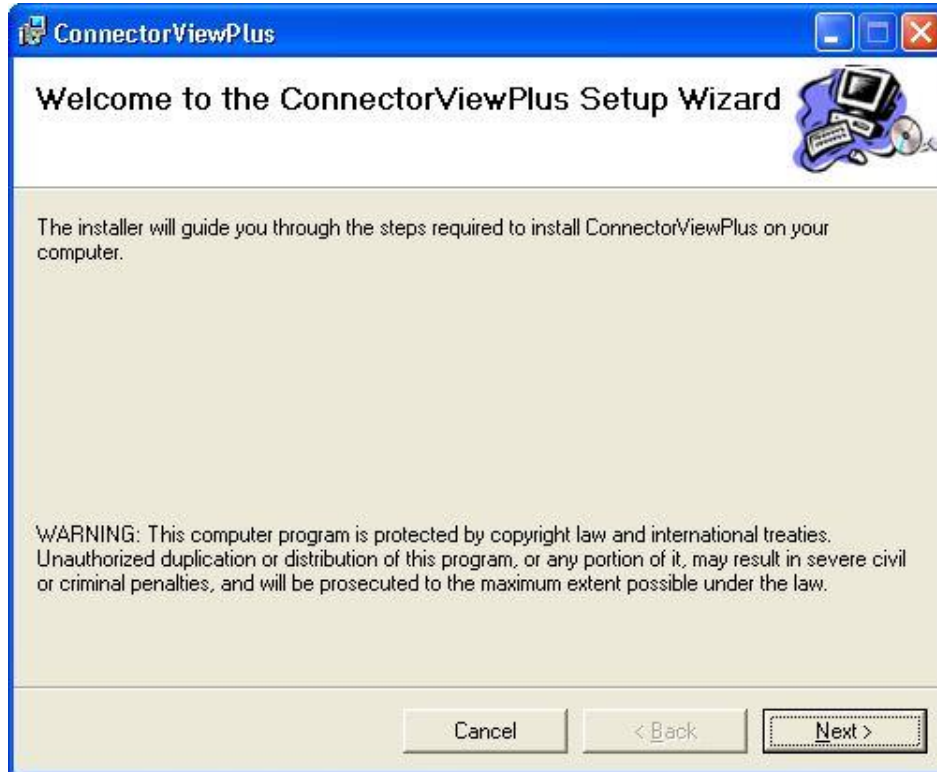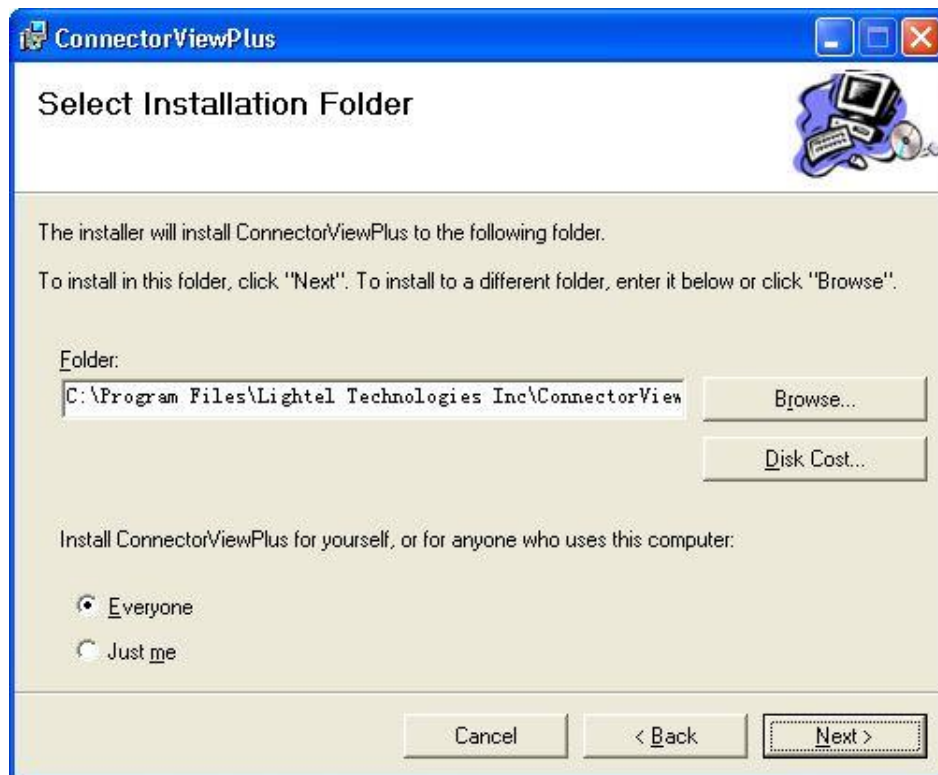

Click [Next].

** Lightel's ConnectorView Plus software needs the support of .NET Framework 2.0 or higher. **If your computer does not have .NET Framework 2.0 installed, you will be prompted** to download it from the Microsoft website. Follow the instructions to download and then finish the installation. Alternatively, you can run "dotnetfx.exe" in the **Lightel ConnectorView Plus CD** to install .NET Framework 2.0 onto your computer before running Setup.exe.*

Please read the Software License Agreement. You must click "I Agree" to continue the installation process.
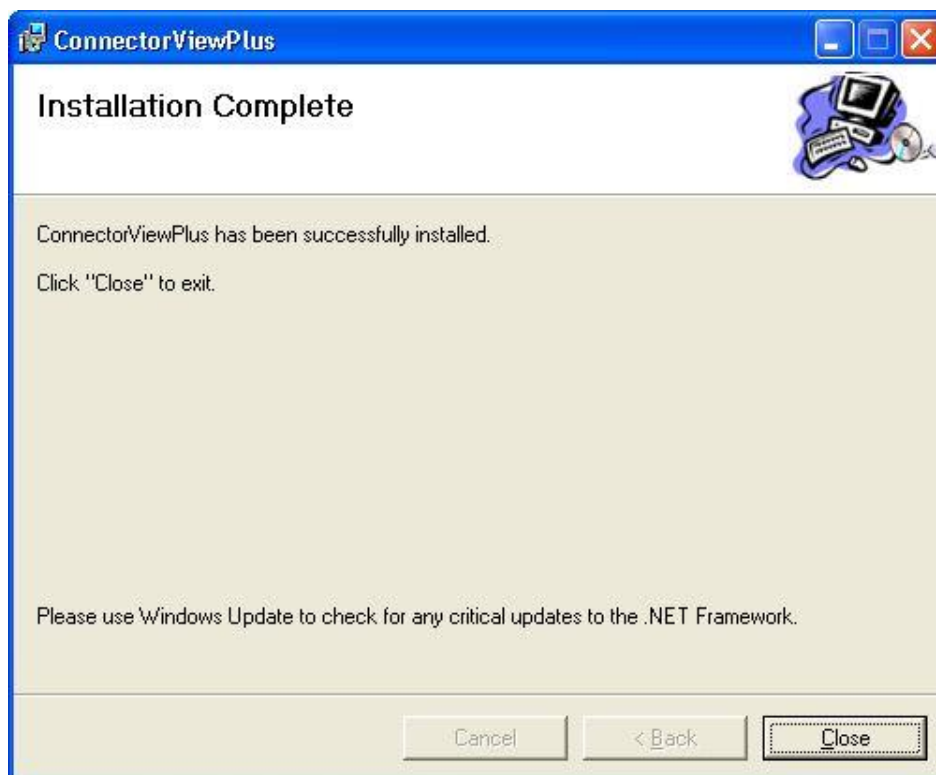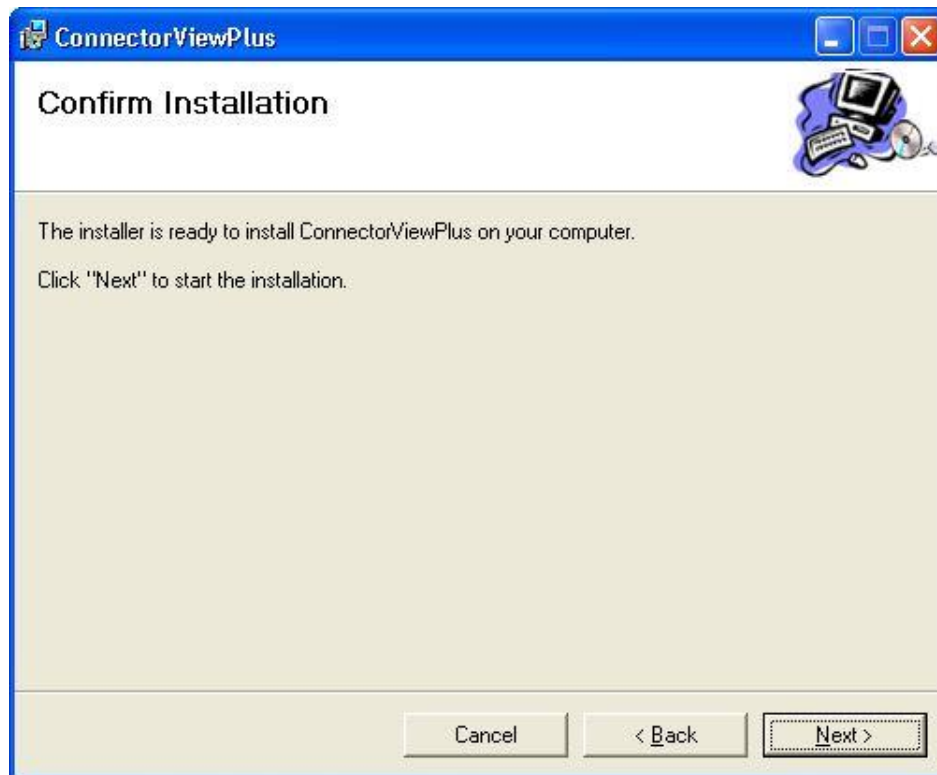

Accept the default installation folder "C:\Program Files\Lightel Technologies\ConnectorView Plus\" or select your own folder. Click [Next].

Then click [Next] again to "Confirm the Installation" and start the installation process.

3. General settings

The CI probe and the CI-1000-USB2 Video Adapter, ViewConn or the DI-1000 must be properly connected to your computer **before** opening the software. If you observe

this window, you will need to close the software and should reopen it after attaching your Lightel device.


In order to have full ConnectorView Plus functionality, the dongle must also be installed in a USB port, prior to opening the software. If the dongle is removed during use the software will revert to ConnectorView (standard) features. You will need to reinsert the dongle to regain ConnectorView Plus features.

After properly connecting dongle and your Light video microscope to your computer, click the "ConnectorView Plus" icon to open the software.
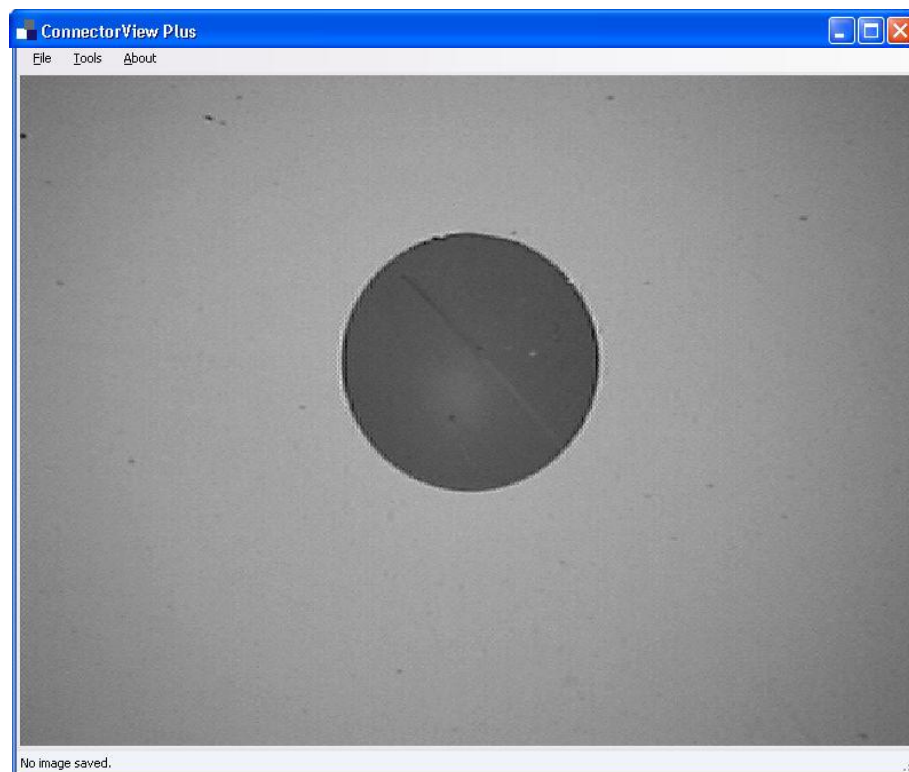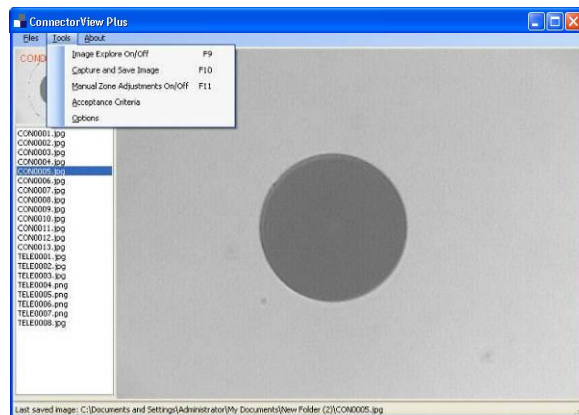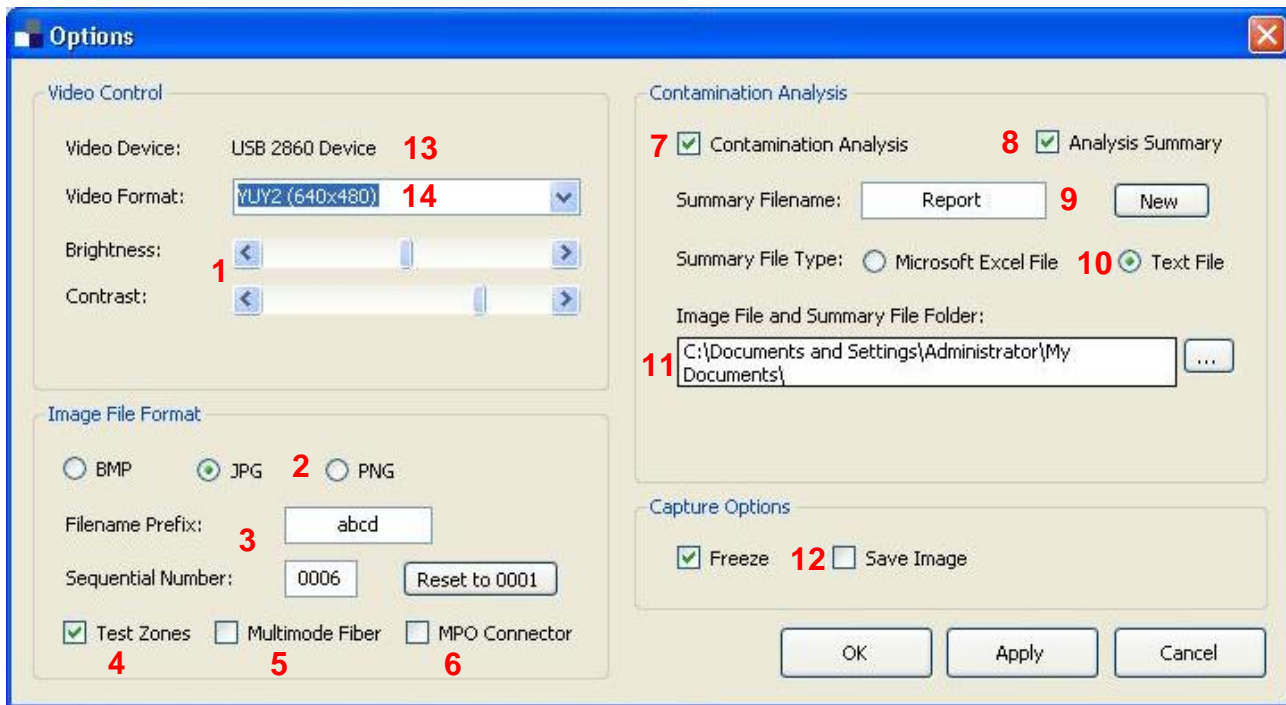
3.1 Set Image Folder

You can set your folder location for saving the captured images through the "File/Set Image Folder" menu. (The default location is a newly created "ConnectorView" folder in "My Documents".)
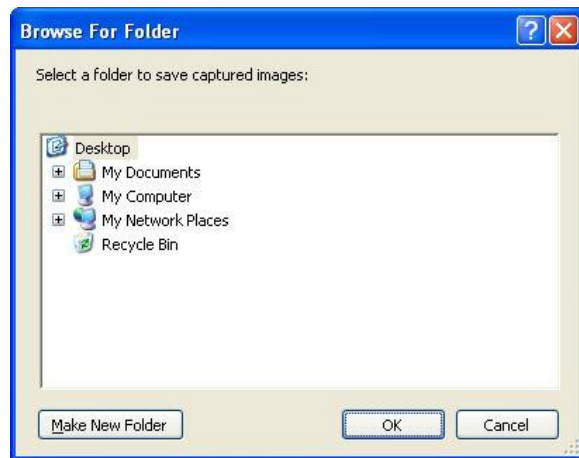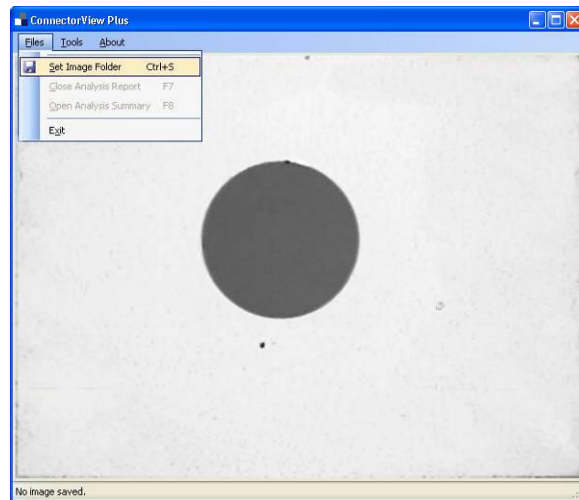
3. 2 Select Options

The "Tools/Options" window will control most of your choices for ConnectorView Plus settings.

1. These sliders adjust the brightness and contrast of the live video. Frozen image lighting can also be controlled by these sliders when Test Zones (4) is not checked. Moving these sliders will not affect already captured images or a currently frozen screen.

   Checking Test Zones (4) or Contamination Analysis (7) will automatically adjust the brightness and contrast of the frozen images.

2. These radio buttons enable you to select the image file format.

3. Type a Filename Prefix in the box. Up to 18 characters of the Filename will be visible (plus a 4 digit number), although Filenames can be longer. Numbering of the image files will be sequential. You can type in a different starting number if desired. If you have not already done so, you should set the location of the saved images using "Files/Set Image Folder" or the Image File Folder address box (11).

4. Checkbox to select or deselect the display of the fiber zones. (Checked automatically if analysis feature (7) is checked.)

5. Checkbox to display multimode fiber zones. (Single mode is the default setting.)

6. Checkbox used when analyzing MPO (MTP) connectors. Manual Zone Adjustment must be used to match the fiber position. One fiber per screen will be analyzed.

7. Checkbox to turn on/off pass/fail analysis feature.

8. Checkbox to create a summary report (Checked by default.) Only saved images are included in the summary report. You can access the Summary Report through "Files/Open Summary Report" or by hitting the F8 function key.

9. Type in a name for the Summary Report. Press "New" to start a new Summary, otherwise the report will continue from the previous captured image.

10. Radio buttons to select Summary Report file format. (Default is a text file.)

11. Browse to select a file location for your Summary Report or Image Files.

12. Checkboxes to select the capture options. These options will toggle between live images and your selections here when you mouse click in the Live Video area or hit the F12 function key or use the button on your DI-1000 or CI-1000 USB adapter. Freeze will automatically be selected as an option if you have checked (4) to display the Test Zones or (7) to display Contamination Analysis.

13. Shows the driver being used. ViewConn and CI-1000 USB adapter should show em2860, DI-1000 should show Vimicro UVC.

14. Shows screen pixel size. ViewConn and CI will always be 640 x 480.

DI-1000 can be set to different screen pixel sizes. Larger sizes will potentially provide a sharper image, but the frame rate will be slower. (Optical resolution does not change.) The Test Zones and Contamination analysis features are only active at 640 x 480. Digital magnification is available on the DI-1000 at all other video format sizes.

*DI-1000 Options window showing screen resolution choices from drop down menu.*
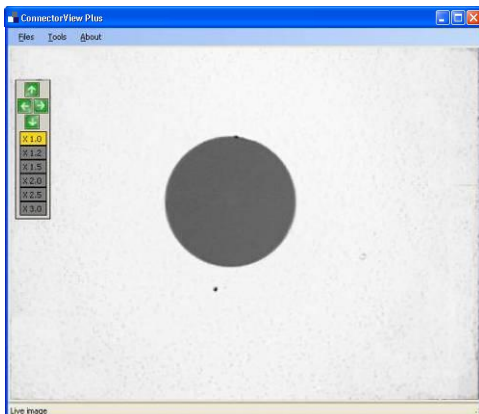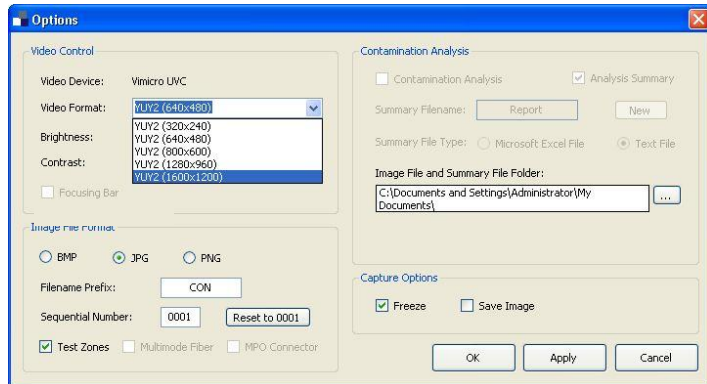
DI-1000 Live Video window at 800 x 600 with digital magnification controls active.

3. 3 Turn on/off Image Explore (F9)

The Image Explore area can be turned on or off, so that the Live Video area uses only the right area or the full screen. Use "Image Explore On/Off" in the "Tools" menu to toggle back and forth. Image explore is off by default.

(Image Explore is not available in the DI-1000 when the Magnification Controls are displayed.)

Image Explore   **File Path of Captured Image**   **Live Video**
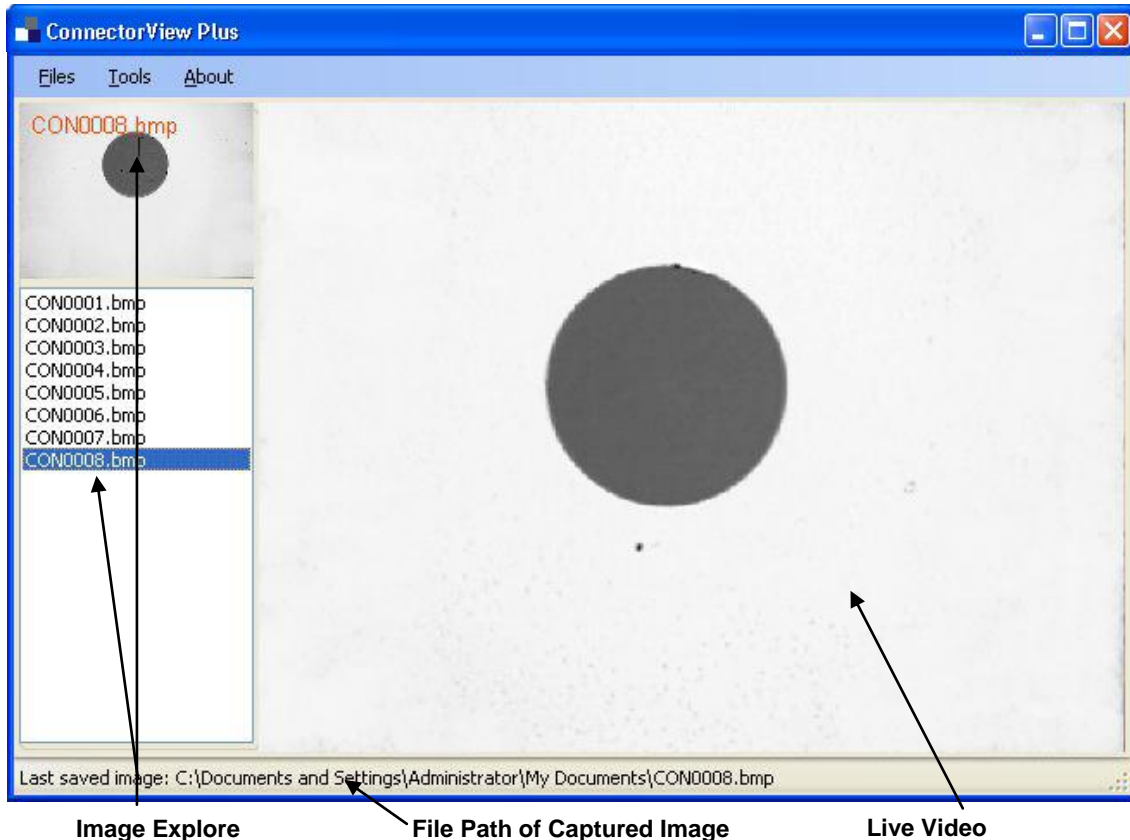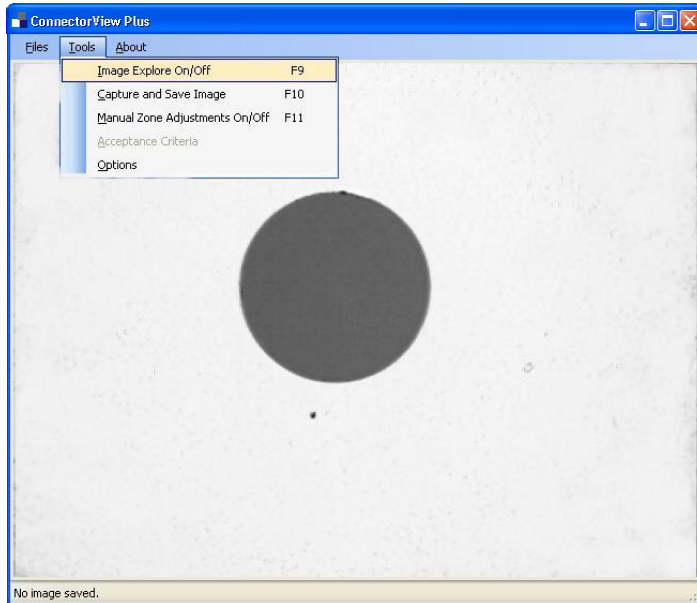
The right area of the screen is the primary display window. It can show live video, a frozen image, or captured images and analysis reports. The left area shows the file list of the current image folder and the latest captured image. The bottom status area shows the file path of the last captured image.

3. 4 Acceptance Criteria

Open the Acceptance Criteria from the "Tools/Acceptance Criteria" menu. The Pass/Fail criteria are based on IEC recommendations. Zones, Scratches, and Defects categories cannot be changed, however, the limit numbers may be changed to match specific corporate standards.

To modify, highlight the number and type in the changed criteria.

Once you have clicked "Accept" the changed criteria will remain in effect until you change them again.

When you click "Accept" there may be a brief delay while a new Summary Report is created listing the criteria now in use. The previous report will be automatically saved and named with a date/time stamp.

A new Summary Report will be generated in your selected folder each time acceptance criteria are changed.

To return to the default criteria, simply click the "Default" button.

If you will be using different sets of criteria at different times you can save new settings for later use. Once you have changed the settings, before clicking "Accept", go to "File/Save as…" in the "Acceptance Criteria" window.
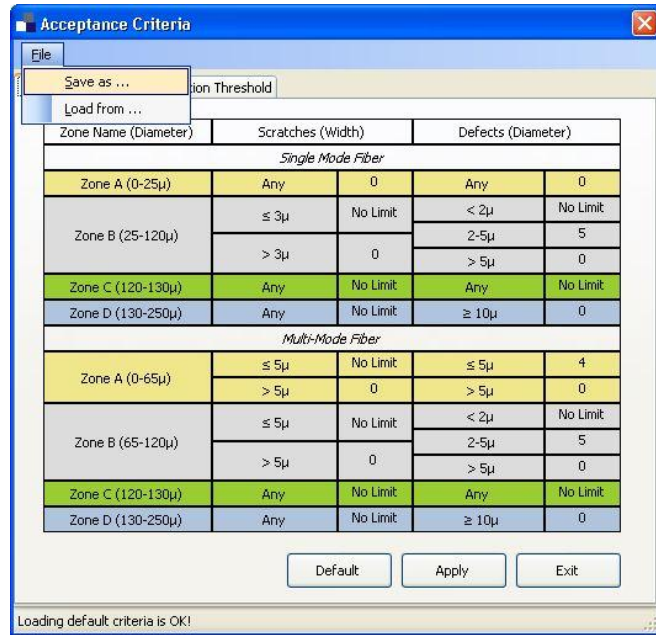
Type in a filename for this criteria set and click "Save". You can save multiple sets of criteria in this manner.
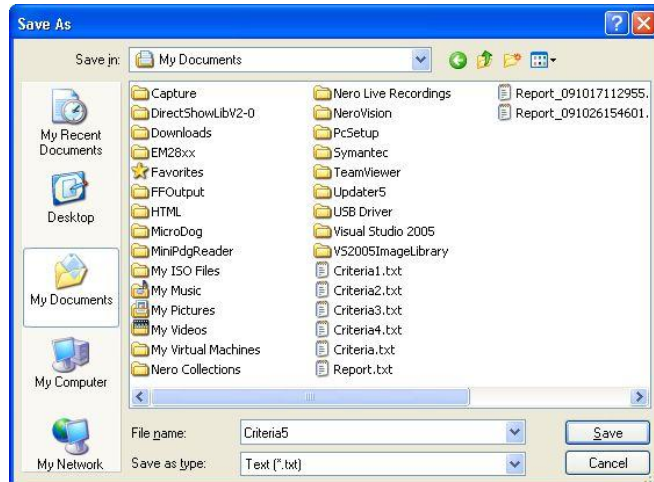
To load one of your saved criteria sets go to "File/Load from…" in the "Acceptance Criteria" window.
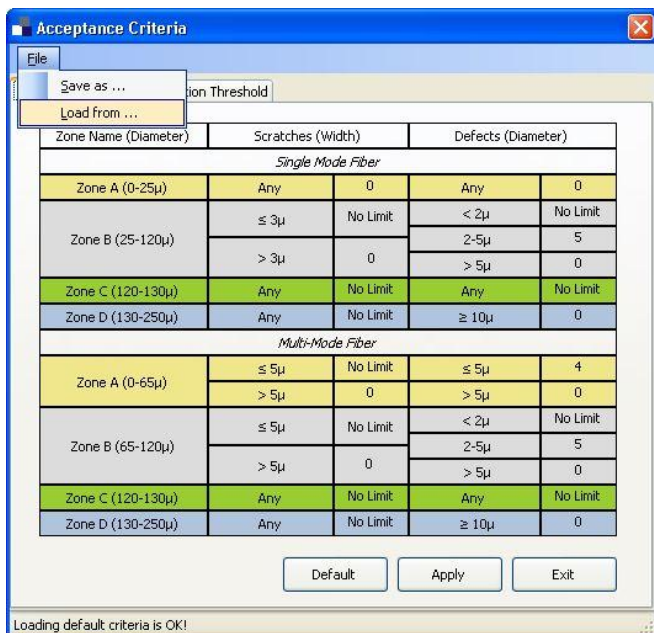
Select the criteria set you wish to use and click "Open."
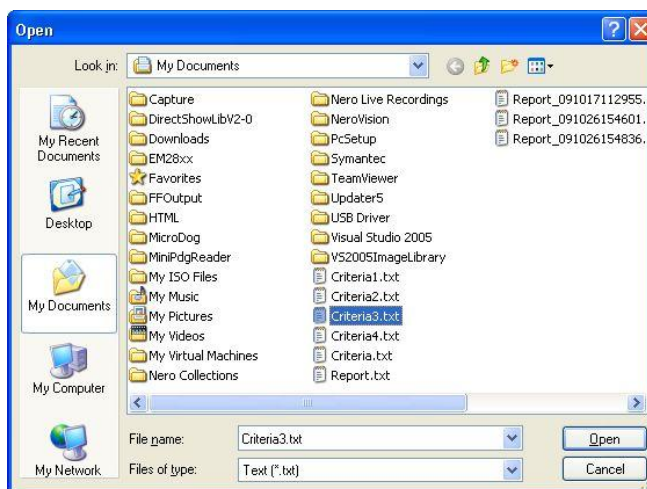
The new Summary Report window will confirm that the criteria you loaded are now in effect.
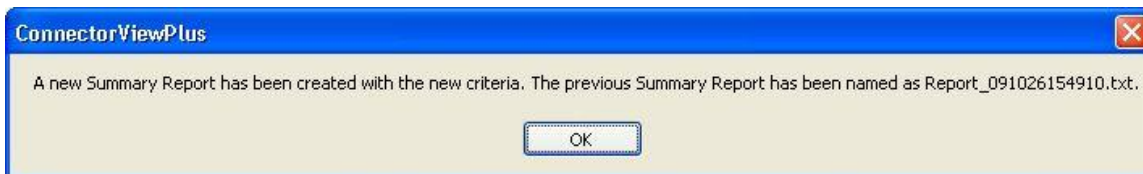
4. Fiber Zones

Lightel's ConnectorView software will display four cleaning zones. They are:

    A. Core
    B. Cladding
    C. Adhesive
    D. Contact

These zones have been clearly defined and standardized in the industry. Some corporations may have their own acceptance criteria for connectors. If there is no different corporate standard, Lightel suggests using our default standard, IEC 61300-3-35, which is summarized below.

4.1 Understanding Zones

Single mode fiber requirements

Zone name (diameter)	Scratches	Defects
A: Core (0-9µm, 0-25µm)	None	None
B: Cladding (25-120µm)	No limit	Any < 2µm 5 from 2 - 5µm None > 5µm
C: Adhesive (120-130µm)	No limit	No limit
D: Contact (130-250µm)	No limit	None > 10µm

Note 1: For scratches, the requirement refers to width.

Note 2: No visible subsurface cracks in the core or cladding zones

Note 3: **All loose particles should be removed.** If defect(s) are non-removable, it should be within the criteria above to be acceptable for use.

Note 4: There are no requirements for the area outside the contact zone since defects in this area have no influence on performance. Cleaning loose debris beyond this region is recommended good practice.

Multimode fiber requirements

Zone name (diameter)	Scratches	Defects
A: Core (0-65µm)	No limit ≤ 3µm None > 3µm	4 ≤ 5µm None > 5µm
B: Cladding (65-120µm)	No limit ≤ 5µm None > 5µm	Any < 2µm 5 from 2 - 5µm None > 5µm
C: Adhesive (120-130µm)	No limit	No limit
D: Contact (130-250µm)	No limit	None ≥ 10µm

Note 1: For scratches, the requirement refers to width.

Note 2: No visible subsurface cracks in the core or cladding zones

Note 3: **All loose particles should be removed.** If defect(s) are non-removable, it should be within the criteria above to be acceptable for use.

Note 4: There are no requirements for the area outside the contact zone since defects in this area have no influence on performance. Cleaning loose debris beyond this region is recommended good practice.
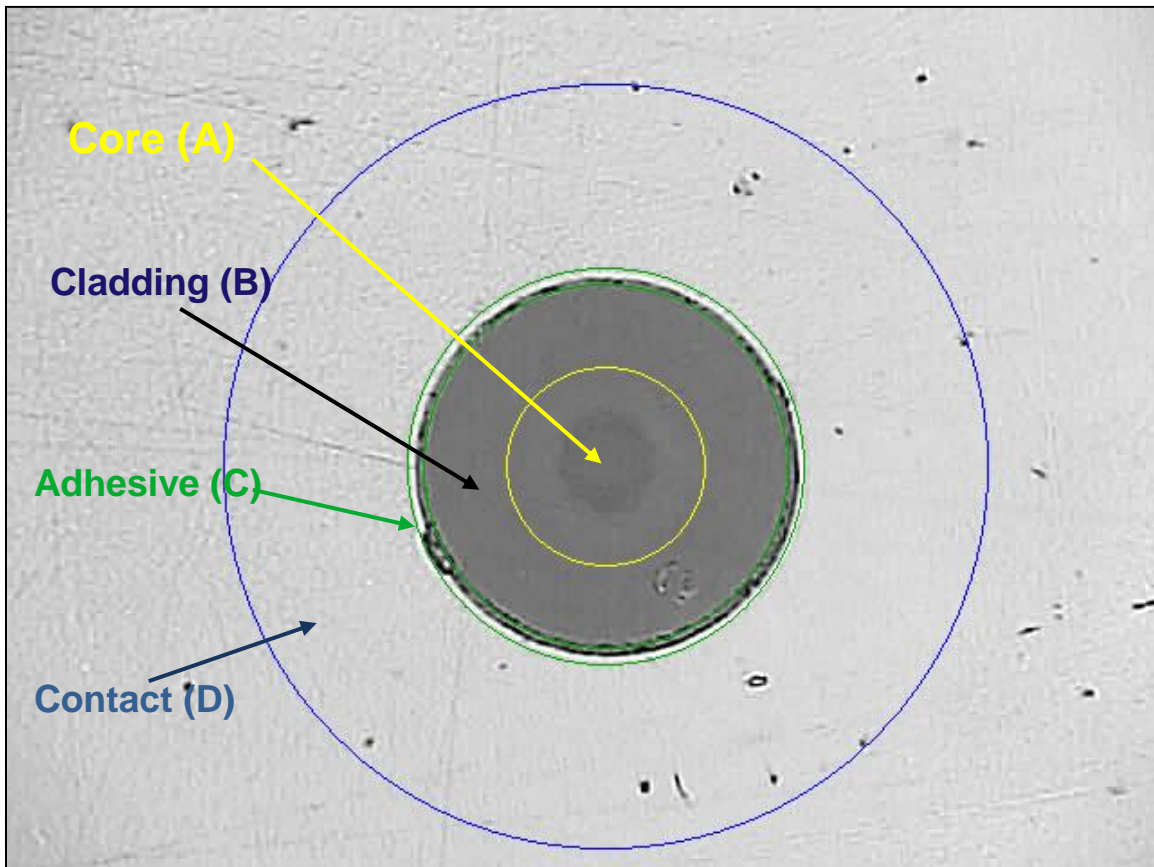
4.2 Using Display Fiber Zones Feature

Lightel's ConnectorView software is designed to automatically locate the ferrule and display the zones even when the image is not properly centered. This can help you ensure that the contact zone is completely visible.
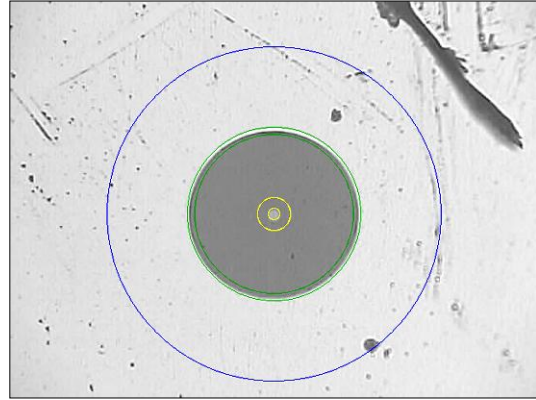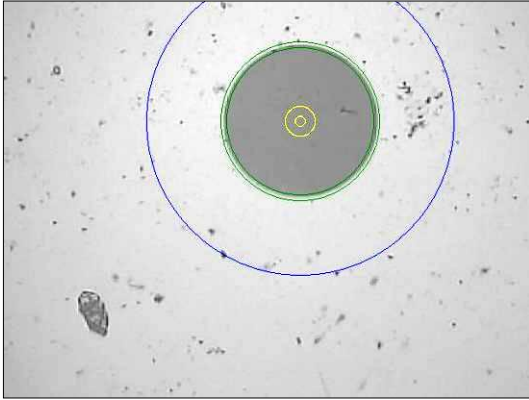
If a connector is too dirty, the automatic detection may not function properly. In this situation you can clean the connector and retry, or you can use "Manual Zone Adjustment" to correct the ring placement.
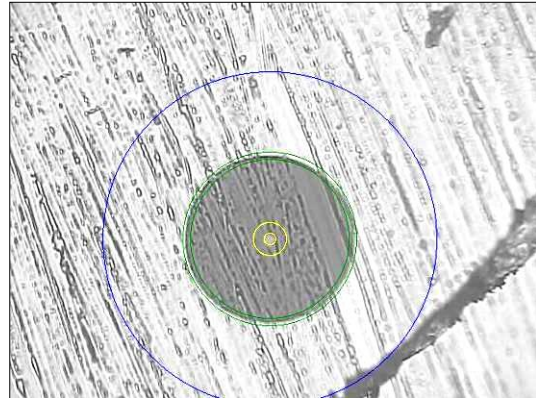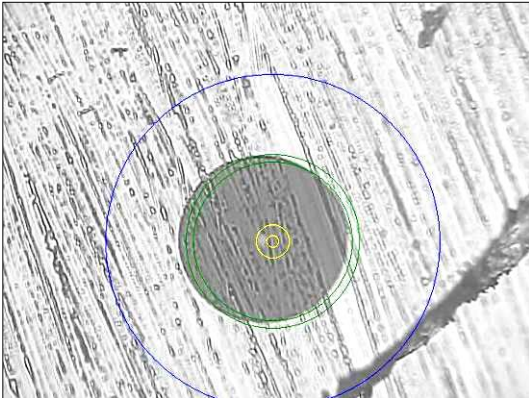
To adjust the target manually, click "Tools/Manual Zone Adjustments" or press the [F11] function key on your keyboard.
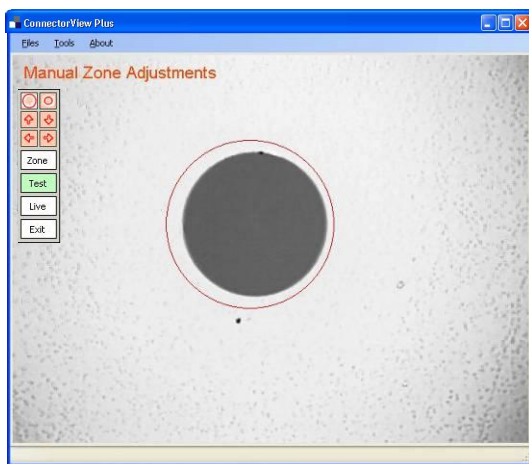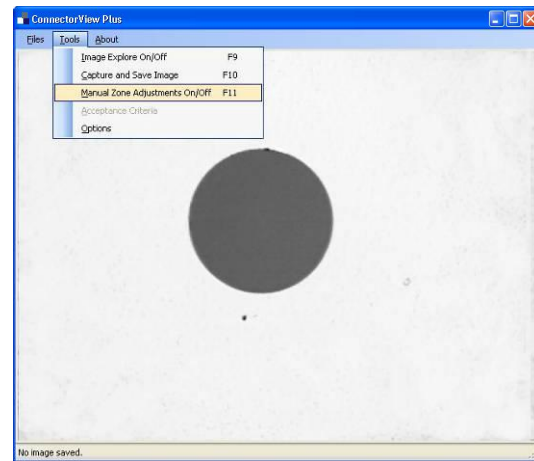
Use your mouse cursor to drag the red target to the right position, then use the red controls for size adjustment and fine position adjustments.
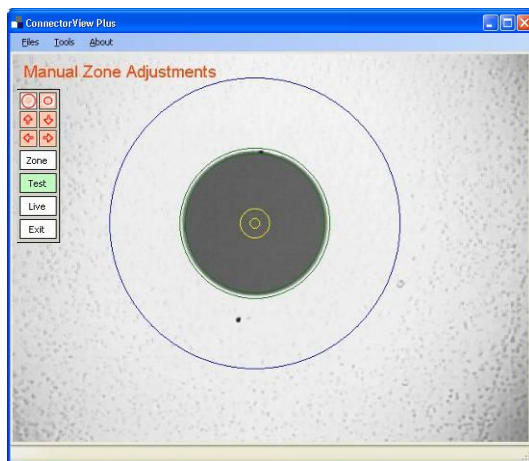
Click the "Zone" button to display the Zone rings and make any final adjustments. You can use the F10 function key to save your finished result. Clicking the "Live" button will return you to a live screen, but keep the adjustment controls visible. (You cannot use the controls with the live video.) Clicking the "Exit" button will return you to live video without saving any of your adjustments.

5. Digital Magnification (DI-1000 only)
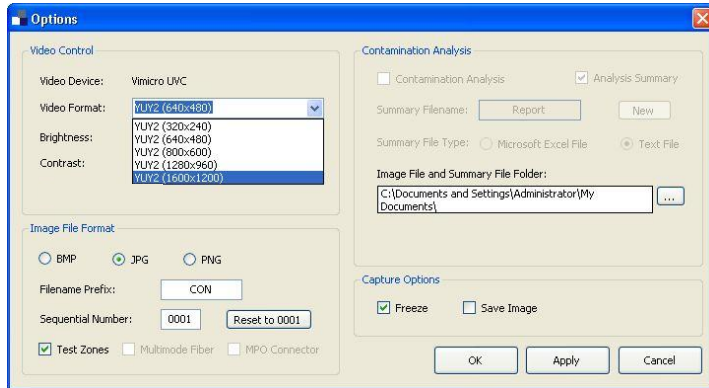
If you wish to activate digital magnification (digital zoom) on the DI-1000, open the "Options" window, and use the dropdown menu to select a different Video Format (not 640 x 480).
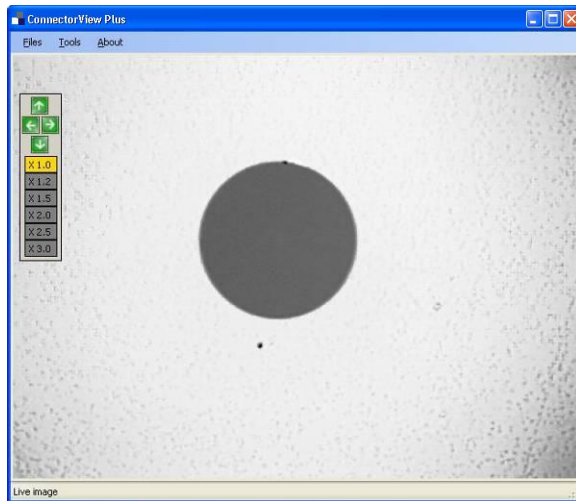
The Zones feature will be disabled, but the Zooming Panel will be activated. This panel can be turned on or off from the "Tools" menu or by using the [F11] function key.

The green arrows allow you to re-center the image if zooming has moved it out of position.
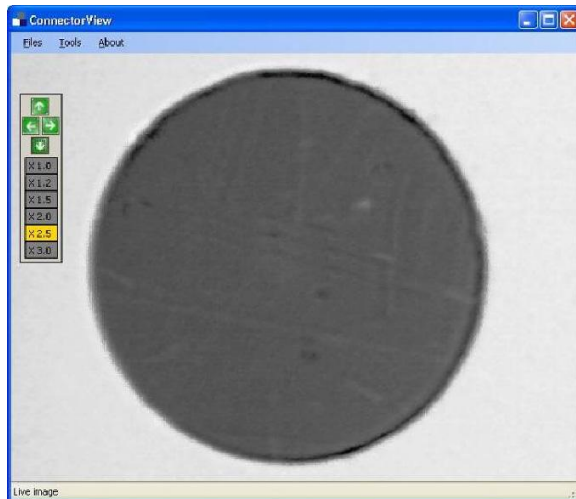
The yellow button will show the current level of digital magnification.

The image can be frozen, but will be captured at the true optical magnification level.

(Note that digital zoom does not change the actual resolution.)

To return to the default 640 x 480 setting, open the "Options" window again and select that setting. If you had previously checked "Zones" this feature will again be active.

6. Capturing Video Images

There are several ways to capture a video image: by mouse-clicking the Live Video area, by clicking the USB Adapter Capture Button (CI) or Capture Button (DI-1000), by clicking "Capture" under the menu "Tools", by pressing the function key [F12] on the computer keyboard, or by pressing the function key [F10].

6.1 Capture Image by Mouse-Clicking the Live Video Area

Clicking on the Live Video area once will freeze, capture, or freeze and capture the image depending on how you have set the checkboxes in "Options". This frozen image is captured and its filename is displayed in the upper left corner of the area. (The red letters will not appear on the saved image.)

When using the Image Explore mode, the filename is also added to the file list in Image Explore, and the small image on the top is updated. The bottom status line indicates the file path of the captured image file.

If you have clicked the Test Zones checkbox (4), the zones will be displayed on the frozen image and saved (if applicable).

If you have clicked the Analysis Report checkbox (7), the Report will be displayed in a new window and saved (if applicable).

To return the Live Video area back to live mode, simply click on the Live Video area again. If the Analysis Report window is open it will close automatically.
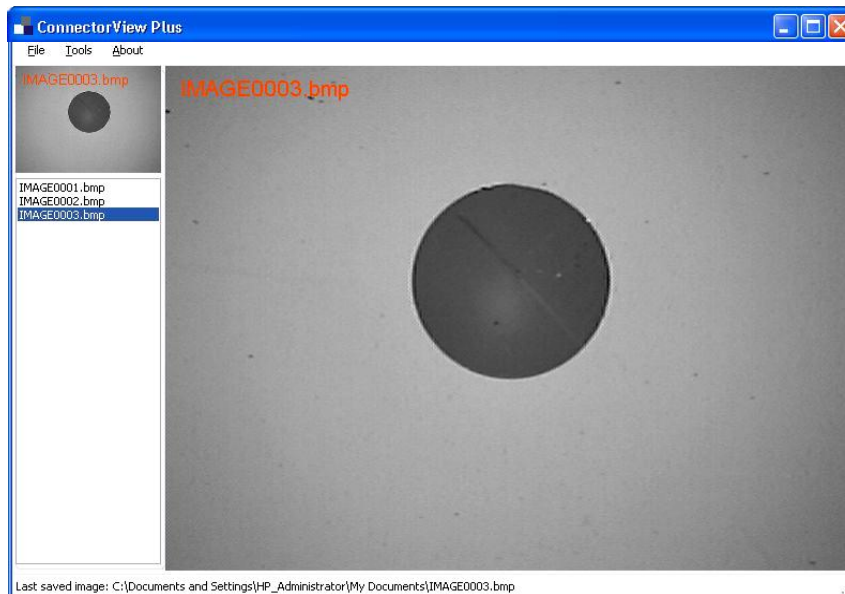
You can browse the image list in Image Explore to review your captured images in the small image area at the top. By clicking this small image, that image will replace the image displayed in the Live Video area. Clicking on the Live Video area again, returns the screen to live mode.

6.2 Capture Image using Keyboard [F12]

Pressing the [F12] key functions the same way as Mouse-clicking (see 6.1 for details).

6.3 Capture Image using CI-1000-USB2 Adapter Capture Button

Pressing the USB Adapter Button functions the same as the Mouse-click method or [F12] method.

6.4 Capture Image using Probe Capture Button (DI-1000 only)

Pressing the probe Capture Button functions the same as the Mouse-click method or [F12] method.

6.5 Capture Image from Menu "Tools/Capture"

Clicking "Capture" under the "Tools" menu is another way to capture an image. It will always capture precisely the image displayed, no matter what you have checked in the "Options" window. To return to a live image, mouse-click on the screen, press the [F12] key, or press the CI-1000-USB2 Adapter button or probe Capture Button (DI-1000).

6.6 Capture Image using Keyboard [F10]

Pressing the function key [F10] captures an image each time the key is pressed. As with the "Tools/Capture" method, the [F10] key is independent of the "Options" setting. To return to a live image, mouse-click on the screen, press the [F12] key, or press the CI-1000-USB2 Adapter Button or probe Capture Button (DI-1000).

Capture Summary

Mouse-clicking, the [F12] key, the USB Adapter Button and the probe capture button toggle between the live image and your "Options" checkbox settings.

"Tools/Capture" and the [F10] key are independent of the "Options" settings and will always capture the image.

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7. Using Contamination Analysis Function

7.1 Understanding the Analysis Report

To enable the Contamination Analysis function, it is only necessary to set the checkbox in the Options window. The analysis function is self-calibrating.

When you now hit the F12 function key, or mouse click on the Live Video screen, a report window, like the one below will automatically open.

The left portion of the screen is a frozen image of the connector with scratches, contamination, or defects highlighted. The test zones are also indicated on the screen.
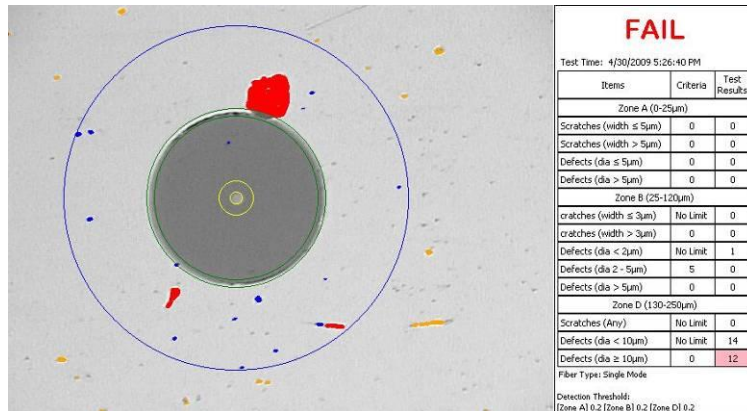
Items highlighted in red have caused the connector to fail inspection. Those in blue are allowed by the inspection criteria. Orange highlights are outside the Contact Zone of the connector and are not tallied. There is no standard for contamination or defects outside the Contact Zone.

Positioning your cursor over a highlighted object will give you a size reading of that object on a frozen report. (These readouts are not available on the saved image.)
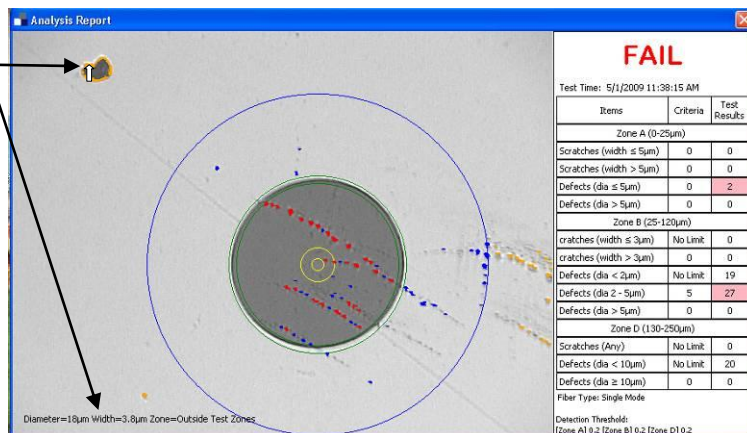
The right side of the report contains the statistical information. The test criteria used is listed and failing result areas are highlighted in red for easy identification.

Important
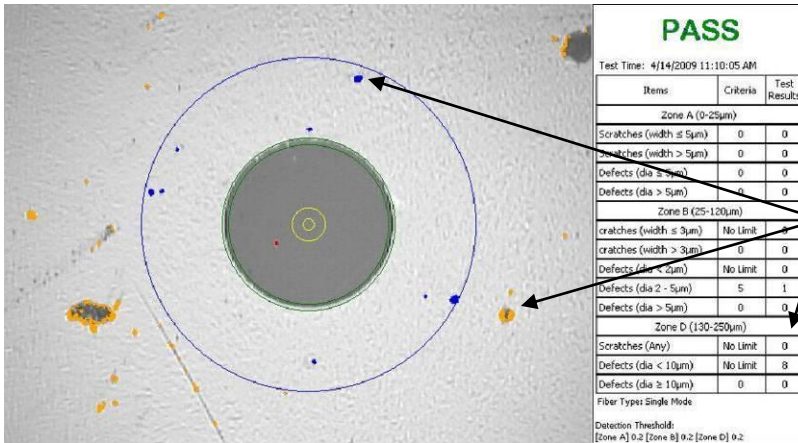
ConnectorView Plus uses the position of the defects/contamination at the time of the test to give a Pass/Fail rating.

Loose items may later cause a failing result. Even if a "Pass" rating is given, if there are highlighted items on the screen, the connector should be cleaned.

If after cleaning, the defects remain in place and the connector again passes, it can be assumed the items are defects rather than loose debris, and the connector can be used.
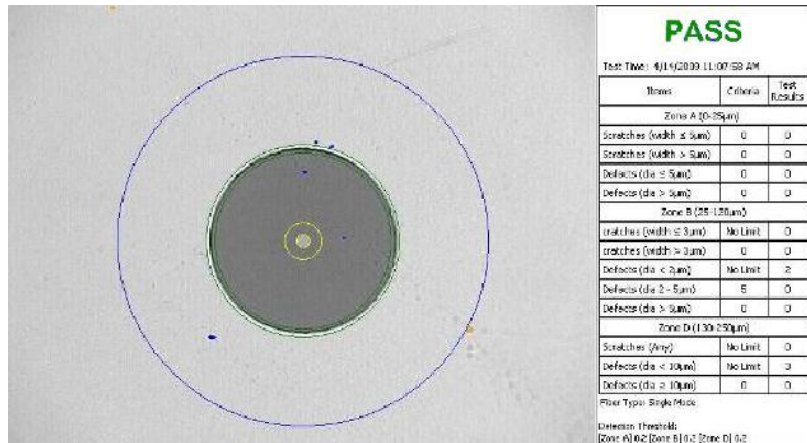
7.2 Viewing Report and Live Window

You can drag the report window to a different position so that the frozen image in the report can be compared to the live image underneath. You can save the report if you did not save it automatically by hitting the F10 function key. Clicking on the live window or hitting the F12 function key will cause the report window to close.

7.3 Using Manual Zone Adjustments
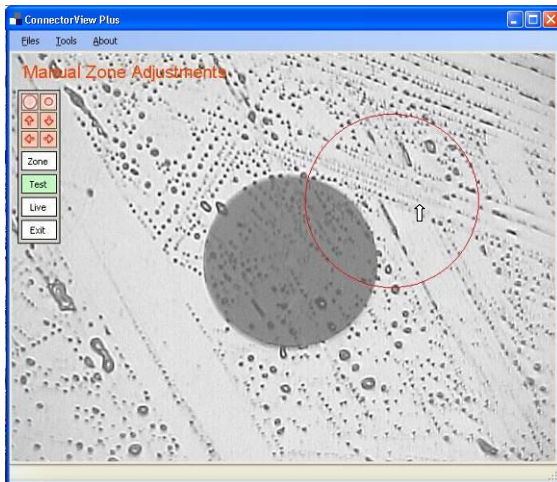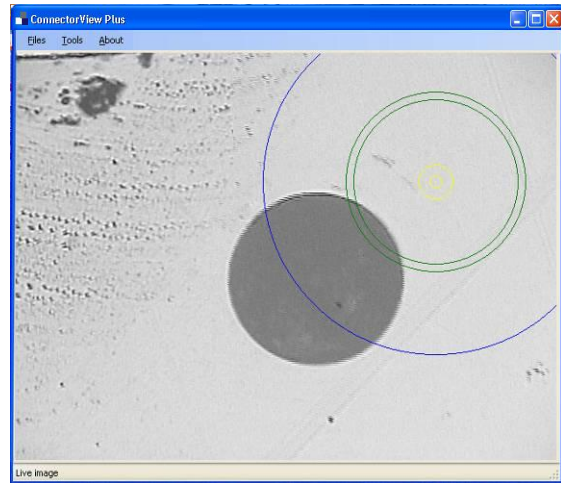

Occasionally, something may interfere with ConnectorView's ability to automatically identify the location of the ferrule.

Use the F11 function key or the "Tools/Manual Zone Adjustments" menu item to open the adjustment window, then use your cursor to drag the red target circle to the approximate location of the ferrule. Use the controls to make any necessary size change and small adjustments.

Click the "Zone" button to display the Zone rings and make any final adjustments. Click the "Test" button to create an Analysis Report and save (if applicable). Clicking the "Live" button will return you to a live screen, but keep the adjustment controls visible. Clicking the "Exit" button will return you to live video without saving any of your adjustments.
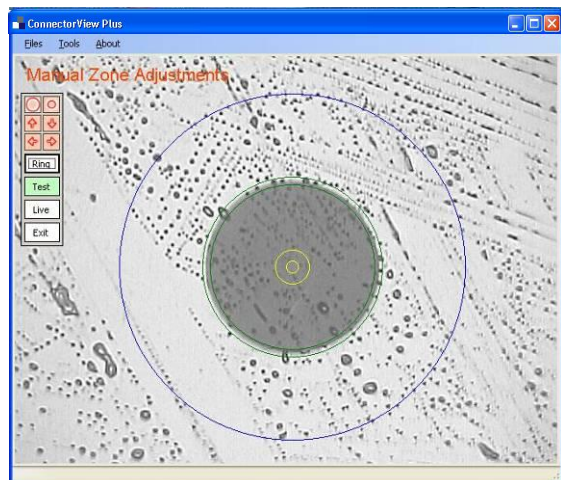
If a connector is extremely dirty, damaged or poorly focused, you may see the following type screen when attempting analysis.
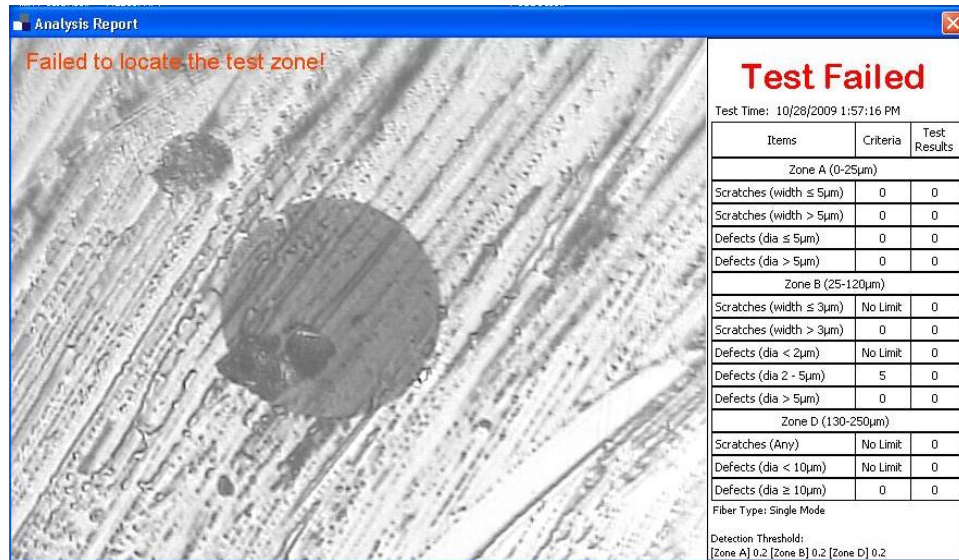
In such a circumstance, it will probably be preferable to simply clean or refocus the connector unless documentation of its current condition is important. In that situation you can use the Manual Zone Adjustments controls to center on the image, click the rings button, and capture the image with the F10 function key.
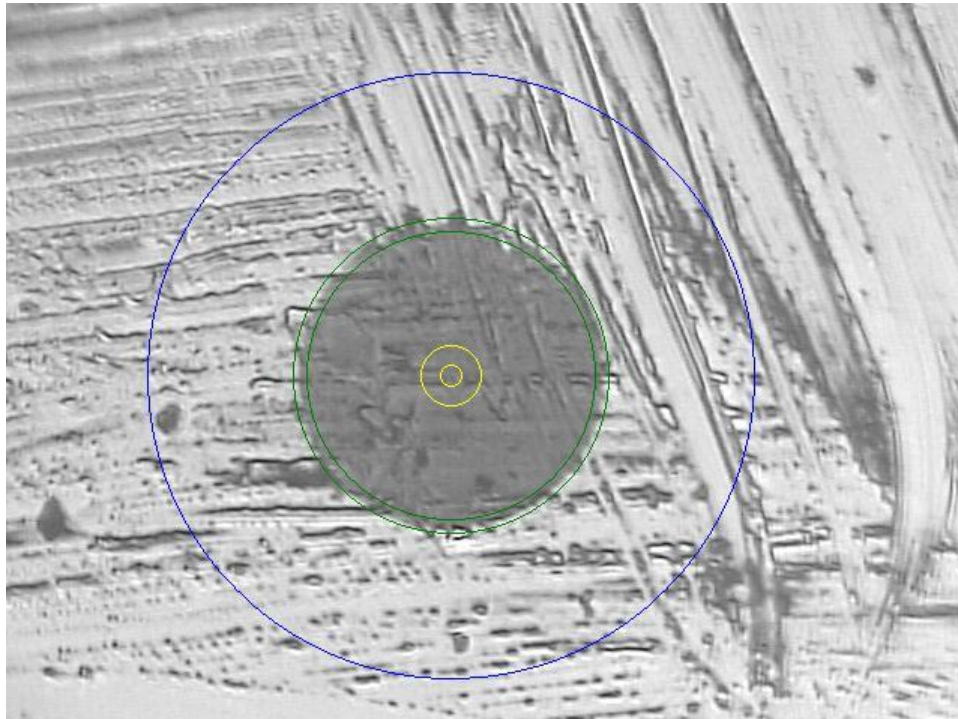
A full Analysis Report is not possible with a connector in this type of condition.

7.4 Analyzing MTP (MPO) Connectors
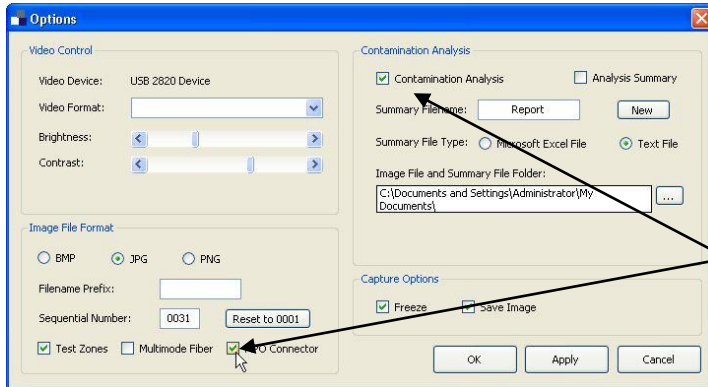
Ribbon connectors (MTP, MPO) must be analyzed one fiber at a time with an individual report for each fiber. Open your "Options" window and check the MPO and Contamination Analysis checkboxes .
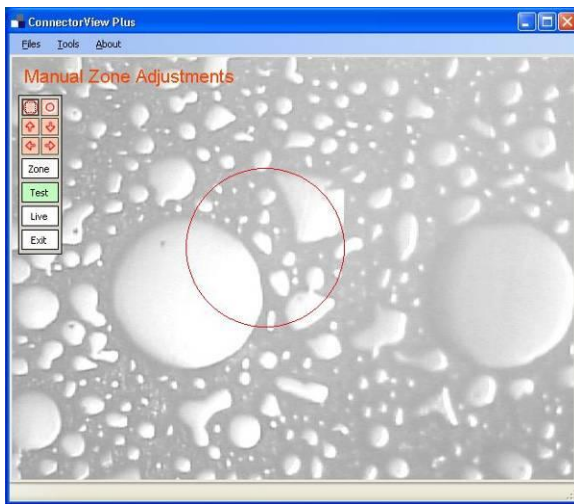
When you Set your selections the Manual Zone adjustment window will open automatically.

Use your cursor to drag the red target circle into position over the first fiber, then carefully size the circle correctly using the red controls.

When the target is properly positioned click the Green "Test" button. This will create an Analysis Report for this fiber.
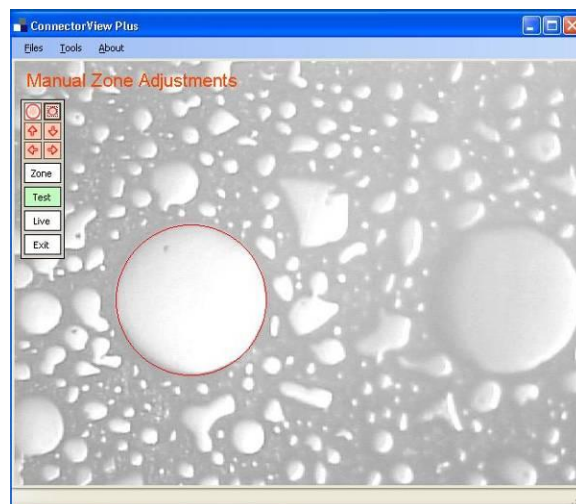
abcd0001.jpg

abcd0001.jpg

PASS

Test Time: 10/8/2009 4:42:57 PM

Items	Criteria	Test Results
Zone A (0-25µm)		
Scratches (width ≤ 5µm)	0	0
Scratches (width > 5µm)	0	0
Defects (dia ≤ 5µm)	0	0
Defects (dia > 5µm)	0	0
Zone B (25-120µm)		
Scratches (width ≤ 3µm)	No Limit	0
Scratches (width > 3µm)	0	0
Defects (dia < 2µm)	No Limit	0
Defects (dia 2 - 5µm)	5	0
Defects (dia > 5µm)	0	0
Zone D (130-250µm)		
Scratches (Any)	No Limit	0
Defects (dia < 10µm)	No Limit	0
Defects (dia ≥ 10µm)	0	0

Fiber Type: Single Mode

Detection Threshold:
[Zone A] 0.15 [Zone B] 0.2 [Zone D] 0.3
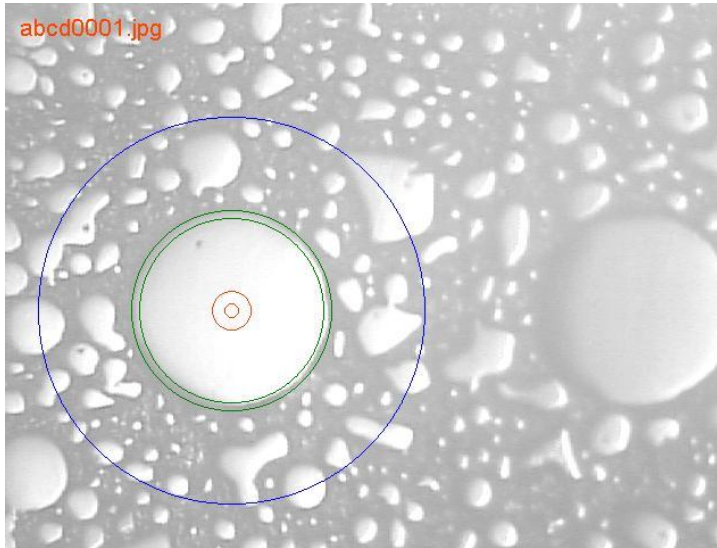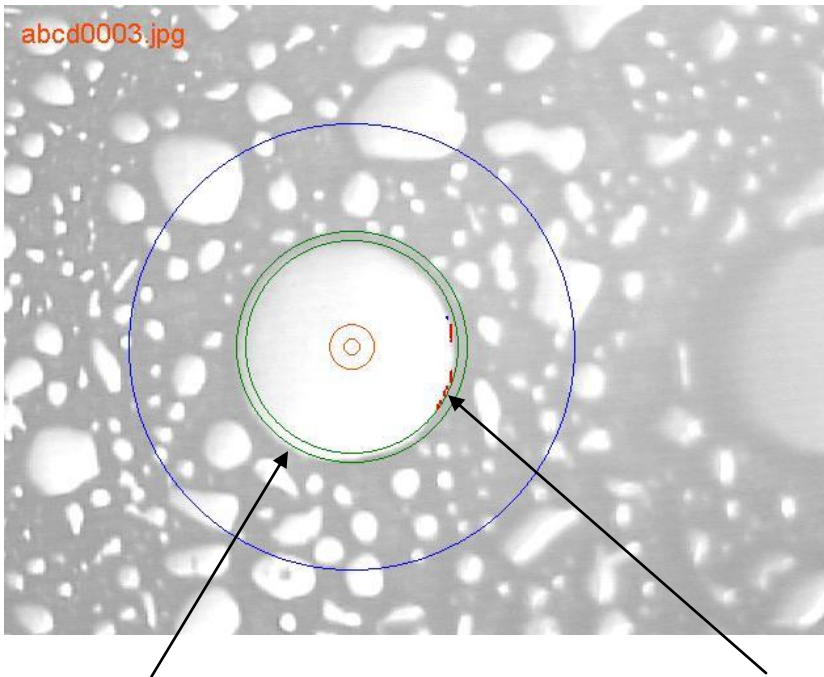
Notice that Zone D is not analyzed with MPO connectors, and so is grayed out.

When you are done with the report, close it to return to the Manual Adjustment screen. Click the "Live" scan to the next fiber, refocusing if necessary. Then click the "Frozen" button, pull the red target circle into place and, when position is correct, click the green "Test" button again.

You can continue across the entire connector in this manner. It is important to position the target circle accurately. Sliding it off to a side may cause a "Failed" reading for a fiber that should pass.

abcd0003.jpg

abcd0003.jpg

FAIL

Test Time: 10/8/2009 4:45:43 PM

Items	Criteria	Test Results
Zone A (0-25µm)		
Scratches (width ≤ 5µm)	0	0
Scratches (width > 5µm)	0	0
Defects (dia ≤ 5µm)	0	0
Defects (dia > 5µm)	0	0
Zone B (25-120µm)		
Scratches (width ≤ 3µm)	No Limit	0
Scratches (width > 3µm)	0	0
Defects (dia < 2µm)	No Limit	1
Defects (dia 2 - 5µm)	5	0
Defects (dia > 5µm)	0	4
Zone D (130-250µm)		
Scratches (Any)	No Limit	0
Defects (dia < 10µm)	No Limit	0
Defects (dia ≥ 10µm)	0	0

Fiber Type: Single Mode

Detection Threshold:
[Zone A] 0.15 [Zone B] 0.2 [Zone D] 0.3

Because the target was too far to the right, part of the background is being included within the fiber analysis region and is read as contamination.
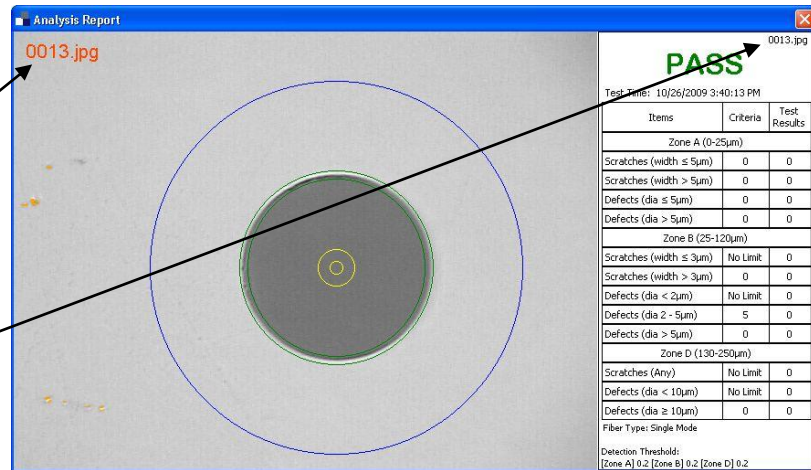
7.5 Saving Analysis Reports

If you did not check the "Save Image" checkbox in the Options window, any Analysis Report you are viewing has not been saved. If you wish to save it, you must then use the F10 function key to save an already created report.

A saved report will show the filename in the upper left in red, once it has been saved.

The filename can also be seen in the upper right of the report portion of the window.

7.6 Viewing the Analysis Summary

The Analysis Summary must be closed in order to be updated with a new Analysis Report. Saving an Analysis Report when the Summary is open will cause the Summary to immediately close.

Go to "Files/Open Analysis Summary" or hit F8 function key. The text file setting will be generated in this format.

```
Data Fields:
1 -  Filename
2 -  Test Time
3 -  Pass/Fail
4 -  Fiber Type (SM-Single Mode, MM-Multimode)
5 -  Zone A, Number of Scratches, width<=5um [Criteria] SM:0 MM:No Limit
6 -  Zone A, Number of Scratches, width>5um  [Criteria] SM:0 MM:0
7 -  Zone A, Number of Defects,  dia<=5um  [Criteria] SM:0 MM:4
8 -  Zone A, Number of Defects,  dia>5um    [Criteria] SM:0 MM:0
9 -  Zone B, Number of Scratches, SM:width<=3um MM:width=5um [Criteria] SM:No Limit MM:No
Limit
10 - Zone B, Number of Scratches, SM:width>3um MM:width>5um  [Criteria] SM:0       MM:0
11 - Zone B, Number of Defects,   dia<=2um  [Criteria] SM:No Limit MM:No Limit
12 - Zone B, Number of Defects,   dia 2-5um  [Criteria] SM:5        MM:5
13 - Zone B, Number of Defects,   dia>=5um   [Criteria] SM:0        MM:0
14 - Zone D, Number of Scratches, Any       [Criteria] SM:No Limit MM:No Limit
15 - Zone D, Number of Defects,   dia<10um  [Criteria] SM:No Limit MM:No Limit
16 - Zone D, Number of Defects,   dia>=10um  [Criteria] SM:0 MM:0

Test Data:
CON0002.jpg,5/4/2009 4:24:50 PM,PASS,SM,0,0,0,0,0,0,1,0,0,0,32,0
CON0003.jpg,5/4/2009 4:25:27 PM,PASS,SM,0,0,0,0,0,0,12,1,0,0,24,0
CON0004.jpg,5/4/2009 4:28:12 PM,PASS,SM,0,0,0,0,0,0,7,3,0,0,28,0
CON0005.jpg,5/4/2009 4:28:41 PM,PASS,SM,0,0,0,0,0,0,9,1,0,0,23,0
```

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It is suggested that the Excel report format be used when possible. Go to "Options" to set.*

Filename	Test Time	Pass/Fail	Fiber Type	Zone A Scratches		Zone A Defects		Zone B Scratches width≤3µm / width≤5µm	Zone B Scratches width>3µm / width>5µm	Zone B Defects dia<2µm	Zone B Defects dia 2-5µm	Zone B Defects dia>5µm	ZoneD Scratches Any	ZoneD Defects dia<10µm	ZoneD Defects dia≥10µm
Criteria			SM	Any		Any		No Limit	0	No Limit	5	0	No Limit	No Limit	0
				0		0									
			MM	width≤5µm No Limit	width>5µm 0	dia≤5µm 4	dia>5µm 0	No Limit	0	No Limit	5	0	No Limit	No Limit	0
CON0001.jpg	4/14/2009 10:56	PASS	SM	0	0	0	0	0	0	0	0	0	0	0	0
CON0002.jpg	4/14/2009 10:57	FAIL	SM	0	0	23	5	0	0	187	146	65	0	429	63
CON0003.jpg	4/14/2009 11:00	FAIL	SM	0	0	0	0	0	0	1	1	0	0	29	3
CON0004.jpg	4/14/2009 11:02	PASS	SM	0	0	0	0	0	0	0	0	0	0	2	0
CON0005.jpg	4/14/2009 11:03	PASS	SM	0	0	0	0	0	0	0	1	0	0	0	0
CON0006.jpg	4/14/2009 11:04	FAIL	SM	0	0	0	0	0	0	28	18	4	0	145	6
CON0007.jpg	4/14/2009 11:05	PASS	SM	0	0	0	0	0	0	0	0	0	0	0	0
CON0008.jpg	4/14/2009 11:06	PASS	SM	0	0	0	0	0	0	3	0	0	0	3	0
CON0009.jpg	4/14/2009 11:07	PASS	SM	0	0	0	0	0	0	0	0	0	0	2	0
CON0010.jpg	4/14/2009 11:07	PASS	SM	0	0	0	0	0	0	2	0	0	0	3	0
CON0011.jpg	4/14/2009 11:10	PASS	SM	0	0	0	0	0	0	0	1	0	0	8	0
CON0012.jpg	4/14/2009 11:11	PASS	SM	0	0	0	0	0	0	3	3	0	0	8	0
CON0013.jpg	4/14/2009 11:30	FAIL	SM	0	0	0	0	0	0	0	2	4	0	0	0

Function Key Summary

F7 – Close Analysis Report
F8 – Open Summary Report
F9 – Image Explore On/Off
F10 – Capture and Save Image
F11 – (for CI and ViewConn) Manual Zone Adjustments On/Off
     (for DI-1000)
          Manual Zone Adjustments On/Off (640 x 480 video resolution)
          Zooming Panel On/Off (other video resolutions)
F12 – Live/Options Setting Toggle

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 *ConnectorView Plus supports Microsoft Office 2003 and Office 2007.

8. Troubleshooting

8.1 Computer does not recognize that Lightel microscope is connected.

After plugging in your device and opening ConnectorView Plus you see this message.

After clicking OK ConnectorView Plus will open, but no image will be displayed. Close the software, disconnect and reconnect your USB device, then reopen the software.

If you still get the same message, retry but, if possible, try a different USB port.

8.2 Virus in the ConnectorView Plus installation CD or download

The Vimicro driver for DI-1000 has been Microsoft tested and approved. A small program (created by Lightel) to enable the Capture Button is installed with the driver. If your anti-virus program (AVG may do so) has misidentified this added program as a virus, it is safe to temporarily disable the anti-virus to complete the driver installation.   Remember to re-enable the anti-virus software after installing the DI-1000 driver.

8.3 Analysis Report checkbox is grayed out

The dongle has not been connected or is not recognized. Check to ensure that the dongle is properly attached, close the software and restart it.

If still not recognized, try a different USB port or connect directly rather than through a hub.

8.4 DI-1000 driver troubleshooting. Missing functionality with DI-1000

When you open ConnectorView Plus, some Options which should be available are not, or you cannot save viewed images.
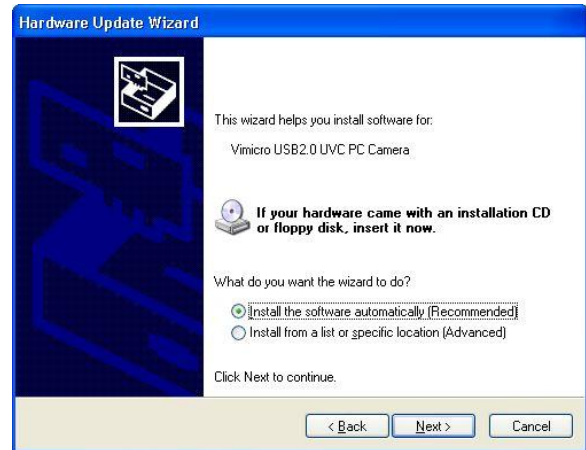
Making sure the DI-1000 is connected to your PC, open the Windows "Device Manager" and expand "Imaging devices" to show the driver "Vimicro USB2.0 UVC PC Camera."
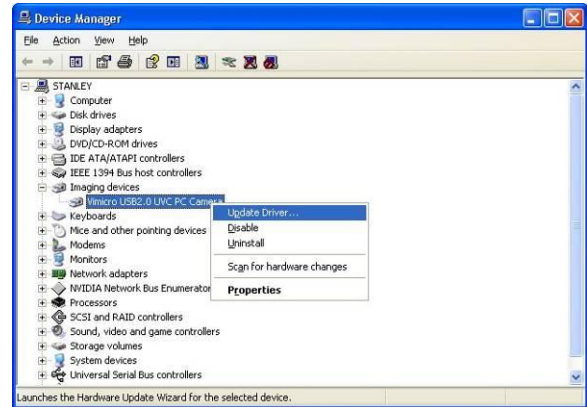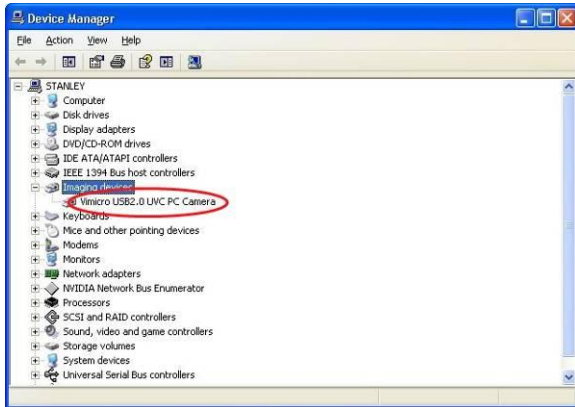
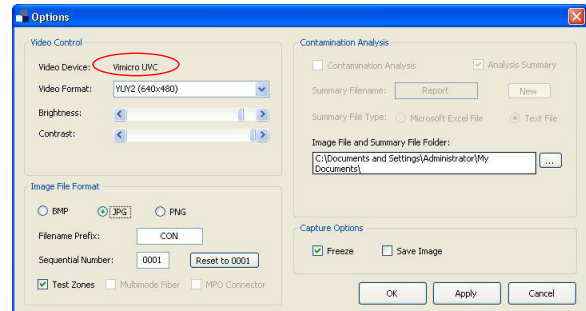Right clicking the device name, select "Update Driver…" and click it.

Select "No, not this time" and click [Next].

Click the [Next] to finish the driver update.

When you now open ConnectorView full functionality should be available. When you open the "Options" window you should see the Vimicro driver listed.

8.5 DI-1000 driver troubleshooting. No driver installed.

With your DI-1000 attached to your PC, when you click on the ConnectorView icon you see this window.

When you click [OK] ConnectorView opens, but all menus are grayed out.
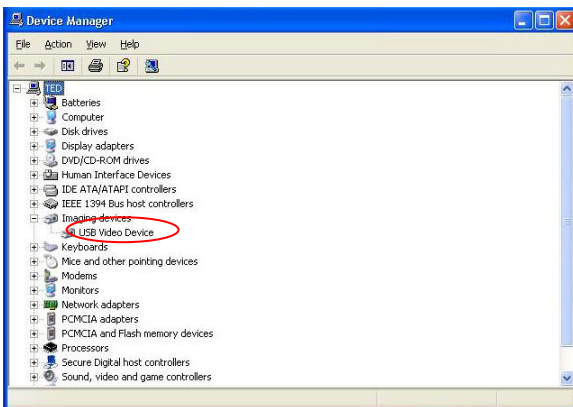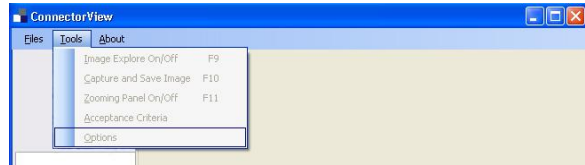
If you open the "Device Manager"/ "Imaging devices" the listed driver is "USB Video Device".

This means the Vimicro driver failed to install. Reinstall the driver following the instructions in Section 1.4 (page 12) of this manual.
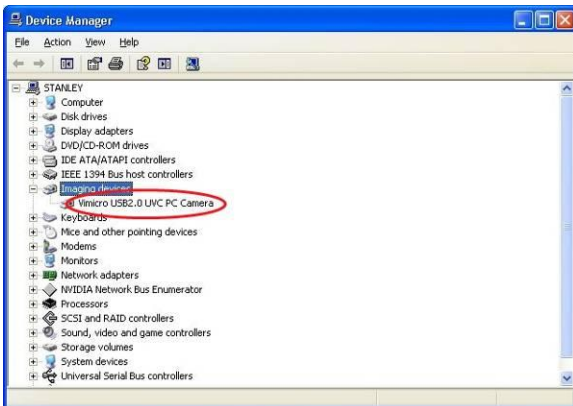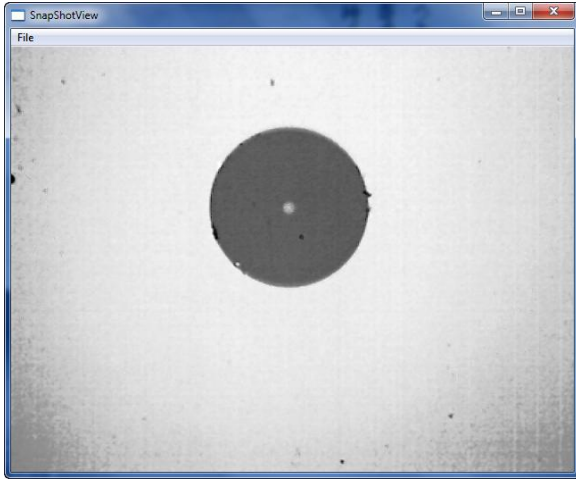
Once the driver has been successfully installed it will be listed in the Device Manager whenever the DI-1000 is plugged in.
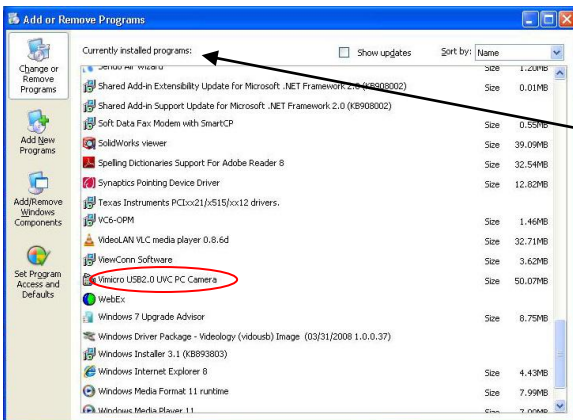
It can also be found in your list of "Currently installed programs".

If you are still unable to install the Vimicro driver, contact Lightel for a new driver.

## 8.6 DI-1000 Capture Button opens "SnapShotView" window.

This will occur if the portion of the DI-1000 driver which controls the button did not initially install.

To correct this you will need to install this file manually. You must be logged on as the Administrator to do this.

Open Windows Explorer and go to the "Vimicro Corporation" folder in the "Program Files" or "Program Files (x86)" folder on your computer.
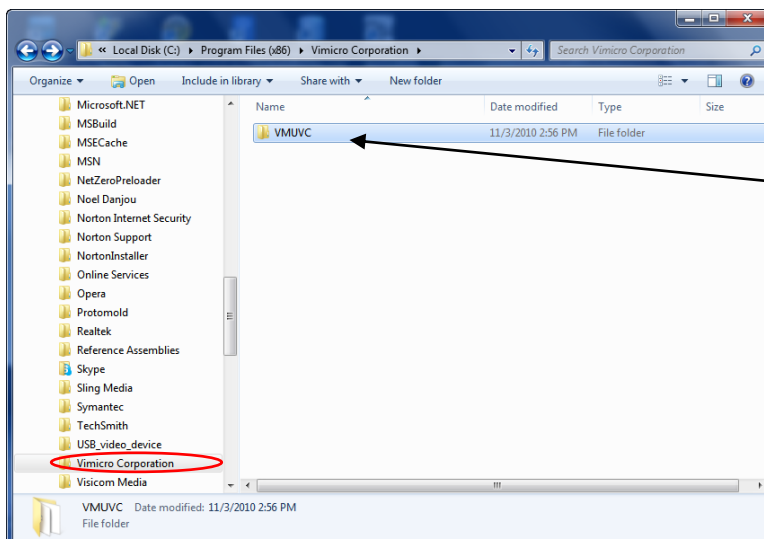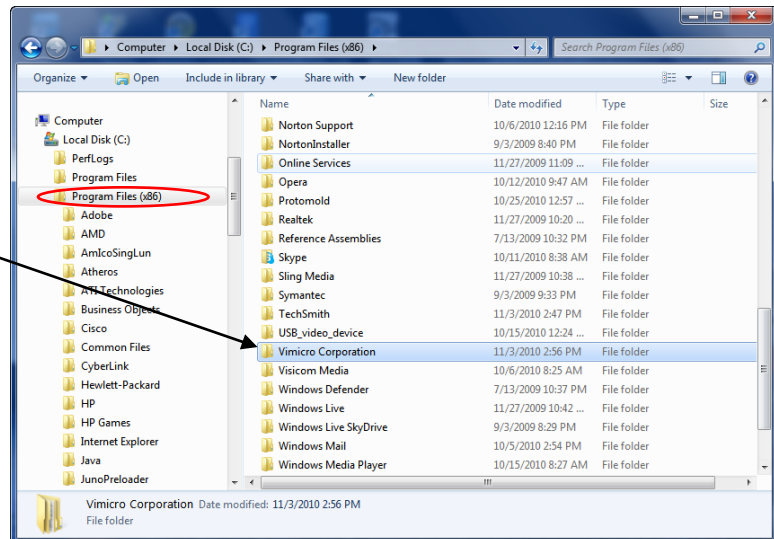

Click to open the "Vimicro Corporation" folder then click on the "VMUVC" folder and open it.
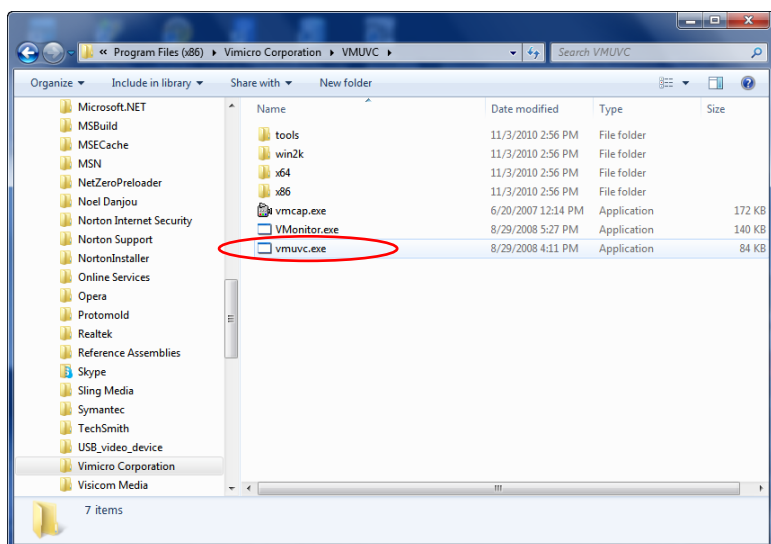
If the Capture Button control did not load, the "vmuvc.exe" file will be 84 KB in size.

On your "Lightel Software and Driver" CD go the "DI-1000 Driver" folder, and open the "64-bit folder." Highlight and copy the "vmuvc.exe" file there. (If you have this issue you will use this file with either a 64-bit or a 32-bit system.)

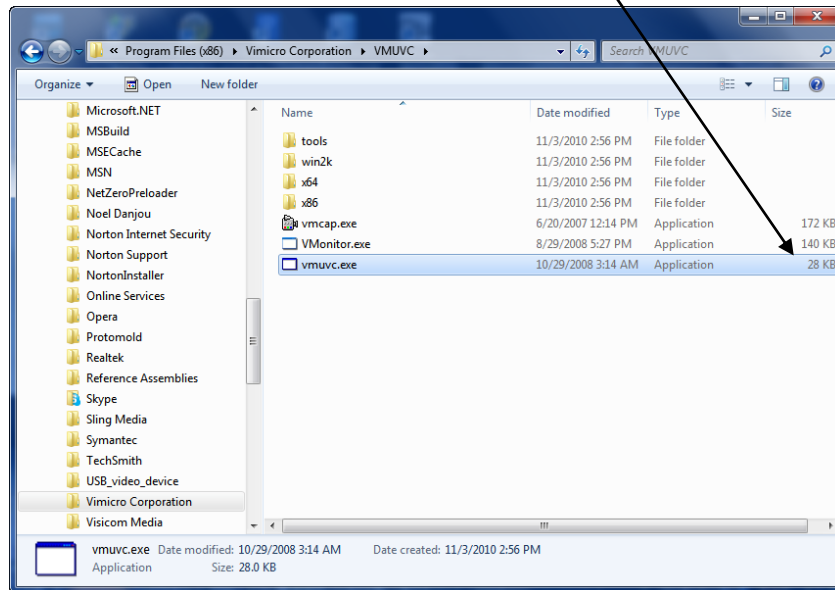Paste this file into your "VMUVC" folder in Windows Explorer.
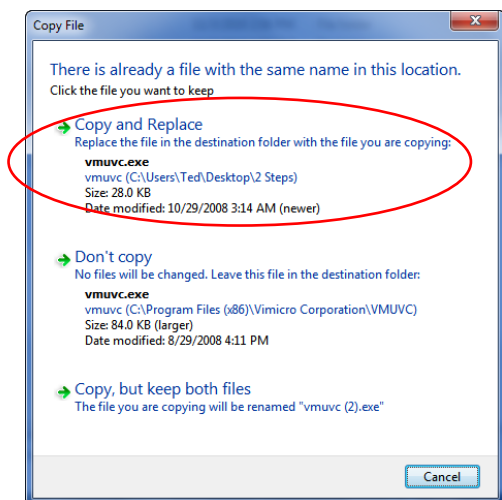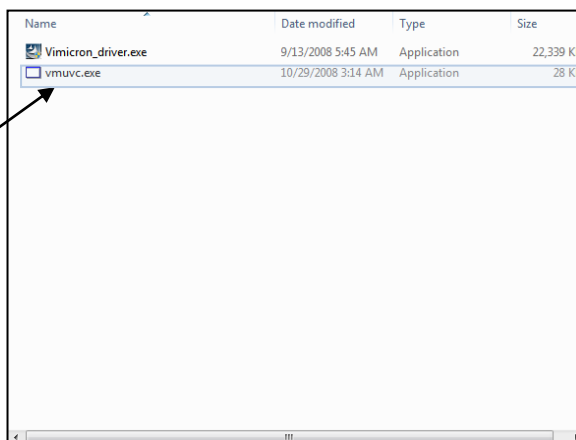
Click [Copy and Relace].
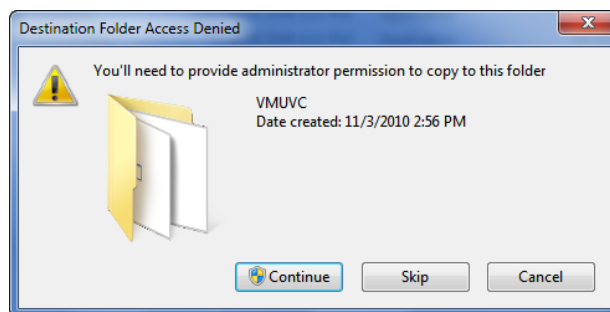
Click [Continue].

Your "VMUVC" folder should now appear like this.

The Capture Button should now work correctly.