ConnectorView™ Plus v2.0

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 the USB Video Driver

For proper operation, the USB driver should be installed prior to the installation of ConnectorView Plus software.

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 (except 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" option, 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 in the lower right-hand corner 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."
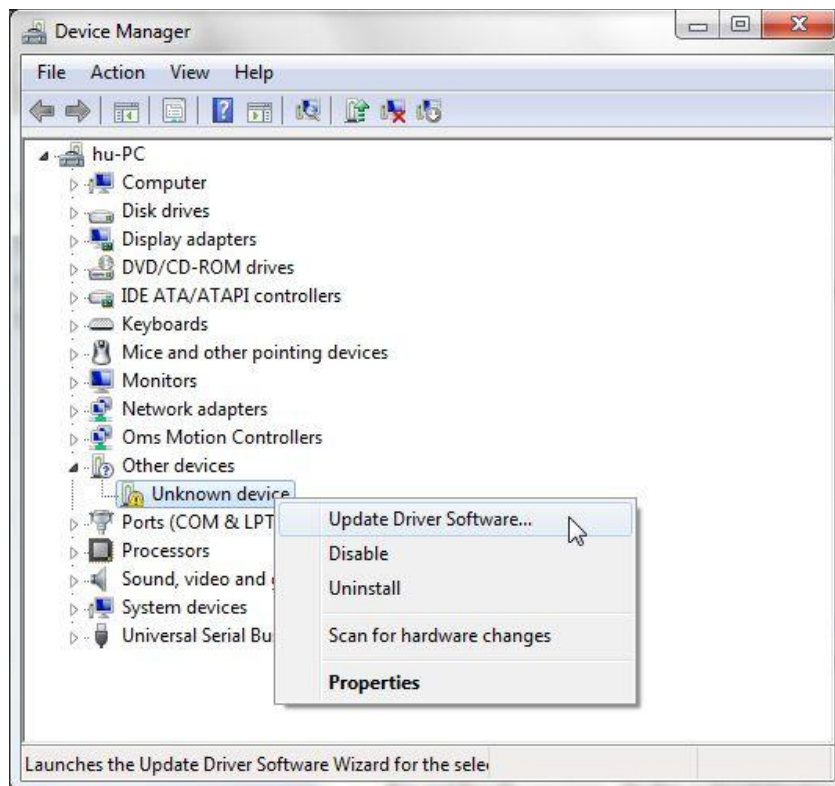
Right click to open the menu and select "Update Driver Software…"

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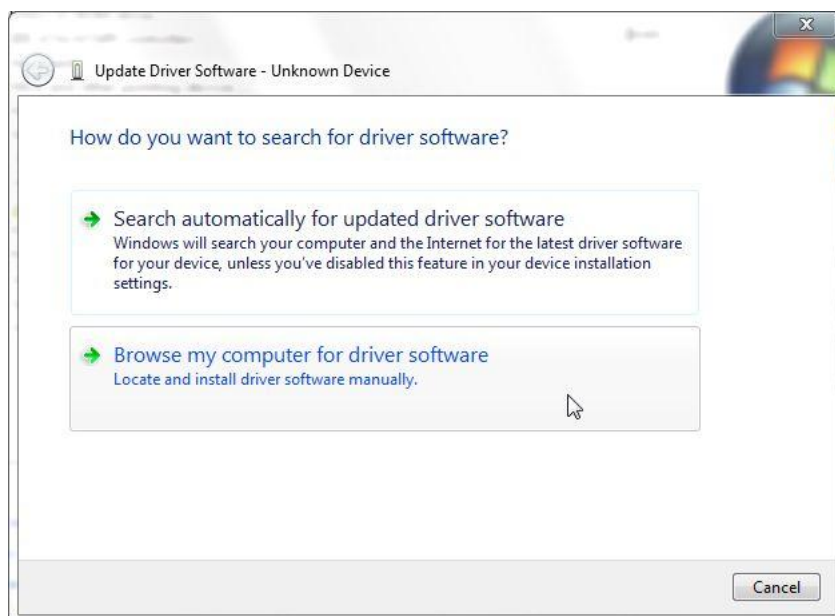
Use the "Browse" button to point the file path to the folder "32-bit Driver" within the "CI and ViewConn Folder" and then left click on it so that the path shows in the address bar. Click [Next].
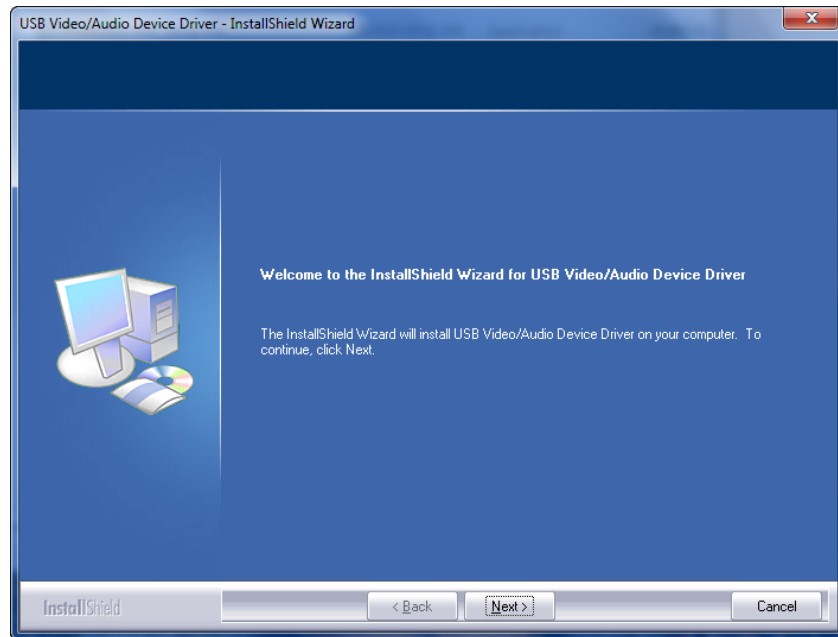

The USB 2860 or USB 2861 video driver will be installed and will now be listed in your Device Manager.
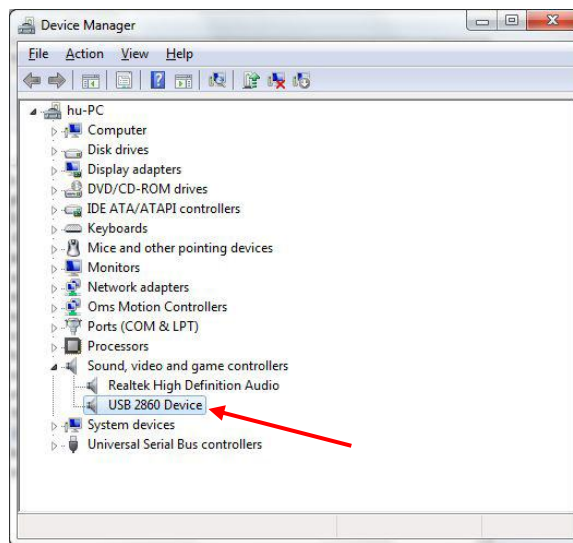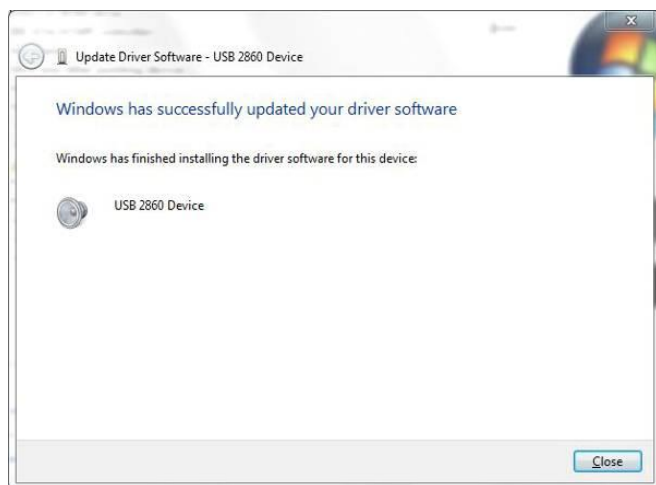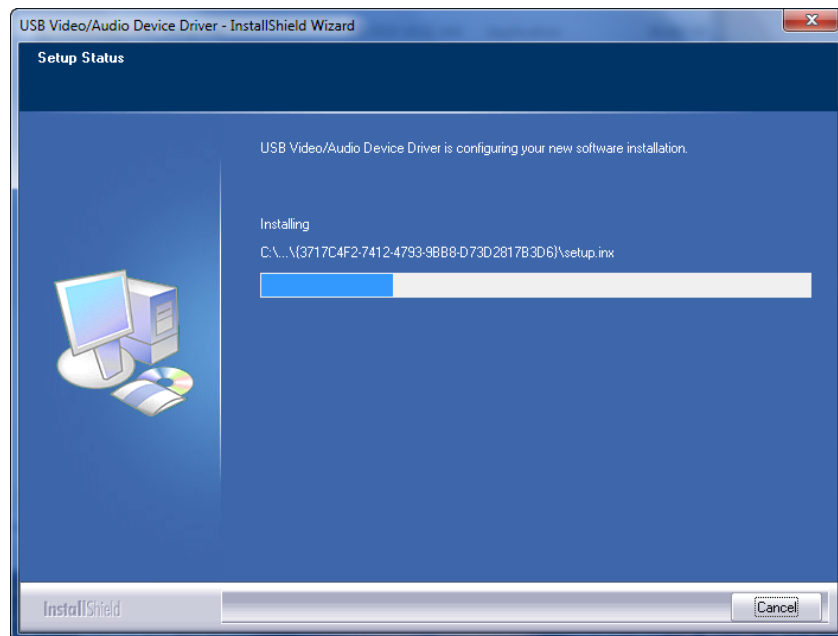
1.3 CI and ViewConn 64-bit Systems

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.
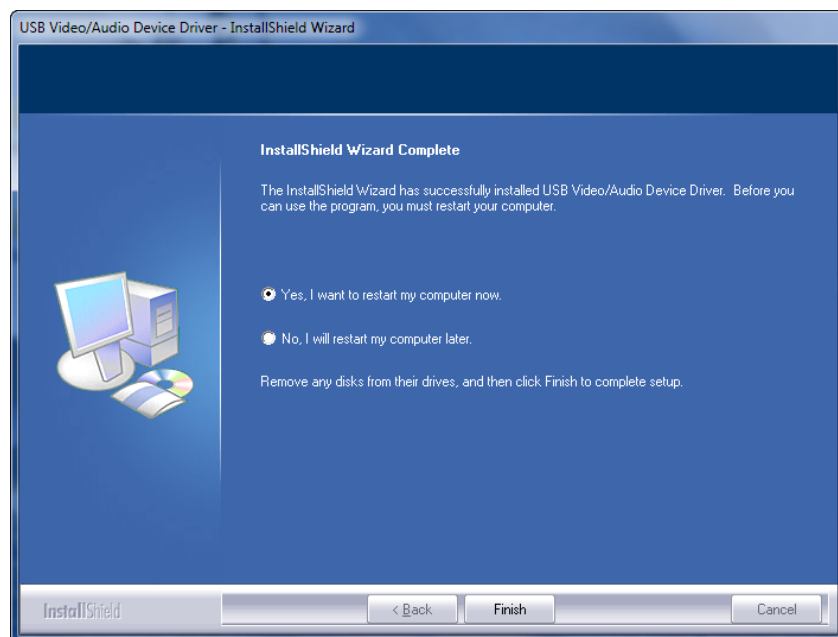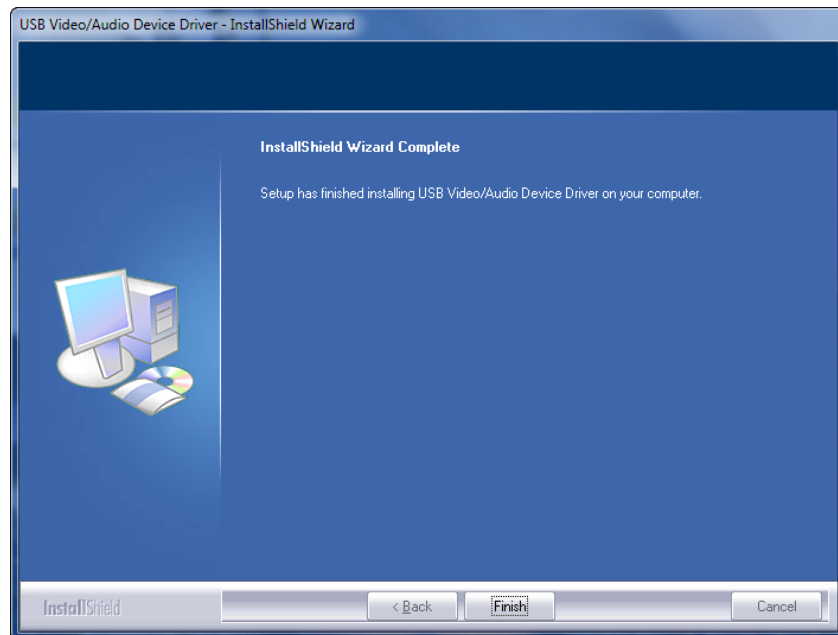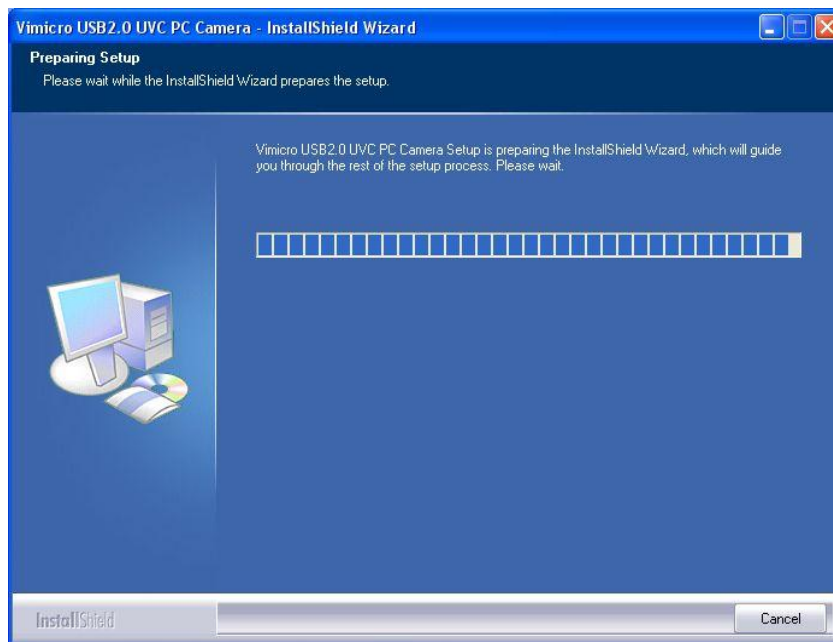
1.4 DI-1000

Plug the 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 used the supplied USB hub when installing the DI-1000 driver, you should continue to 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.
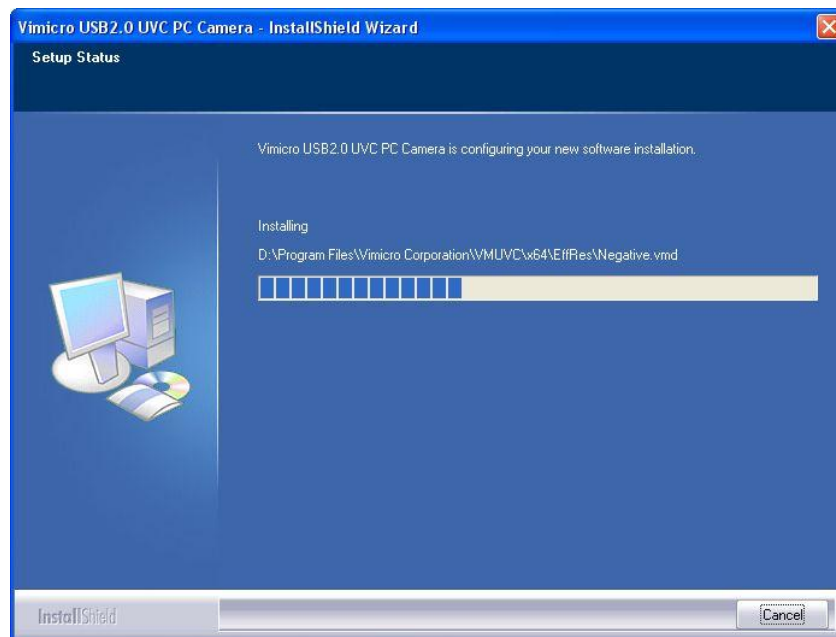

If you did not plug in the DI-1000 probe before running "Vimicro_Driver_Setup.exe", the following warning will occur.

Verify that the DI-1000 probe is properly connected into one of the computer USB ports and click [Yes] to continue the installation.
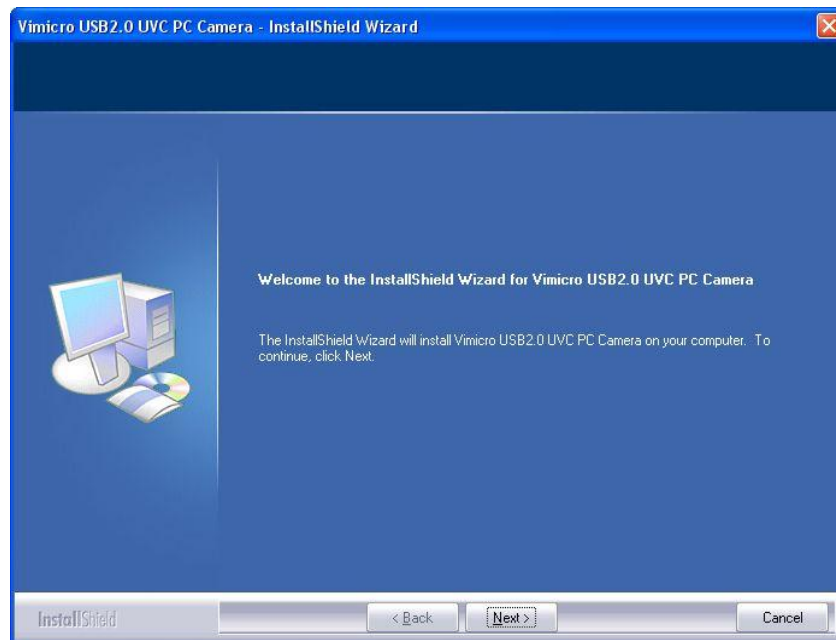
Click [Next] to continue the installation.

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 9.3, page 44)*.

2. Install ConnectorView Plus

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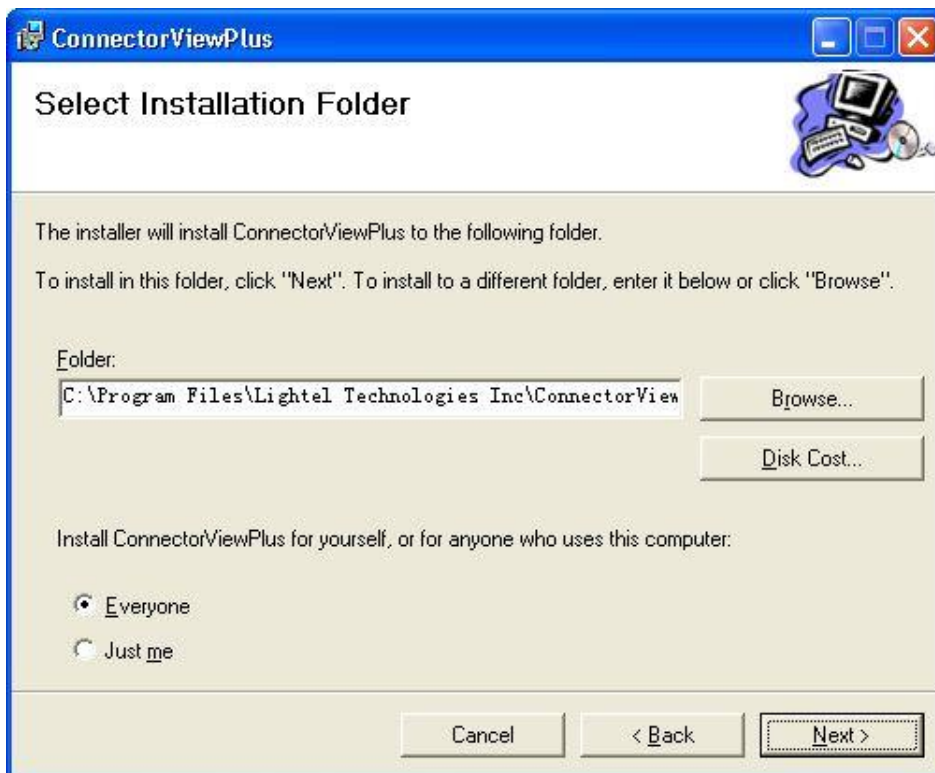

Click [Next].

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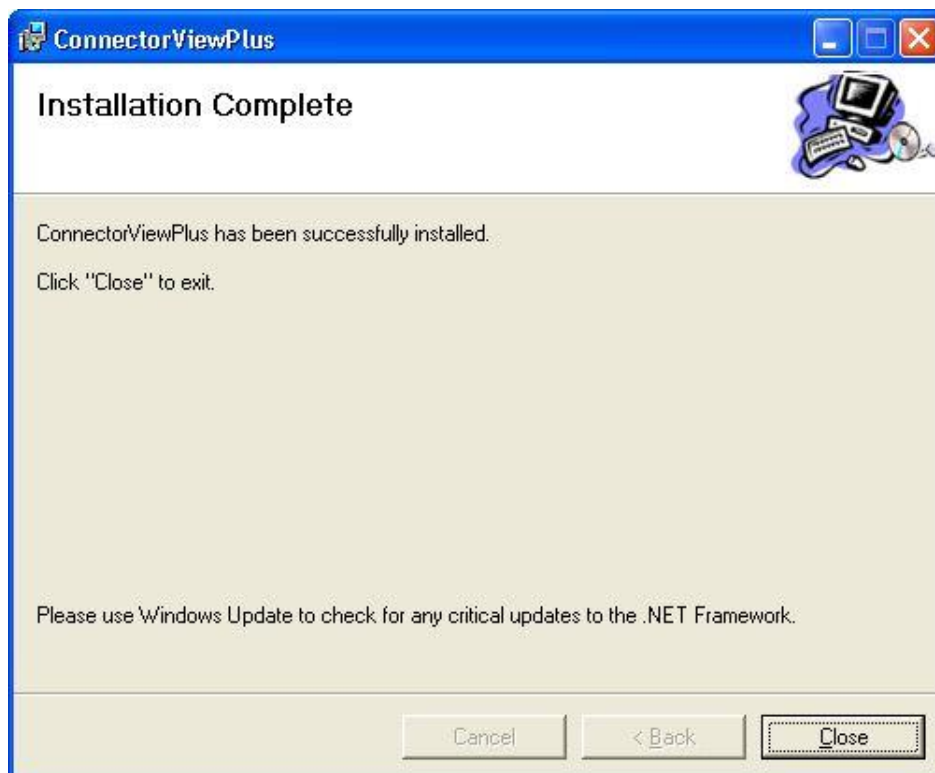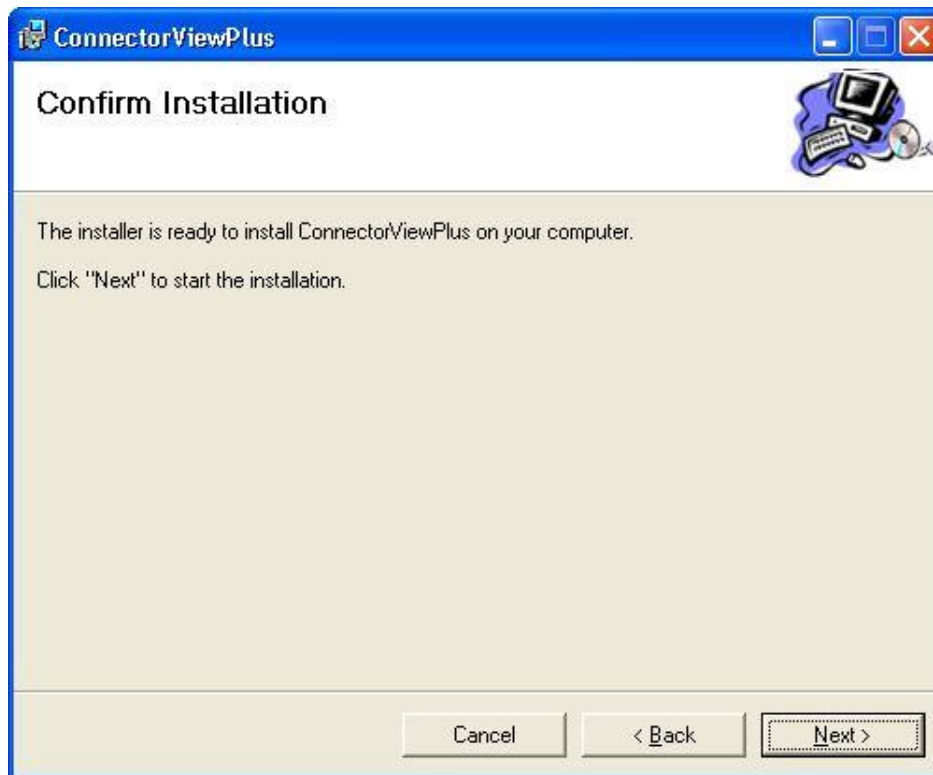
Please read the Software License Agreement. You must click "I Agree" to continue the installation process.

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 blank screen, you will need to close the software, connect your Lightel device and reopen the program.
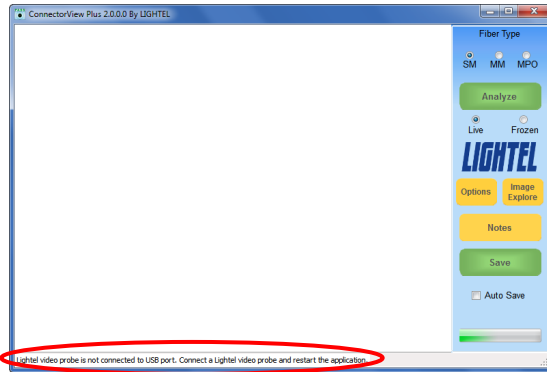
In order to have full ConnectorView Plus functionality, the dongle must also be installed in a USB port, prior to opening the software. If the dongle is removed during use, the software will revert to ConnectorView (standard) type features. You will need to reinsert the dongle and restart the software to regain full ConnectorView Plus features.
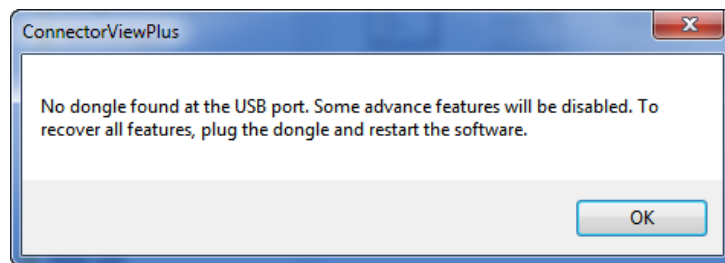
After properly connecting the dongle and your Light video microscope to your computer, click the "ConnectorView Plus" icon to open the software.
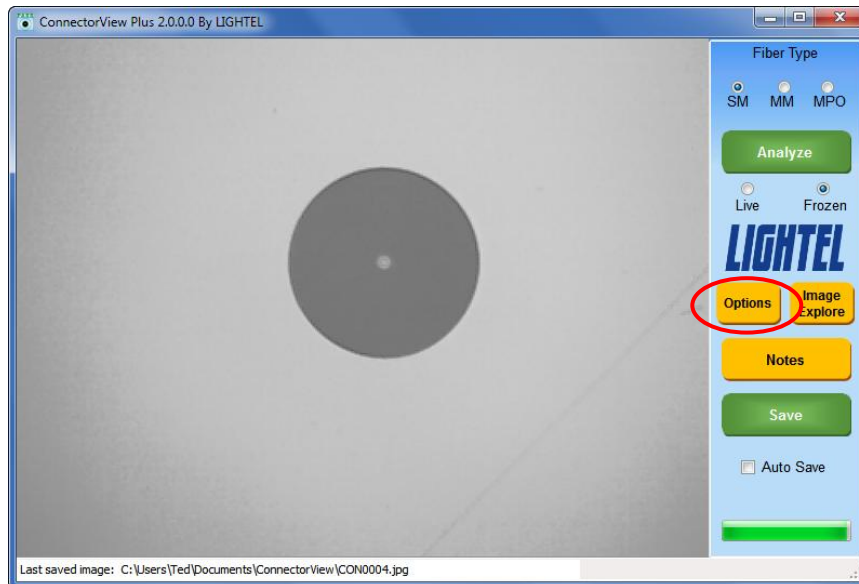
The first time you open ConnectorView Plus, you should click the yellow "Options" button to set up your preferences.

3.1 Setting Options

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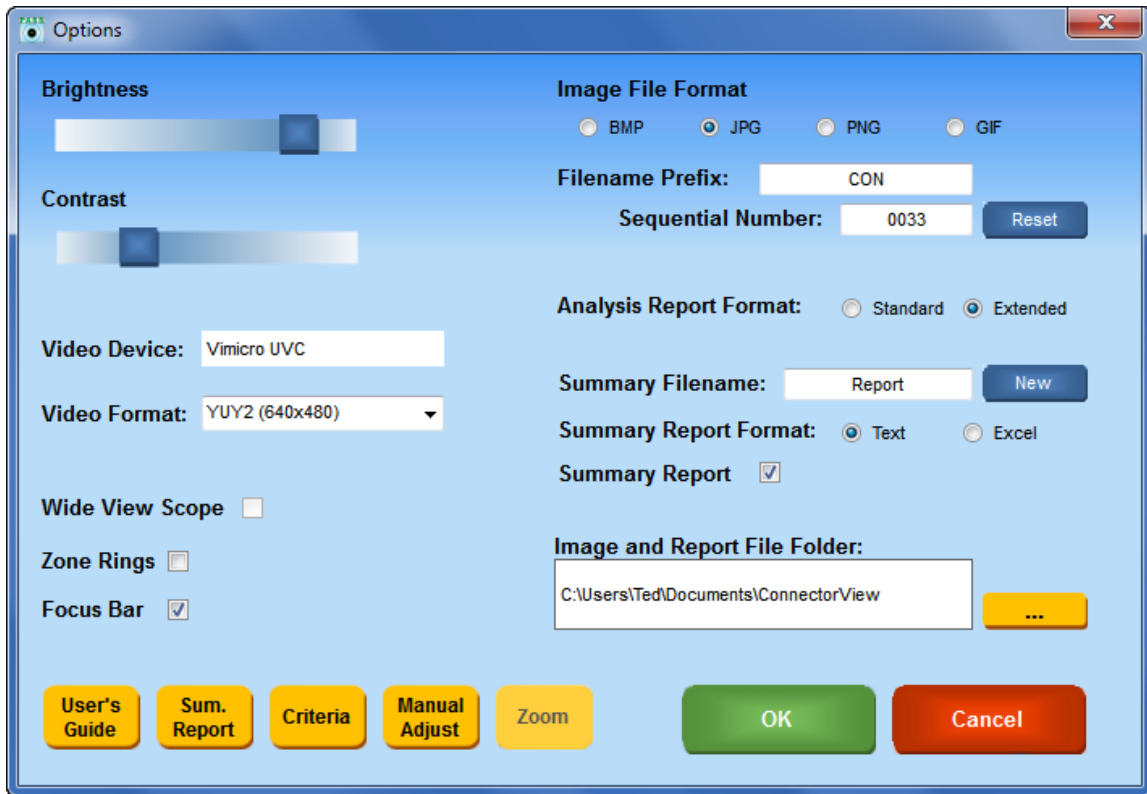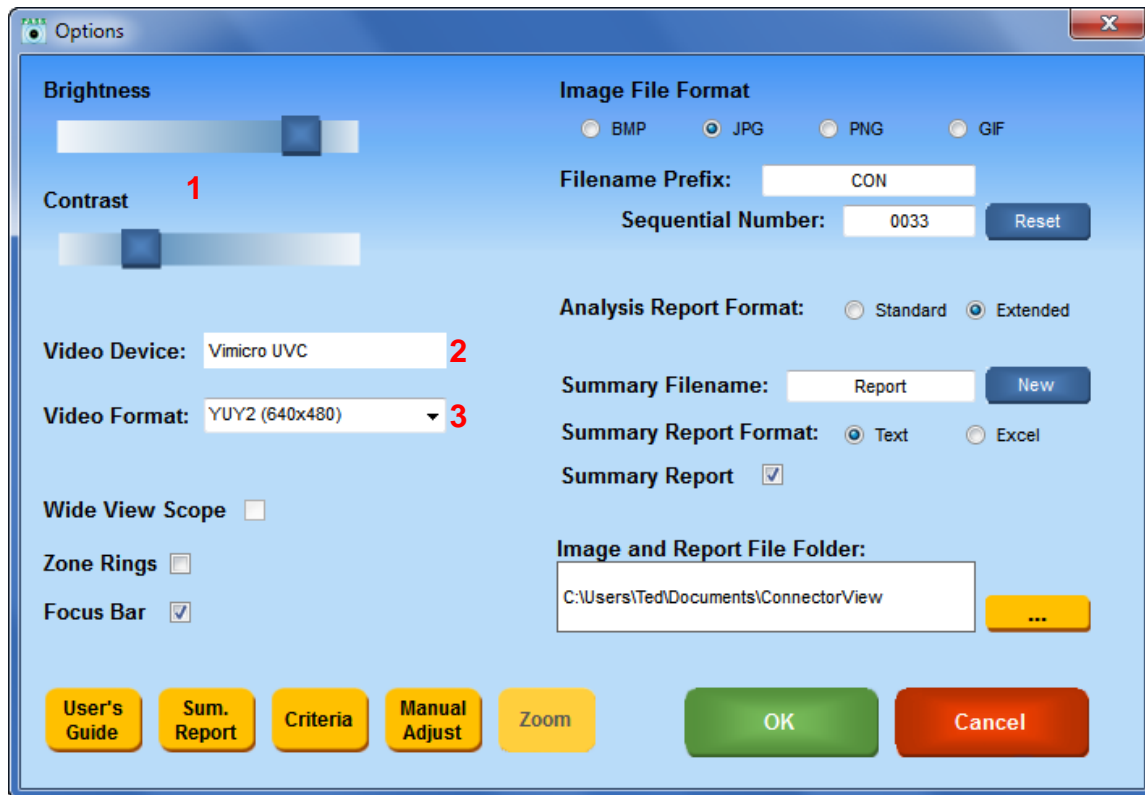

* Buttons and controls are color coded throughout ConnectorView Plus.
 Blue – a control within the same window
  Yellow – opens a new window
  Green – Yes (Accept, OK, Save, Analyze)
 Red – No (Cancel, Delete, Exit)

1. These sliders adjust the brightness and contrast of the live video. Moving these sliders will not affect previously saved images or a currently frozen screen.

2. Shows the driver being used. ViewConn and CI-1000 USB adapters should show em2860 or em2861 (WDM 2861 Capture for 64-bit systems); DI-1000 should show Vimicro UVC.

3. Shows screen pixel size. ViewConn and CI will always be 640 x 480. The 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 on the standard view DI-1000 and only active at 1280 x 960 on the wide view DI-1000L.
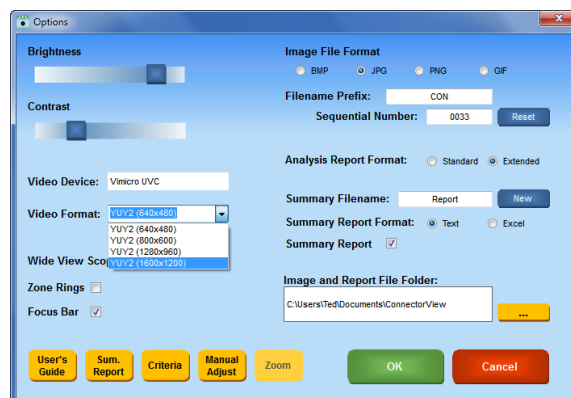

Digital magnification is available on the DI-1000 and the DI-1000L in all video format sizes where Contamination Analysis is inactive.

*(See page 32 for details on using the digital zoom features.)*
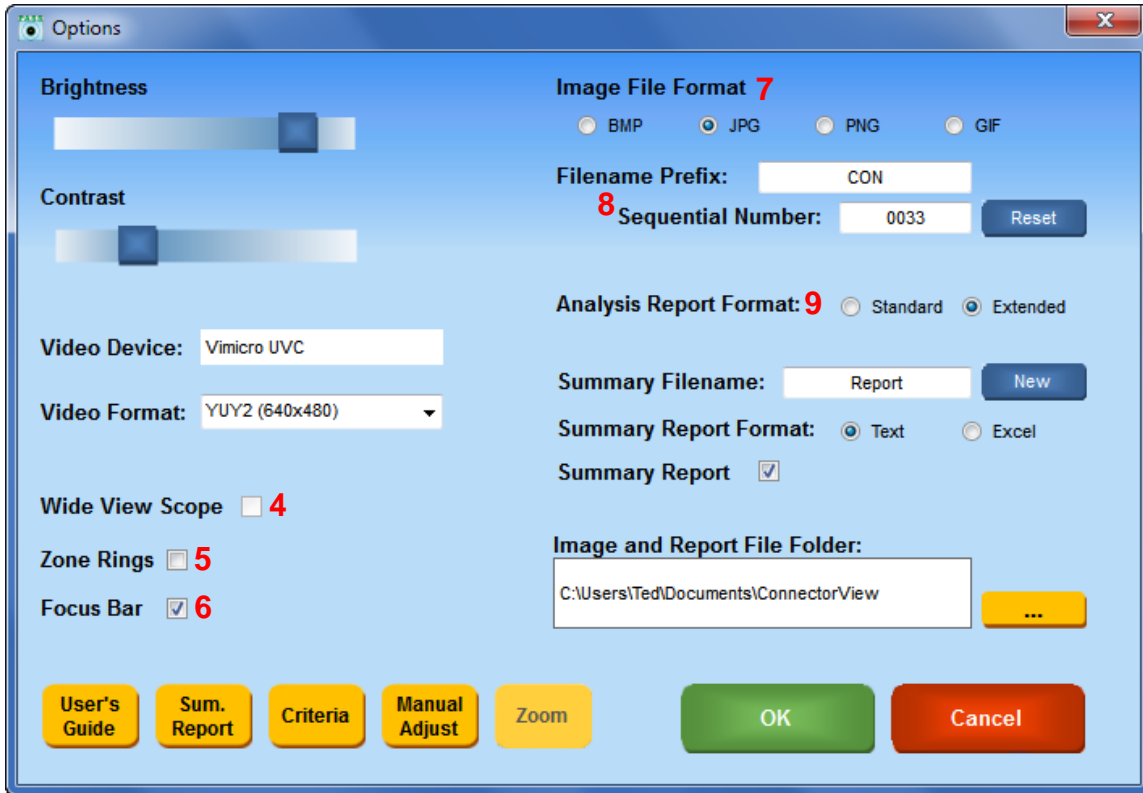
4. If you are using a DI-1000L, set the Video Format to 1280 x 960 and then select this box.

5. To display the fiber zone rings, select this box. *When "Zone Rings" is checked, the Analyze button will be inactive and analysis will not be available.*

6. To display the Focus Bar, check this box.

7. These radio buttons allow you to select the image file format for your saved images. (JPG is the default.)

8. 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. Hitting the [Reset] button returns the 4 digit number to "0001".

9. Select the Standard Analysis format (default short form) or the Extended report format. The Extended Report allows you to add detailed text to the report. (The Extended format must be selected for the Notes button on the Main window to be active.)
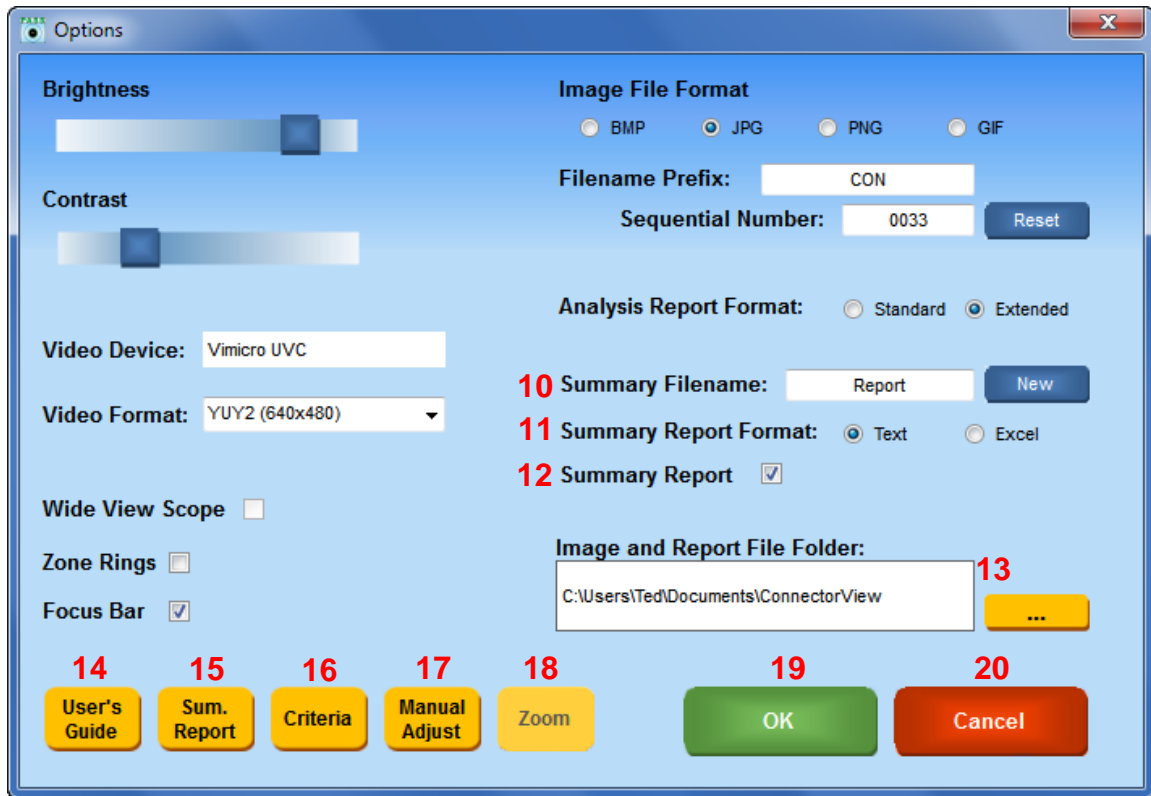
10. Type in a name for the Summary Report. Press "New" to start a new Summary, otherwise the report will continue from the previous captured image.

11. Choose your preferred Summary Report file format. (Default is a text file.)

12. Select to create a Summary Report (checked by default). Only saved Analysis Reports are included in the Summary Report.

13. Browse to select a file location and folder for your Report and Image Files. (Default is "ConnectorView" folder in "Documents" or "MyDocuments" folder.)

14. Opens a pdf copy of this User's Guide.

15. Opens the Summary Report.

16. Opens the Acceptance Criteria window to change Pass/Fail criteria.

17. Opens the Manual Adjustment window to locate the ferrule position manually.

18. Opens the Digital Zoom window. (The button is only activated with DI-1000 and DI-1000L once the Video Format setting has been changed.)

19. Approves all changes made and returns to the Main window.

20. Cancels all changes made and returns to the Main window.

3.2 Main window controls

The Main window provides the controls you need for analysis and reporting and is the primary window for viewing and inspecting connectors.
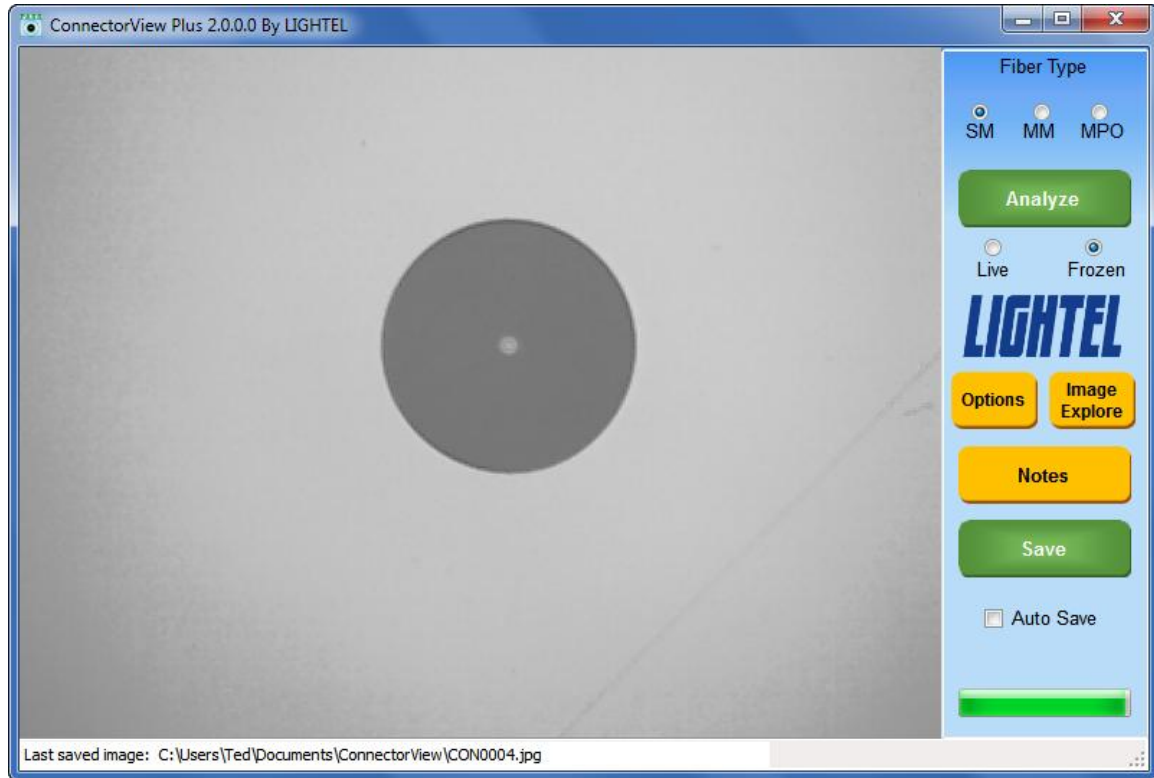

Fiber Type – Select the type of fiber you are inspecting SM (Single Mode), MM (Multimode), or MPO (ribbon, MTP). Single mode is the default.

Analyze – Performs an analysis of a frozen connector image. This button is not active when the "Live" radio button is selected. (To analyze live images, click on the image.) If neither radio button is selected, no analysis is available.

Note: ConnectorView Plus can analyze frozen images. It will not analyze already saved images.

Options – Opens the Options window.

Image Explore – Opens a window to view previously saved images and reports. *(See page 24.)*
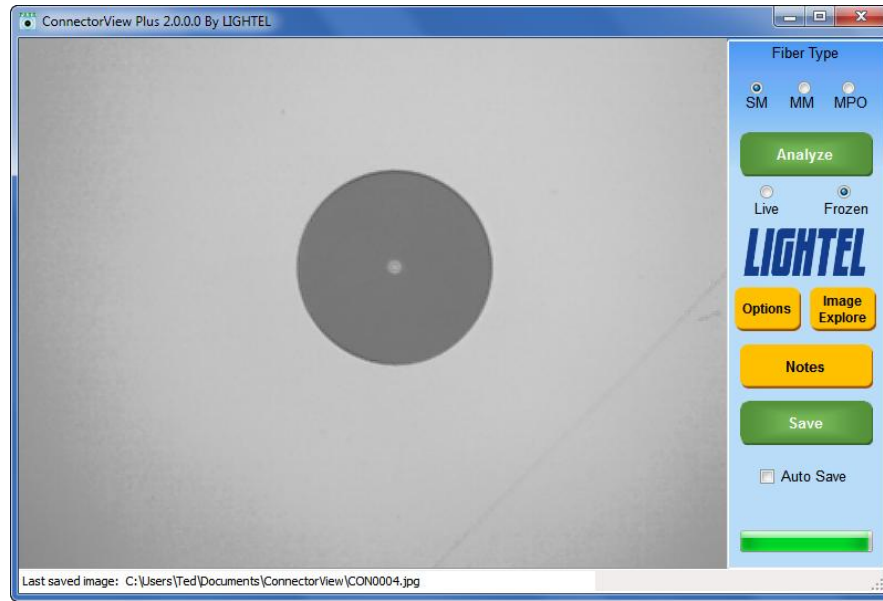
Notes – Opens the Notes window so that you can enter details about the connector and job. This button is only active when the "Extended Report" is selected in Options. *(See page 20.)*

Information entered will be inserted into the next saved Analysis Report.

If you want certain information to appear in multiple reports, check the checkbox for that line. Closing the window automatically saves the information displayed.

Delete All – Clears all information and clears all checkboxes.

Any information you wish to include should be entered before the Analysis Report is created.

Save – Saves the image currently displayed in the image portion of the the window.

Auto Save – Automatically saves each capture or Analysis Report.

Focus Bar – Aids in focusing the image. When ConnectorView Plus is started, focus the first connector by sight, then click on the focus bar. This sets the focus bar to that connector type. If you change the type of connector you are inspecting you may want to repeat this procedure. If the focus bar is not displayed, go to the Options window and select the Focus Bar checkbox.

The name and address of the most recently saved image can be found in the lower left corner of the window. The image of the connector currently being inspected is displayed in the large viewing area above it.

3.3 Image Explore

Image Explore allows you to quickly find and view previously saved images and Analysis Reports.
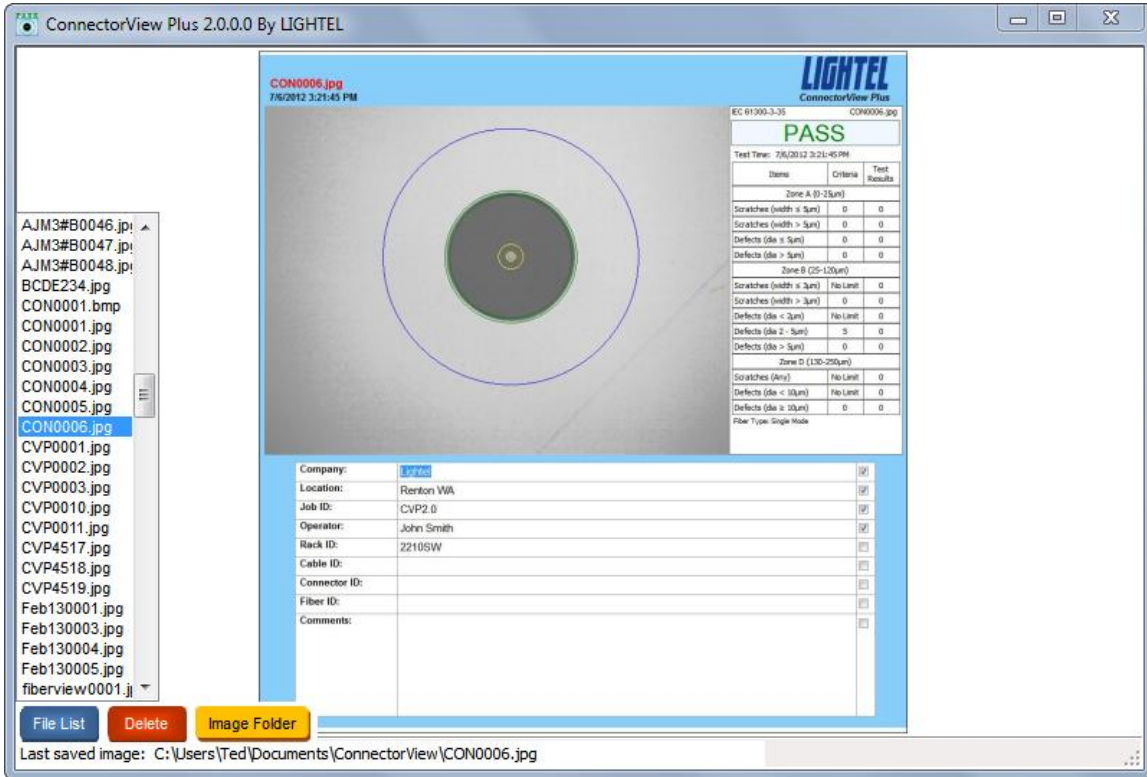

File List – Opens and closes the list of images and Analysis Reports in your currently selected storage folder. Files are listed alphabetically. Click on a filename to highlight it and display that file.

Delete – Deletes the currently highlighted file from your computer.

Image Folder – Opens the Browse for Folder window so you can select a different folder to view.

Last saved image: – The location path for the most recently saved image is displayed In the lower left corner of the window.
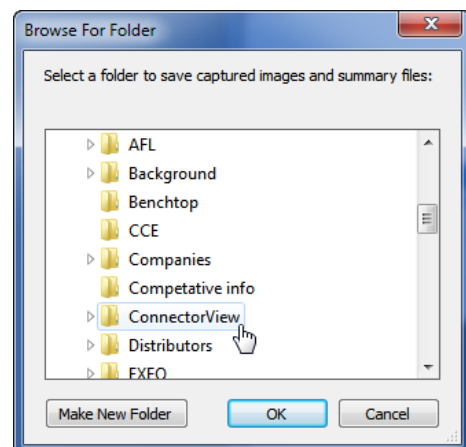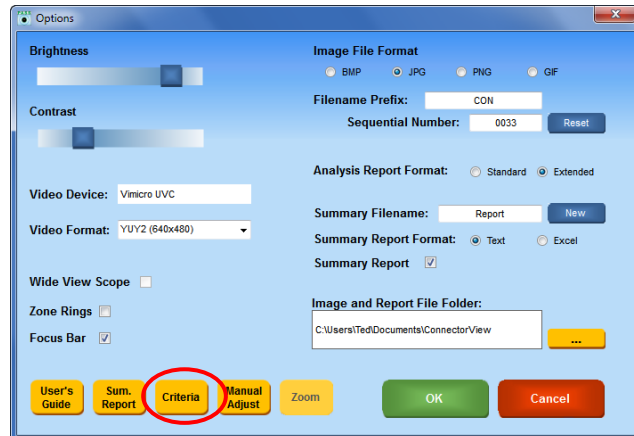
Clicking on the displayed image will close Image Explore and return you to the Main window.

3.4 Acceptance Criteria

ConnectorView Plus uses IEC 61300-3-35 as its default standard for evaluating the condition of a connector endface.

If you need to modify the evaluation criteria go to the Options window and click the yellow "Criteria" button. This will open the Acceptance Criteria window.

.

The quantities shown in these columns can be changed. Highlight the number you wish to change and type in your new number. Click [OK] when finished to implement the changes. The Acceptance Criteria title shown at the top of the window will change to "Custom." This will also be displayed in your Analysis Report.

A new Summary Report is also created listing the criteria now in use (there may be a brief delay). The previous report will be automatically saved and named with a date/time stamp.
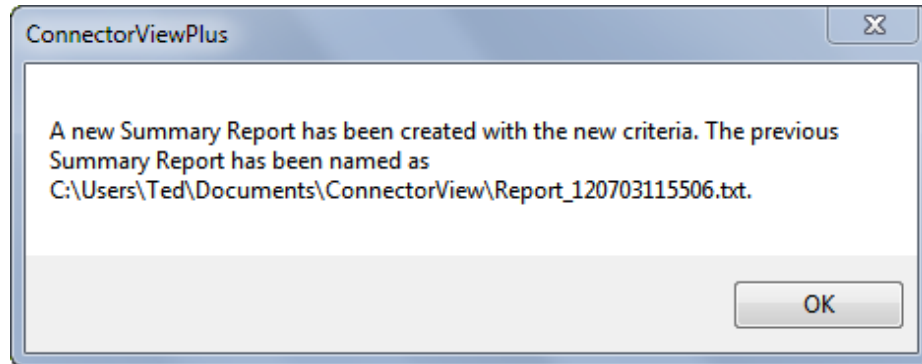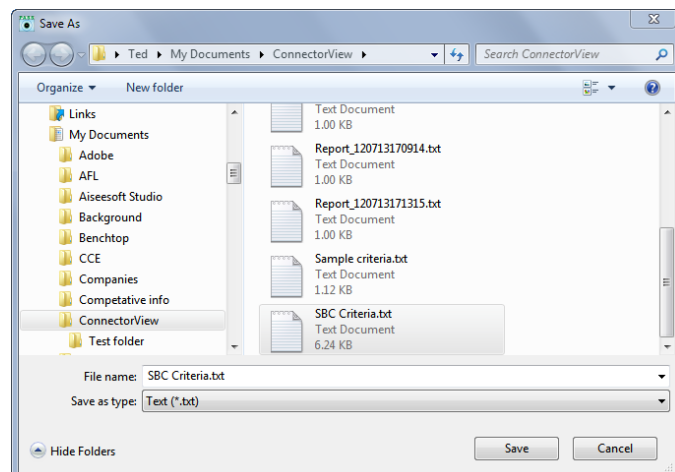

A new Summary Report will be generated in your selected folder each time acceptance criteria are changed.
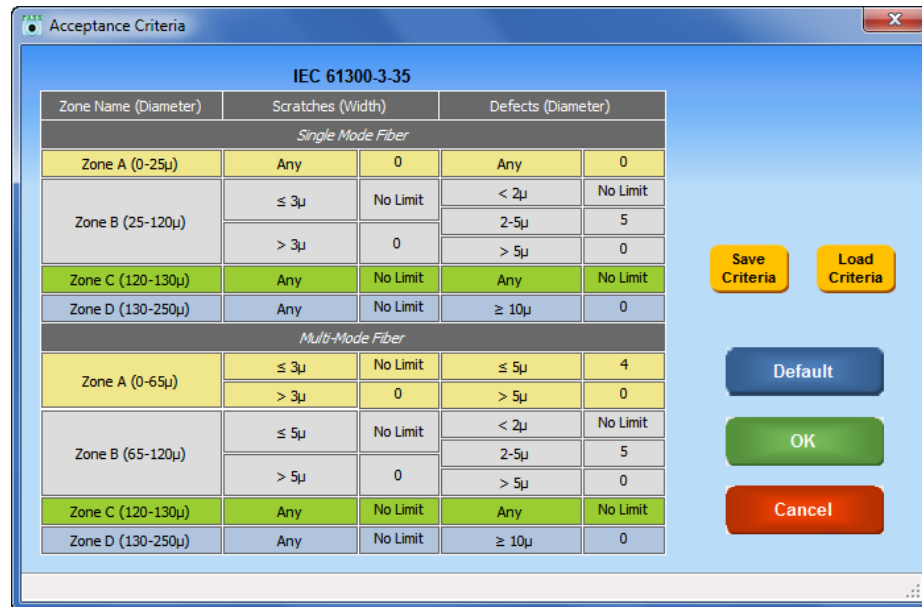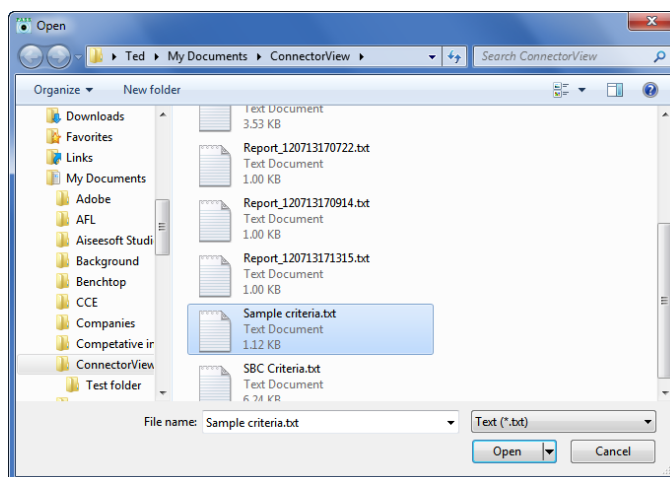

Save Criteria – If you expect to repeatedly use the same set of custom criteria, use this button to open your storage folder and give the set a name.

Multiple criteria sets can be saved in this way.

Load Criteria – To use a saved criteria set, click this button, select the set you wish to use and then [Open] it.

When you load a saved set the filename will be shown at the top of the Acceptance Criteria window. It will also be displayed on your Analysis Report.

A new Summary Report will be created, and the previous one saved and closed.
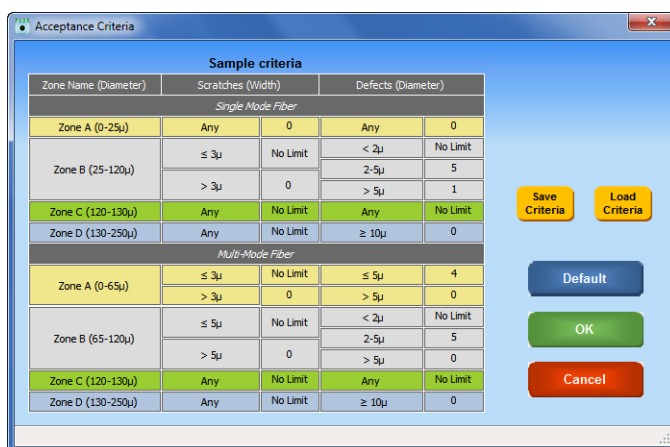
Default – Returns the settings to IEC 61300-3-35.

OK – Accepts all changes you've made and closes the window.

Cancel – Closes the window without making any changes.

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 organizations may have their own acceptance criteria for connectors. If there is no different organizational standard, Lightel suggests using the default standard, IEC 61300-3-35, which is summarized on the following two pages.
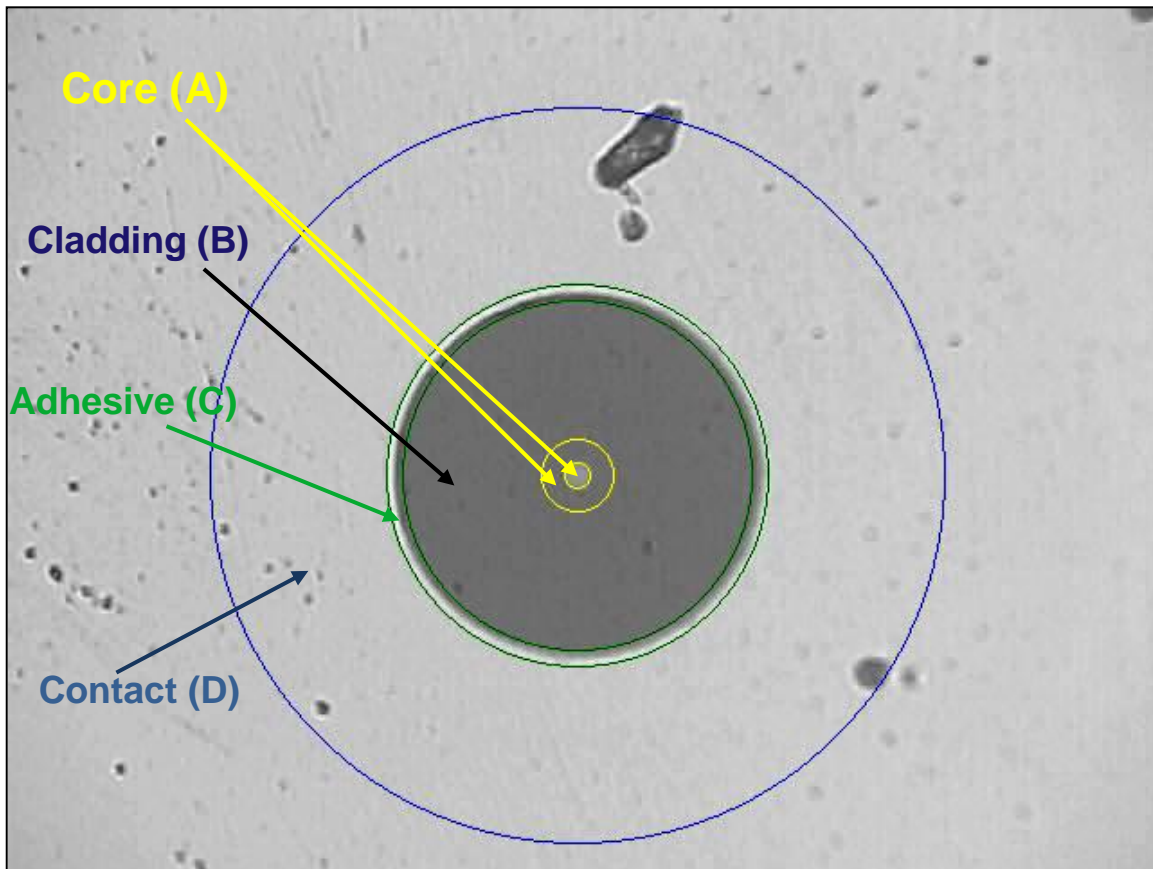
Single mode fiber requirements

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.
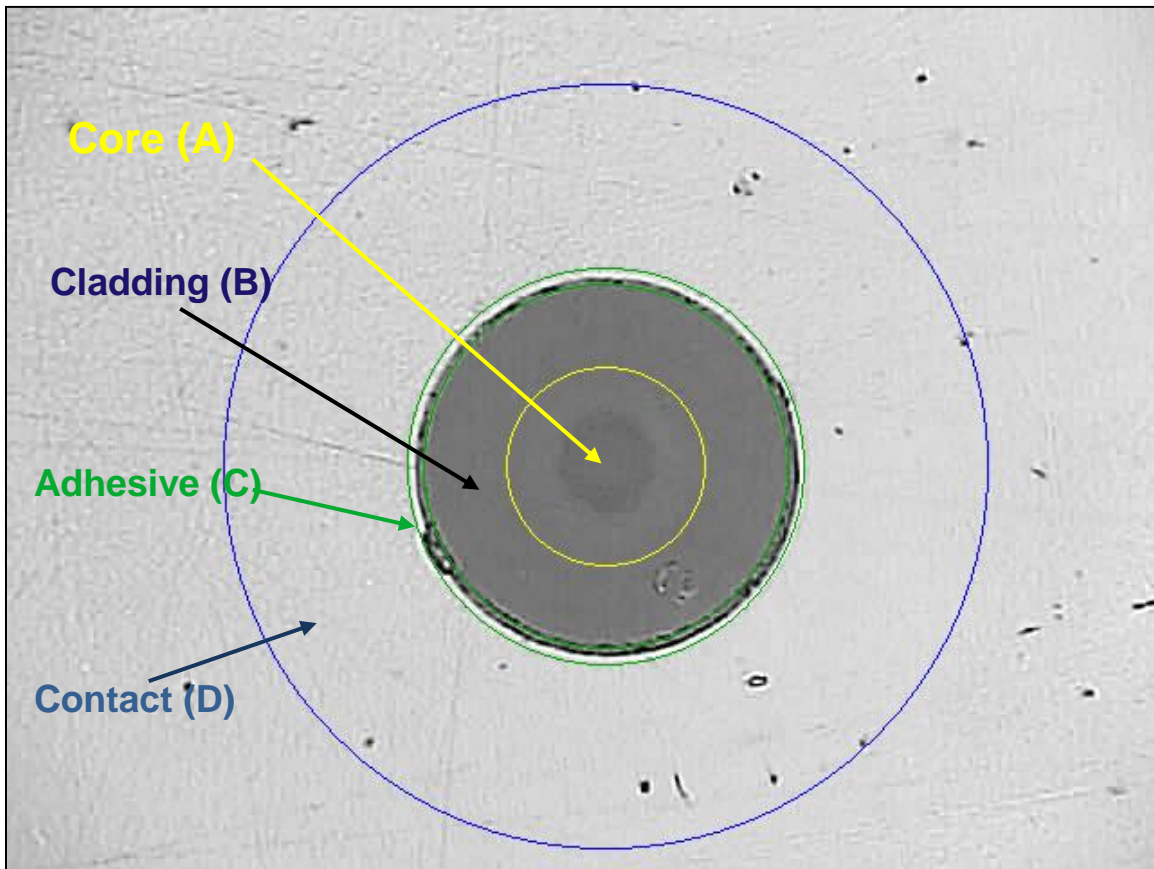
Multimode fiber requirements

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.

5. Manual Zone Adjustment

Lightel's ConnectorView software is designed to allow you to automatically locate the ferrule and display the zone rings and/or perform analysis.

If a connector is too dirty or too poorly centered, the automatic detection function may not work properly. In this situation, you can clean the connector and retry, or you can use "Manual Zone Adjustment" to correct the ring placement.

Go to Options and click the [Manual Adjust] button or hit the [F11] key on your keyboard.
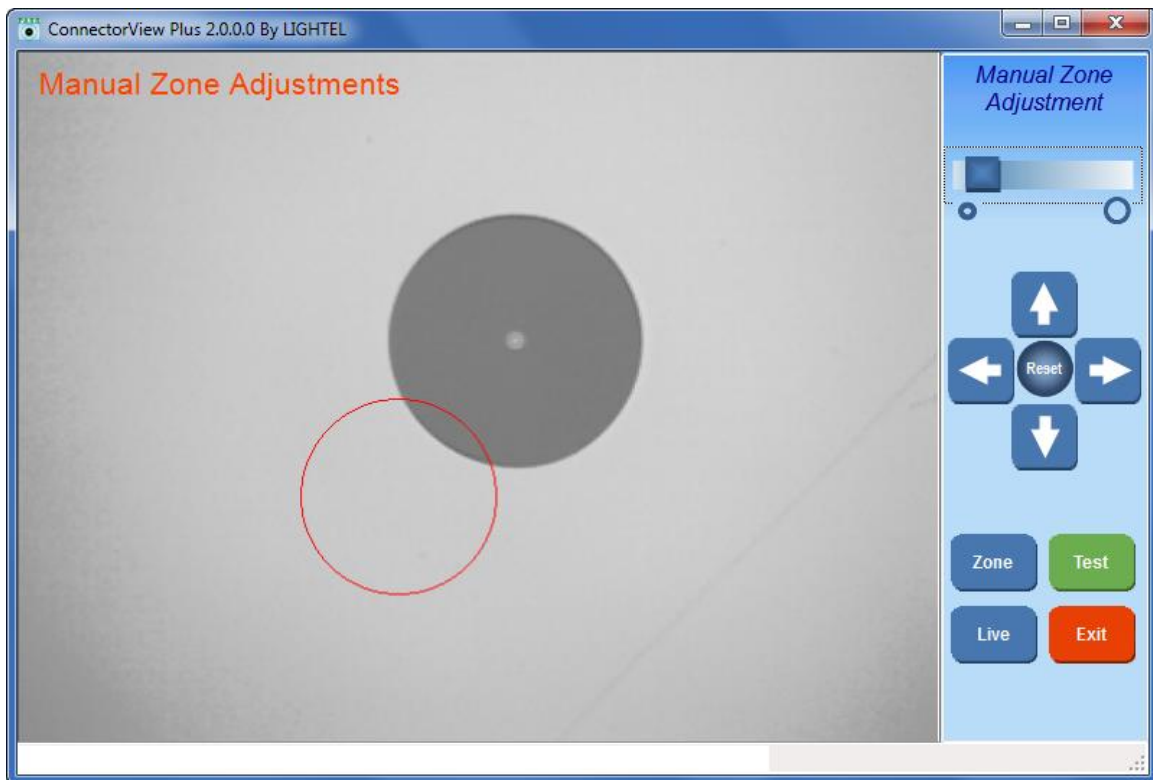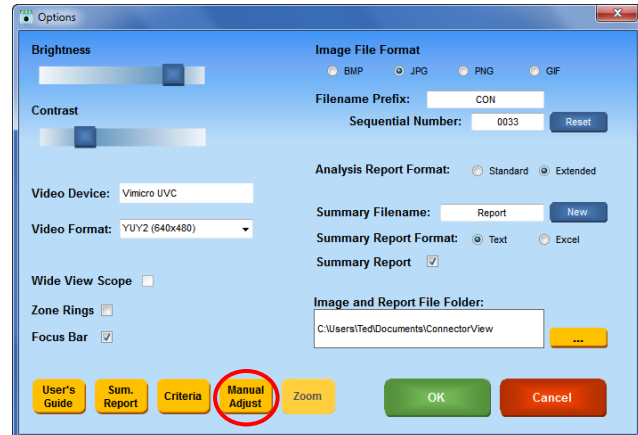
Use your mouse cursor to drag the red target circle to the right position. Use the slider to resize the circle, if necessary. Then use the arrows for fine position adjustments.

You can either then click [Zone] to display the rings and make any final adjustments before analyzing, or click [Test] to analyze immediately.
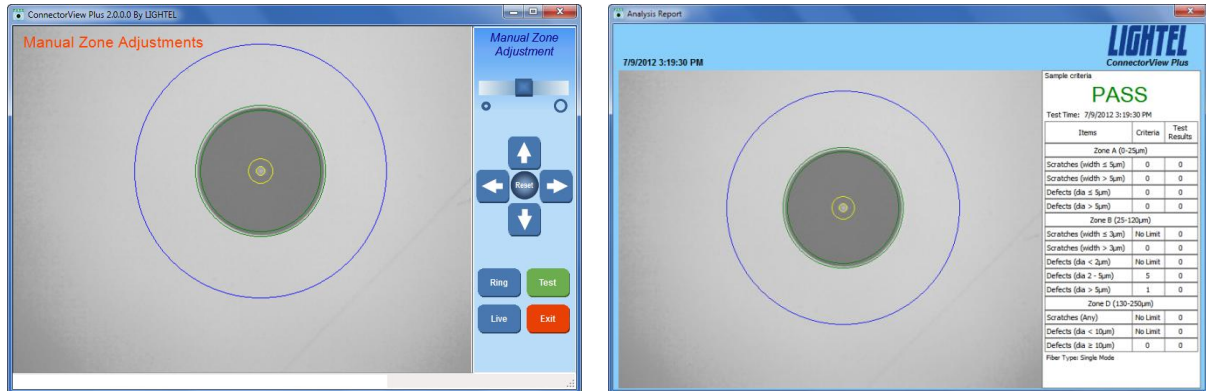

Live/Frozen – Toggles between the frozen image and the live image. The button caption displays what will happen when the button is clicked.

Exit – Closes Manual Zone Adjustment window and returns to Main window.

For DI-1000L

Once you have positioned the red target circle, click the [Zoom] button to enlarge and center the image, then preceed as shown above. [Zones] and [Test] are not available until [Zoom] has been clicked.
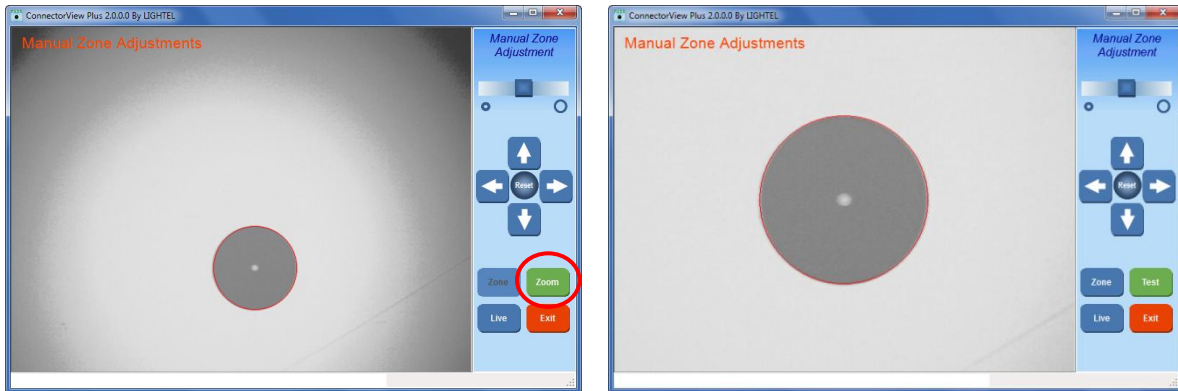
## 6. Digital Magnification (DI-1000 and DI-1000L only)

(Please note that digital magnification does not change the actual resolution.)

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 for DI-1000 and not 1280 x 960 for DI-1000L).
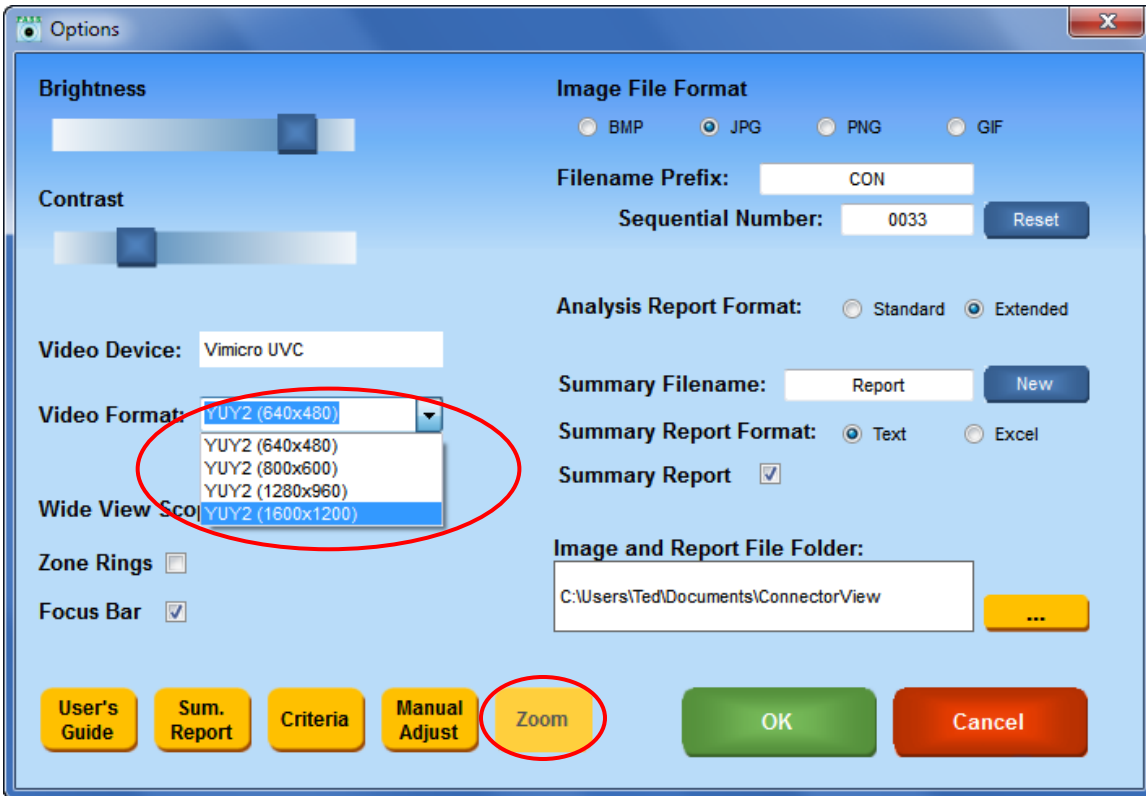
This will activate the yellow [Zoom] button. Click it to open the Digital Zoom window.

*Note: The Main window is unavailable while in a "Zoom" video format.*
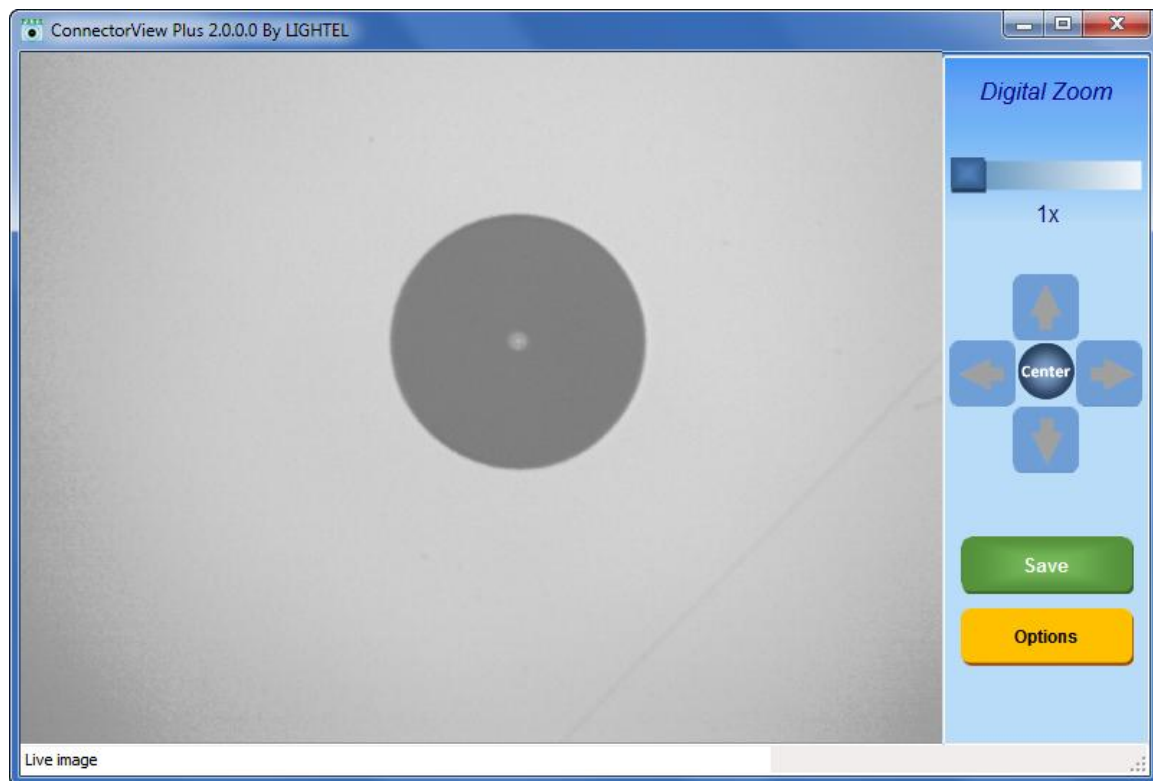
(Slider) – Enlarges or reduces image size. Range is 1x to 3x.

Arrows – Move the zoomed image in the selected direction to improve centering. The arrows are not active at the 1x zoom level.

Center – Moves the image back into the window if zooming has shifted it.
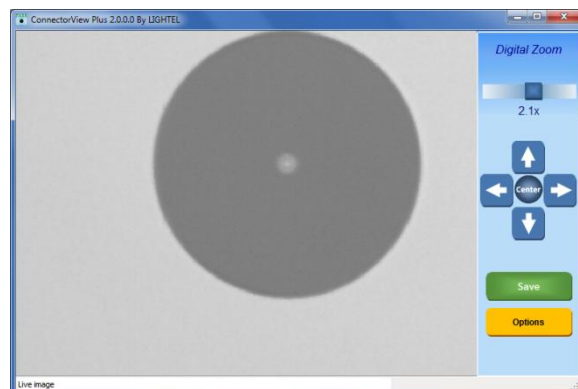
Save – Saves image currently displayed in the window.

Options – Closes Zoom window and returns to Options window.
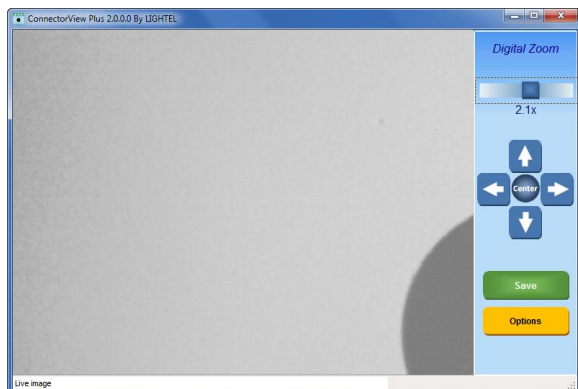
Touch [Center]to return ferrule to the window.

*Use the arrows to complete the centering.*

7. Saving Video Images and Analysis Reports

Ways to save images will differ depending on your selected settings. The DI-1000 and the USB Adapter also have hardware buttons allowing them each an additional way to save the image.

7.1 Saving when "Auto Save" is checked

If the "Zone Rings" checkbox has been selected in Options, or if you are analyzing live images, mouse clicking on the image area, clicking the hardware buttons or hitting the [F12] function key on your keyboard, will cause the image to be saved.

When an image or report is saved, the file name will be displayed in red.
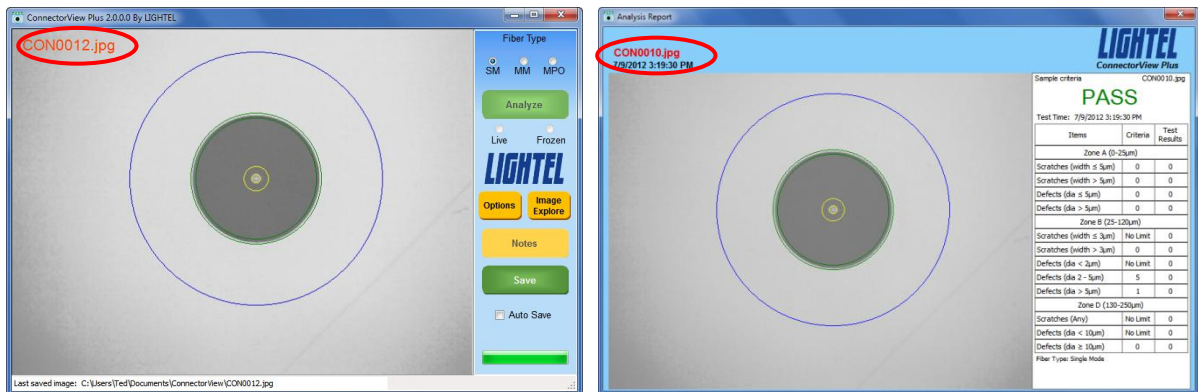
If you are analyzing frozen connectors, mouse clicking on the image area, clicking the hardware buttons or hitting the the [F12] function key will freeze the image. Clicking again will simply return you to live video.

To save a frozen image as an Analysis Report you must click the [Analyze] button or hit the [F10] function key.

Clicking the [Save] button will save the frozen image itself but not the report.

7.2 Saving when "Auto Save" is unchecked

Clicking the [Save] button will save whatever is currently shown in the viewing area.

If you wish to save an Analysis report, place your cursor over the "Pass" or "Fail" in the report. This heading becomes a button. Click on it to save the report. A red file name will be displayed on the report confirming it has been saved.
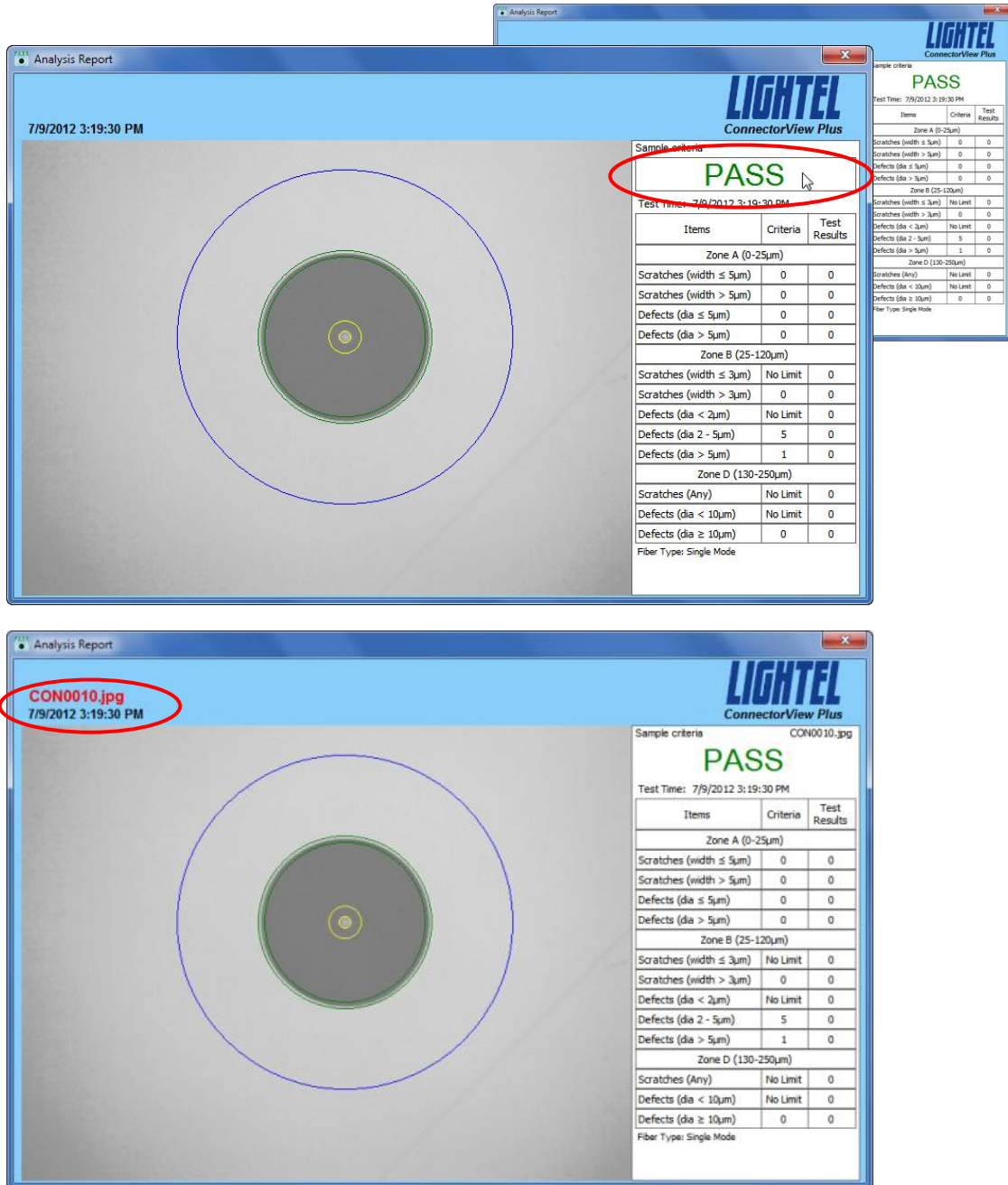
8. Using the Analyze Function

8.1 Understanding the Analysis Report

ConnectorView Plus v2 offers a choice of two Analysis Report formats, Standard and Extended. Both reports have the same image and analysis table layout, but the Extended report provides an additional section for the user to include notes at the bottom of the report.
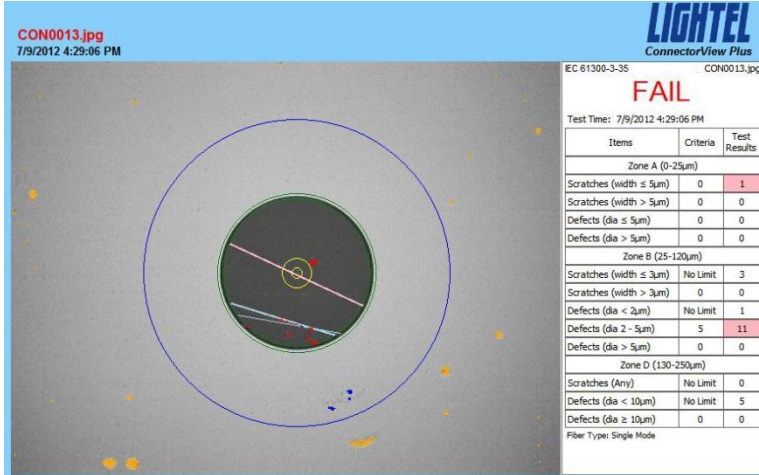
The left portion of the screen is a frozen image of the connector with scratches, contamination, and defects highlighted. The test zones are also indicated on the screen.
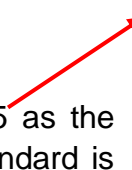
Items highlighted in red and the pink highlighted scratch caused this connector to fail the inspection.

Defects or scratches highlighted in blue are allowed by the inspection criteria.

Orange highlighted items are outside the Contact Zone of the connector and are not tallied. There is no existing standard for scratches, contamination or defects found outside the Contact Zone.

ConnectorView Plus uses IEC 61300-3-35 as the default standard for its analysis. If this standard is used it will be indicated on the report. If you change the Acceptance Criteria your file name for that criteria set will be shown, or "Custom" will be displayed if this is an unnamed temporary standard.

The reasons for the connector's failure are highlighted in red in this table. There was a scratch running through the core (Zone A) where none are permitted, and 11 defects in Zone B when only 5 are permitted by the criteria used. Notice that other scratches and defects were also found, but these were within the criteria limits.
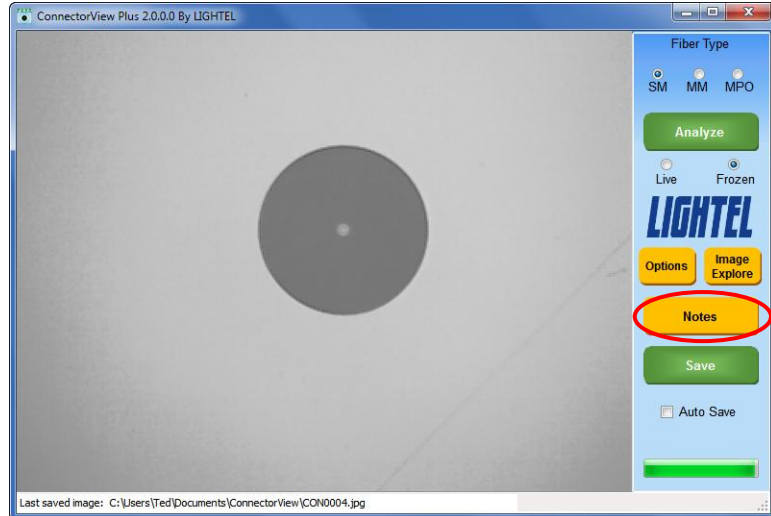
8.2 Extended Analysis Reports

If you have selected Extended Reports in the Options window, the [Notes] button will be active in the Main window.

Click the yellow [Notes] button to open the Notes window.

The information you enter here will appear on your next <u>saved</u> Analysis Report.

If you enter a Filename this name will replace what was selected in Options for this report.

Information in rows with a selected checkbox will remain filled in for additional reports. Information in the other rows will be deleted once the next Analysis Report is saved.

Use the red X in the upper right of the window to close the Notes window. This will also save your information.

You cannot add notes to an aleady saved Analysis Report.

You can use the scrollbar in the report window to look at your information.

If you do not save the Analysis Report all the information you filled in will still be available in Notes for the next saved report.
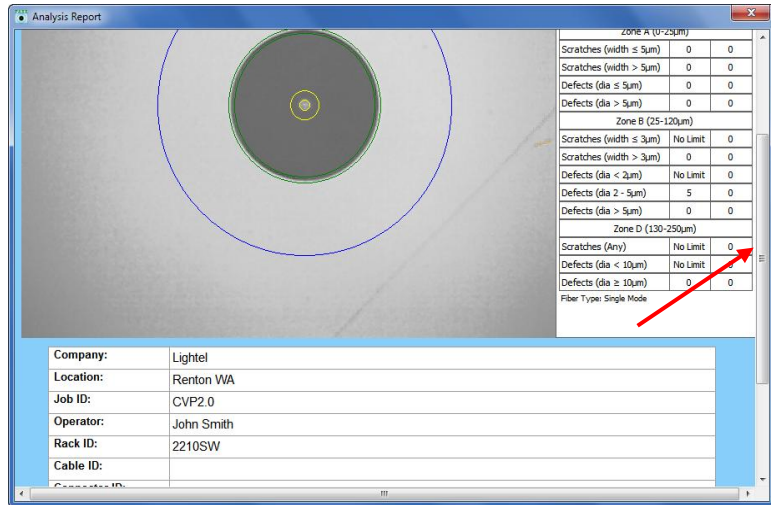
You can use Image Explorer to view the complete report for all saved reports.

8.3 Cleaning Connectors which Pass

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.
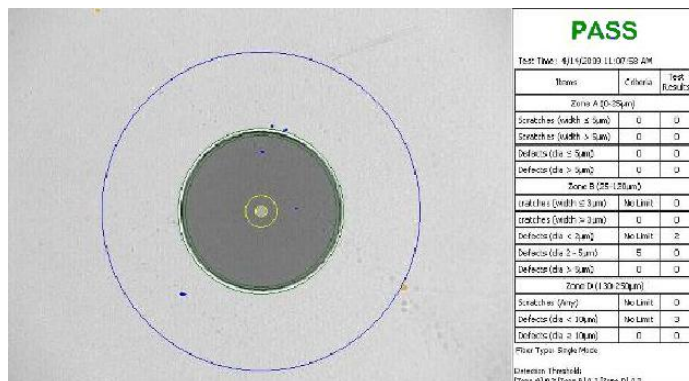
8.4 Analyzing MTP (MPO) Connectors
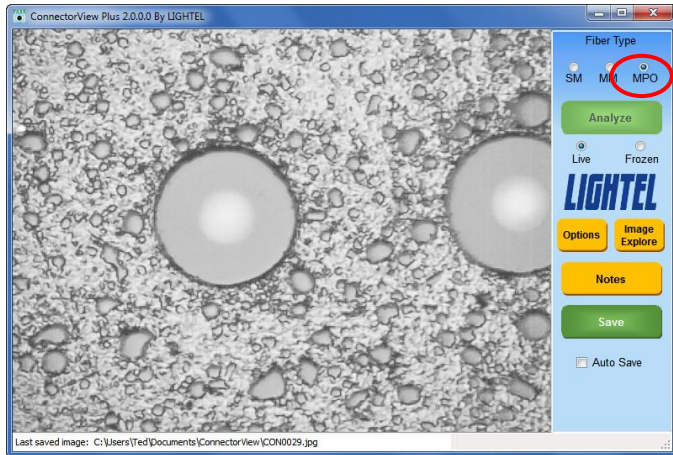
Ribbon connectors (MTP, MPO) must be analyzed one fiber at a time with an individual report for each fiber. Select "MPO" for the Fiber Type in the Main window.

When you change to the MPO setting the Manual Zone adjustment window will open automatically.
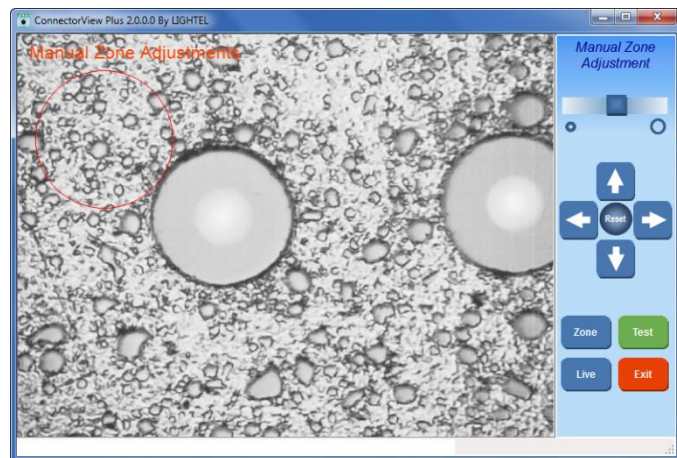
Use your cursor to drag the red target circle into position over the first fiber, then carefully size the circle using the slider.

The red circle should line up with the epoxy ring. Once you have sized the circle correctly, you should be able to use it for all the other fibers without further adjustment.
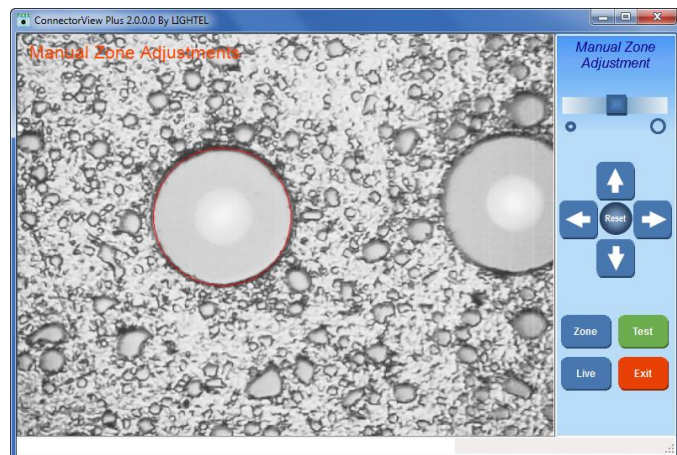
Click the [Zone] button to display the rings and check the exact positioning. Use the arrows to make minor adjustments. All the epoxy should be between the two green lines.

When satisfied with the position, click [Test].

There is no recognized standard for inspecting MPO connectors. The parameters used here are based on Lightel's experience.
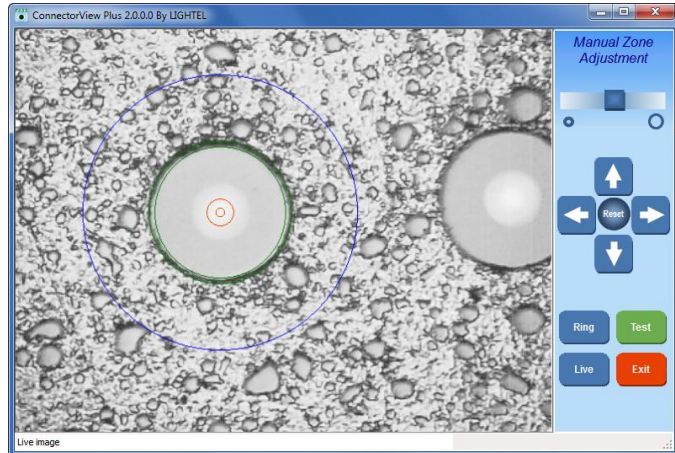
Only the fiber itself is analyzed. (Zone D is not considered so that portion of the table is grayed out.)
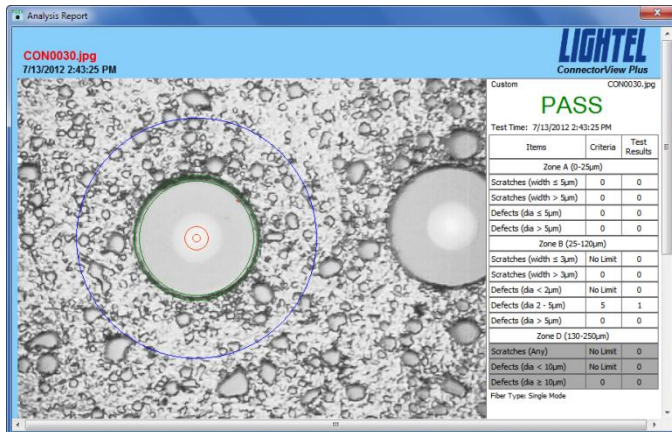
When you are done with the report, close it to return to the Manual Adjustment screen. Click the [Live] button and scan to the next fiber. Refocus if necessary. Then click the [Frozen] button, pull the red target circle into place and repeat the process for that fiber.
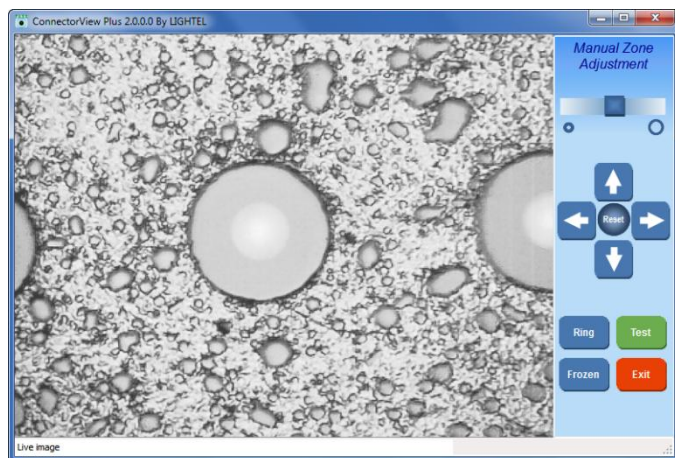
You can continue across the entire connector in this manner. It is important to position the target circle accurately. A misaligned target circle that includes a portion of the epoxy will cause a "Fail" reading.

8.5 The Summary Report

Open the Summary Report by clicking on the [Sum. Report] button in the Options window.

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

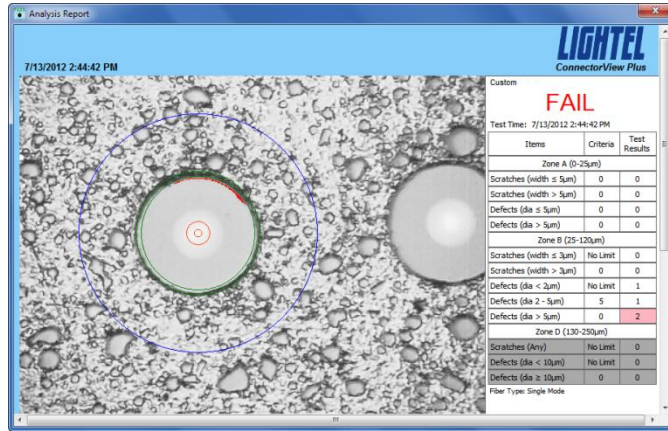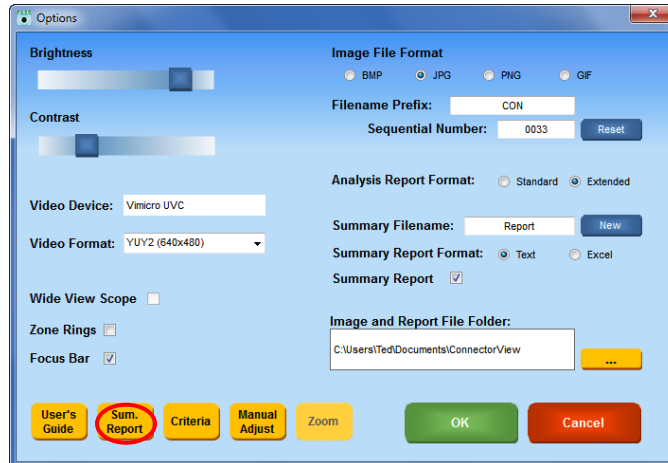Data Fields:
1 - Filename
2 - Test Time
3 - Pass/Fail
4 - Fiber Type (SM-Single Mode, MM-Multimode)
5 - Zone A, Number of Scratches, width<=5um [Criteria] SM:0 MM:No Limit
6 - Zone A, Number of Scratches, width>5um [Criteria] SM:0 MM:0
7 - Zone A, Number of Defects, dia<=5um [Criteria] SM:0 MM:4
8 - 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

Many users may consider the Excel formated Summary Report easier to read. To change from the default textfile setting change the Summary Report Format in the Options window. ConnectorView Plus supports Microsoft Excel 2003, 2007, and 2010.

Filename	Test Time	Pass/Fail	Fiber Type	Zone A Scratches		Zone A Defects		Zone B Scratches		Zone B Defects			ZoneD Scratches	ZoneD Defects	
				Any		Any		width≤3µm	width>3µm	dia<2µm	dia 2-5µm	dia>5µm	Any	dia<10µm	dia≥10µm
	Criteria		SM	0		0		No Limit	0	No Limit	5	0	No Limit	No Limit	0
				width≤5µm	width>5µm	dia≤5µm	dia>5µm	width≤5µm	width>5µm	dia<2µm	dia 2-5µm	dia>5µm	Any	dia<10µm	dia≥10µm
			MM	No Limit	0	4	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

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

9. Troubleshooting

9.1 Computer does not recognize that the Lightel microscope is connected.

After plugging in your device and opening ConnectorView Plus the viewing area is blank and the message at the bottom of the window states "The Lightel video probe is not connected to USB port."
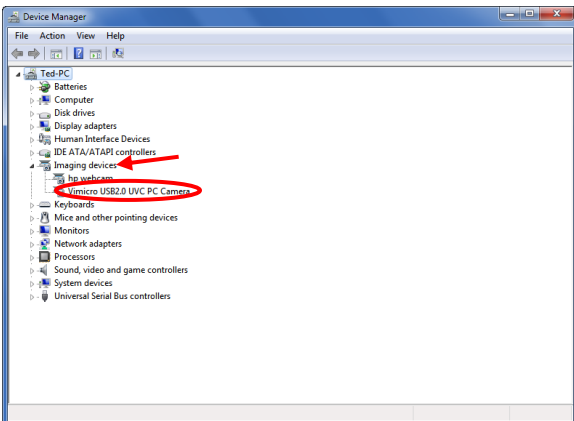
Close the software, disconnect and reconnect your USB device, then reopen the software.

If you still get the same message, retry using a different USB port (if possible) and try to avoid using a hub.

If the problem persists, with the microscope attached, open the PC's Device Manager and verify the computer is recognizing the device correctly. If not, you may need to reinstall the correct driver.
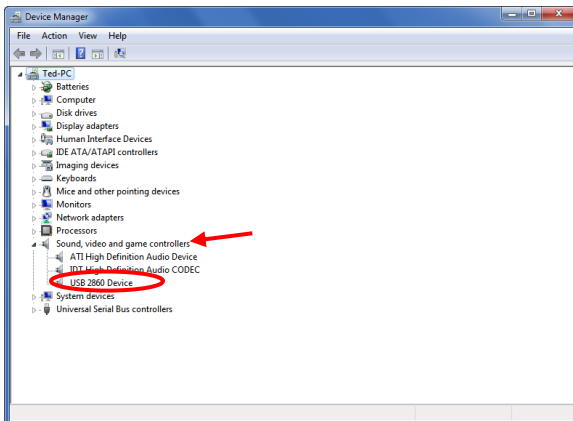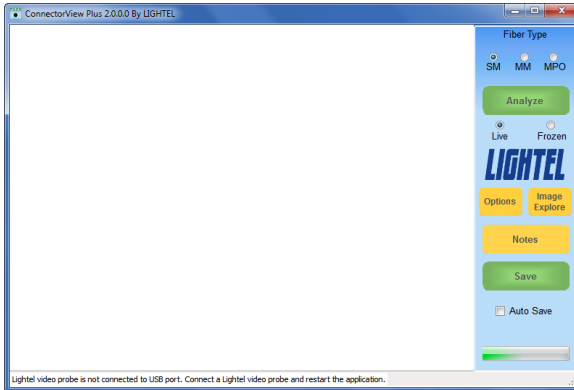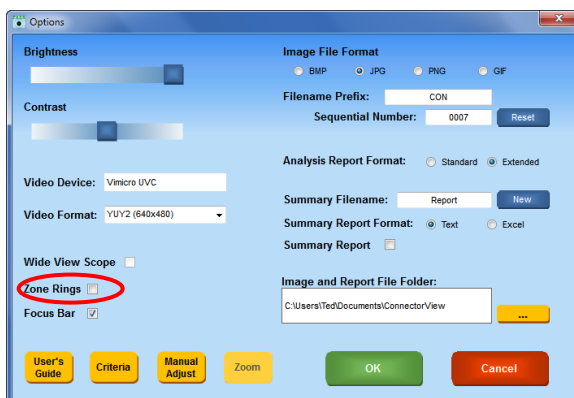
CI and ViewConn driver   *DI-1000 driver*

9.2 Analysis cannot be performed

Go to Options and verify that the [Fiber Zones] box is unchecked. Verify that the dongle is connected and properly attached. Close the software and restart it.

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

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

When you open ConnectorView Plus, some options that should be available are not, or you cannot save viewed images.

After 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."
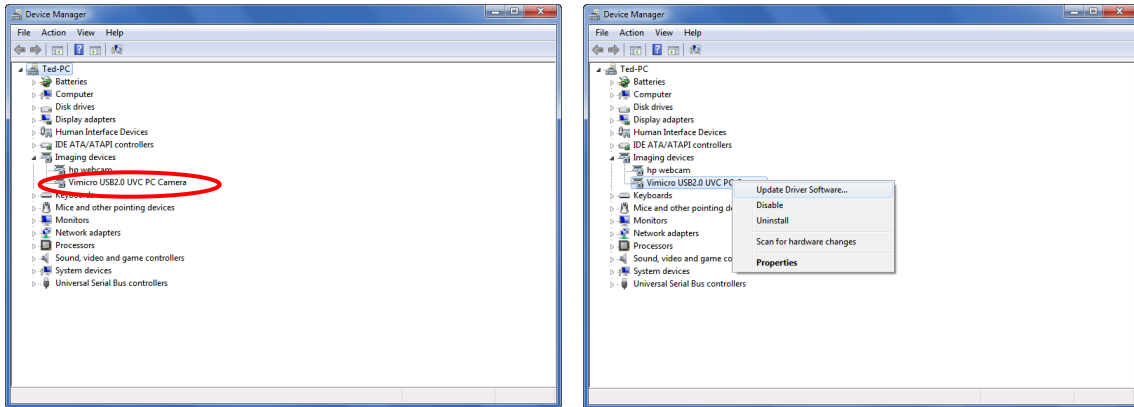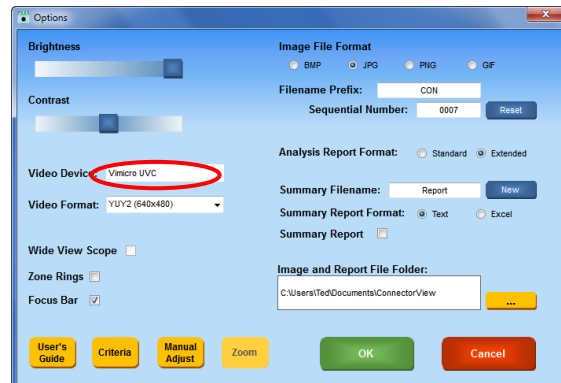

Right clicking the device name, select "Update Driver…" and click it.

Select "No, not this time" and click [Next].   Click the [Next] to finish the driver update.

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

9.4 First time use of the DI-1000, driver troubleshooting. No driver installed.

With your DI-1000 attached to your PC, when you click on the ConnectorView icon, the viewing window is blank and all the buttons are grayed out.
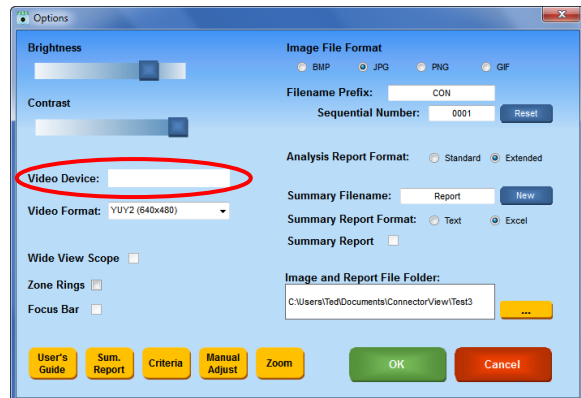
The message at the bottom of the window states that no Lightel probe is attached, even when you have attached your microscope.
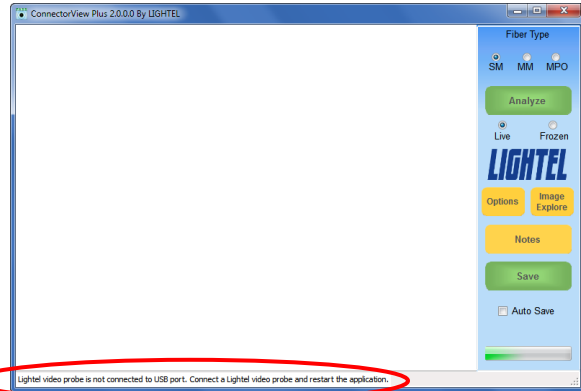
Disconnect the DI-1000 to activate the buttons.
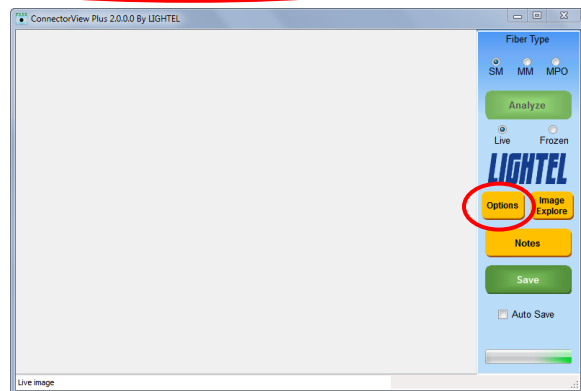
Open the Options window and check the "Video Device" box. If it is blank, the Vimicro driver failed to install. Reinstall the driver following the instructions in Section 1.4 (*page 12*) of this manual.

Once the driver has been successfully installed it will be listed in the Device Manager whenever the DI-1000 is plugged in.

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