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ViewConn® Pro

VC-8200

User's Guide

ConnectorView™ Plus software uses the position of the defects and 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.

LIGHTEL

Specifications

ViewConn

Field of View	~464µm x 348µm
Resolution	0.5 µm detectable
Optical Sensor	CMOS
Light Source	Blue LED
LCD Display	5” LCD color touchscreen
Power Supply	Li-Ion internally rechargeable battery or 12V DC adapter Adjustable automatic power saving Low battery indicator
Battery	Li-Ion, 7.4V, 3700mAh
Battery Life	≥3 hours (continuous)
Electrical Ports	DC adapter plug port 1 USB2.0 port
Dimensions (including ruggedized cover)	186mm (H) x 218mm (W) x 44mm (D)
Weight (including battery and ruggedized cover)	1.4kg
Storage	8GB SSD
Memory	1GB
Processor	Atom Z530
Internet Connection	Wi-Fi

Probe

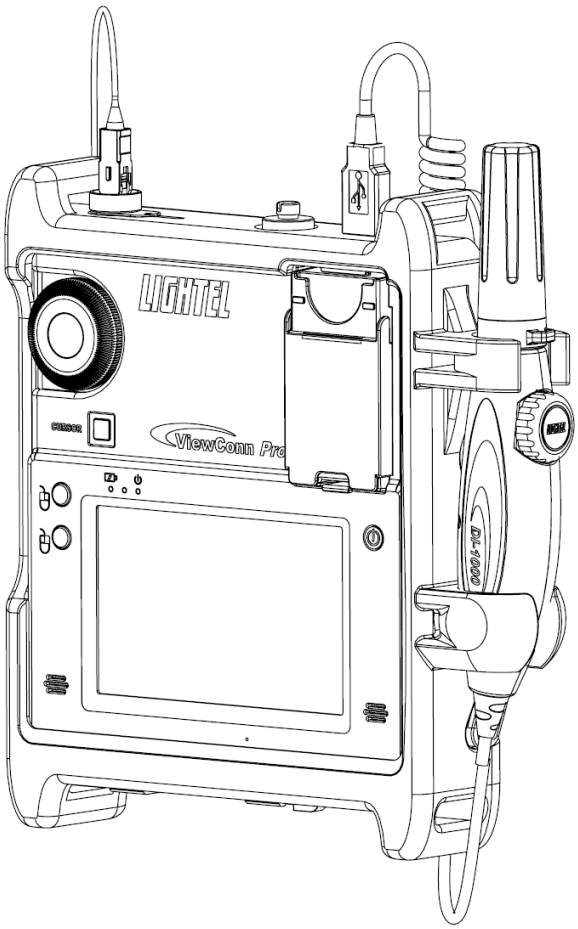
Field of View	~660µm x 495µm
Resolution	0.5 µm detectable
Optical Sensor	CMOS
Light Source	Blue LED
Power Supply	USB2.0 connection with ViewConn
Output	USB2.0 plug
Dimensions	35mm ø x 175mm (without cap)

Software (pre-loaded)

Operating System	Windows XP®
ConnectorView™ Plus	Pass/Fail Analysis Full screen, touchscreen operation
Analysis Time	~4 seconds (average)

ViewConn® Pro

VC-8200



Package Contents

(1) ViewConn Pro touchscreen device with a CleanConn (CC-1 cleaner module) mounted
(1) DI-1000L digital probe
(1) ConnectorView Plus (TS) Pass/Fail software (installed)
(1) VC62-2.5/PC universal PC tip for male connectors
(1) VC62-1.25/PC universal PC tip for male connectors
(1) PT2-FS/PC/F PC tip for FC and SC female connectors
(1) PT2-LC/PC/F PC tip for LC female connectors
(1) PT2-TIPBOX2
(1) AC battery charger/adapter
(1) Li-ion battery (installed)
(1) Ruggedized cover
(1) Neck strap
(1) Wrist strap
(1) Spare CC-1 module
(1) User's manual
(1) Carrying case

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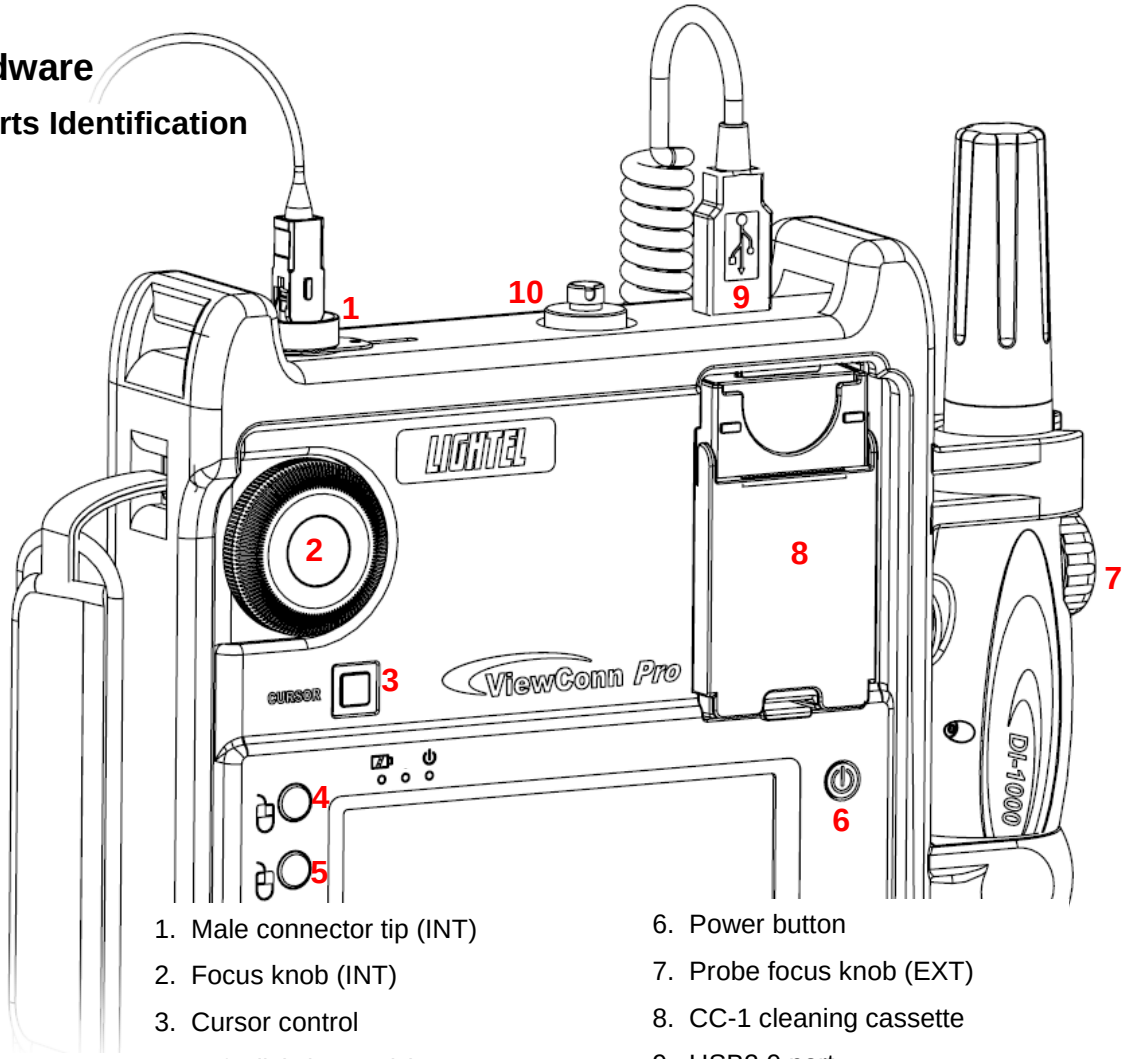
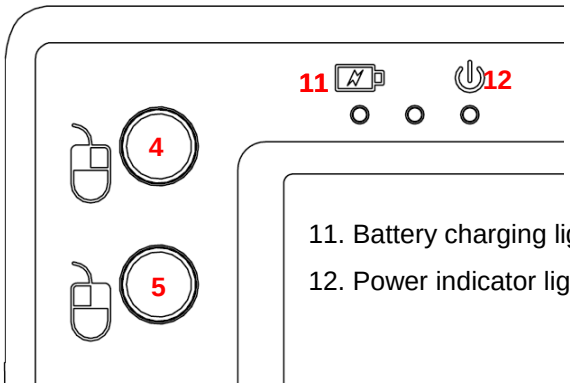
Hardware

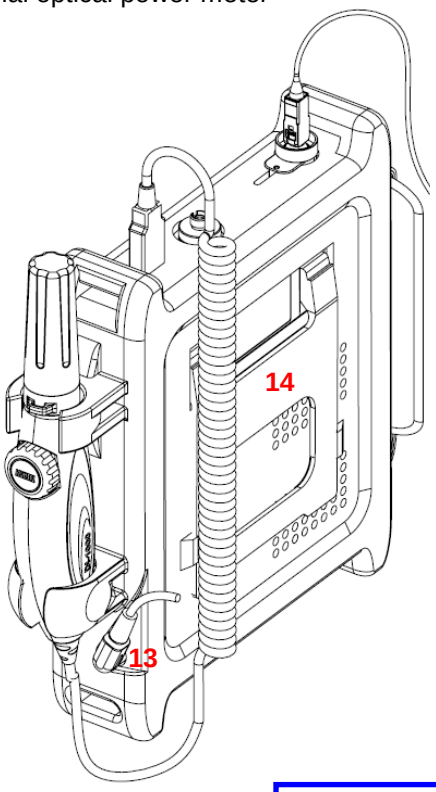
Parts Identification



1. Male connector tip (INT)
2. Focus knob (INT)
3. Cursor control
4. Left click (mouse) button
5. Right click (mouse) button
6. Power button
7. Probe focus knob (EXT)
8. CC-1 cleaning cassette
9. USB2.0 port
10. Optional optical power meter



11. Battery charging light
12. Power indicator light



13. AC power input
14. Fold-out stand

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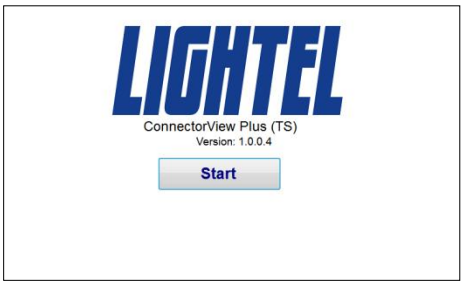
Turning on ViewConn Pro

Press and hold for 2 seconds the red power button to turn on ViewConn Pro.



The blue light on the right (the power indicator light) will be continuously on when the unit is turned on and active.

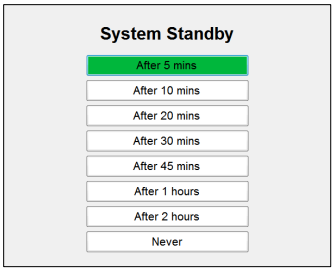
When the “Lightel” screen appears touch [Start] to open the ConnectorView Pro software.

ViewConn Pro is powered by its internal Li-ion battery or by the included AC charger/adapter. Whenever the AC charger/adapter is in use, the battery will automatically begin to recharge.

The red light on the left (the battery indicator light) will be on whenever the battery is charging or ViewConn Pro is running on AC power. It will turn off if the battery is fully charged and ViewConn Pro is shut off, even when the unit is plugged in. When the red and blue lights are both on, the unit is turned on, running on AC power and recharging.

Power saving (Standby)

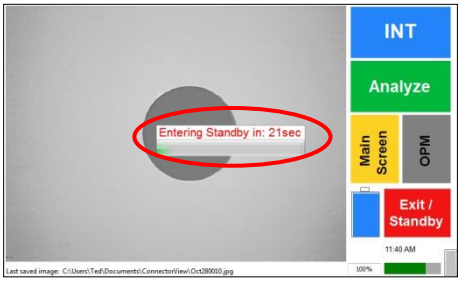
By default, when using battery power ViewConn Pro will go into Standby after 5 minutes. When using AC power ViewConn Pro will remain on until manually shut down or manually put into Standby.



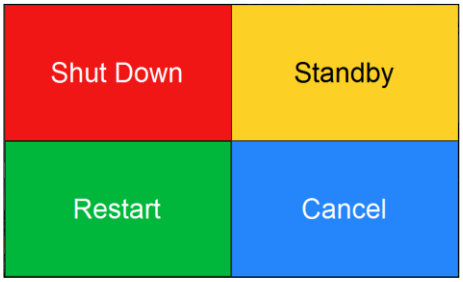
Power saving settings can be accessed through the Power Saving button on the Tools Screen. Use the drop-down menu to change the Standby setting.

When using battery power, it is recommended that you allow ViewConn Pro to go into Standby when temporarily not in use. Standby will save significant battery power and still enable a very rapid restart. There may be no need to shut off ViewConn Pro during a workday.

When there is less than one minute left before ViewConn Pro goes into Standby, a warning window will appear and the remaining seconds will be counted down. Any active use of ViewConn Pro will end the countdown.



To manually place in ViewConn Pro in Standby touch the red [Exit] button on the Main Screen or Quick View Screen, then the yellow [Standby] button on the Closing Screen.



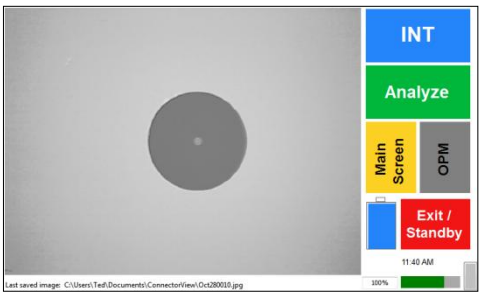
When in Standby, the right blue light will blink continuously. ViewConn Pro can be recharged while in Standby.

To restart from Standby press and hold the red power button for two seconds.

Inspecting Connectors

Male Connectors

When ViewConn Pro is turned on, the internal camera turns on and the touchscreen displays the image from the ViewConn tip (INT). This tip is used for inspecting male connectors (patchcords and jumpers).



Once you have the proper tip in place for the connector type, place the connector into the tip. Use the large black knob to focus the image. If you are unable to focus the image, verify that the tip is fully screwed in and the connector is properly seated in the tip.

When inspecting APC type connectors (green color connector), make sure to use an APC adapter tip. ViewConn APC tips have a brass center to easily distinguish them from PC tips.

The key on the APC connector should be aligned so that it faces the front of ViewConn. Check the display to verify the connector is properly aligned.

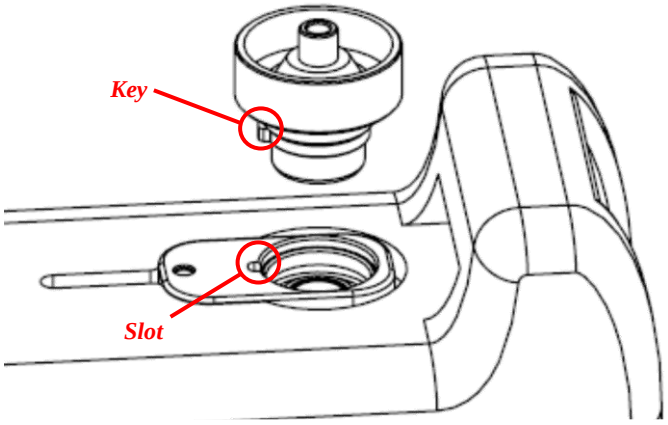
Improper alignment of an APC connector on the adapting tip will cause the image to be extremely dark or have shadows.

Changing ViewConn Tips

All ViewConn tips are intended for use strictly with male connectors. Most ViewConn tips are universal tips, either PC or APC, for all connectors with the same ferrule size.

To install a ViewConn tip, align the tip's key with the slot in the tip receptacle and seat it. Once seated screw the tip in clockwise until tight.

To remove a ViewConn tip, unscrew it counterwise and lift out.



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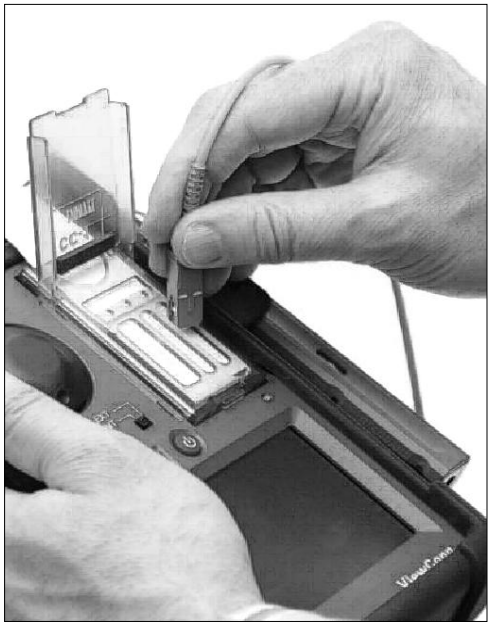


Cleaning Male Connectors

Once you have inspected the fiber, if you need to clean it, open the cover of the CC-1 cleaning cassette, and, using moderate pressure swipe the connector ferrule from the top down on a clean section of the CC-1 cassette. Do not scrub the connector back and forth and do not reuse a section of cleaner. Reinsert the connector in the tip to verify that it is now clean.

To avoid cross-contamination, make sure that the mated connector is also clean, before installing or reinstalling.

Changing Cleaning Sheets

When you have used all three slots on a CC-1 cleaning sheet, pull the sheet out to advance it to the next sheet. The cassette cover must be open to advance the sheet. If you wish to tear off a sheet or sheets, first close the cover. (A quick twisting motion works best to tear off the sheets.)

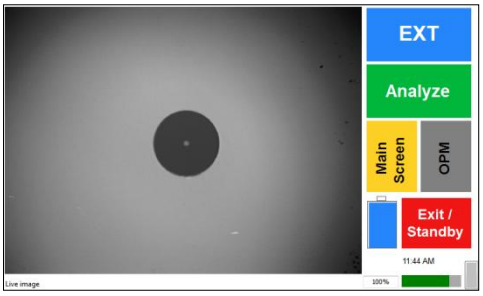
CC-1 Cleaning Cassette

To install the CC-1 cleaning cassette, place the tab at the to of the CC-1 in the slot at the top of the cassette holder. Then push the cassette in the space until it clicks into place.

If you wish to remove the cassette, push up on the small blue plastic tab at the base of the cassette and lift the cassette out.

Female Connectors

The digital probe is used to inspect female connectors (in-adapter connectors – patch panels and bulkheads). *The probe should be attached through the USB port, before the ConnectorView software is started. If it is not, the software must be restarted before the probe can be used.*



To inspect connectors using the probe, touch the INT portion of the touchscreen. The view will shift to EXT and connectors can now be inspected with the probe. The probe uses a wide-view setting to allow the connector to be more easily located.

With the correct tip installed for the connector type, place the tip of the probe into the adapter and use the focus knob on the probe to focus the image. If you are unable to focus, you may not have the probe tip fully inserted. Make sure it seats fully, and refocus.

When inspecting APC type connectors (green color connector), make sure to use an APC adapter tip. There is a mark on each tip that should match up to the key in the adapter, for proper alignment.

Touching the EXT portion of the touchscreen, will return the screen view to the internal ViewConn camera.

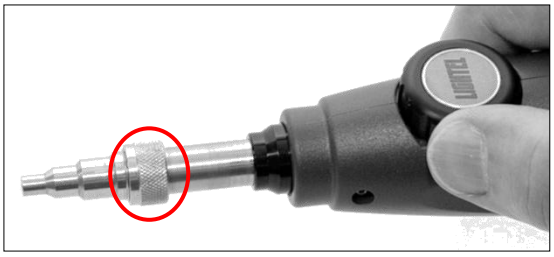
Changing Probe Tips

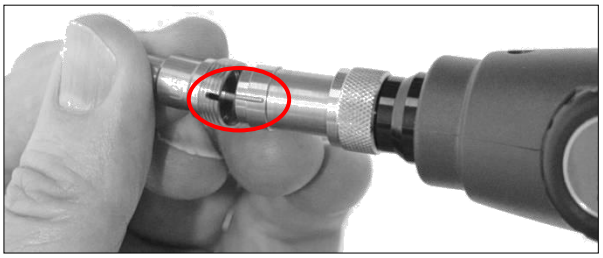
Most probe tips are for female connectors. (Universal male tips are available for the probe for special applications.) Female tips are specific to the type of connector being inspected.

Probe tips are available in a variety of styles for specialty applications including 60° angled tips and extended tips. *(Visit the Series 2 Tips page on the Lightel website www.lightel.com for a list of all current probe tips.)*

Probe tips are held in place with a locknut.

Holding the probe, turn the lock nut counter-clockwise to loosen it fully, and then remove the tip.





All tips have a slot and fit into the key at the top of the probe. Slide the new tip in place and slip the lock nut over the tip. Tighten the nut snugly – if the tip is loose, it may not focus properly.

Software

Most buttons on the touchscreen are color coded.

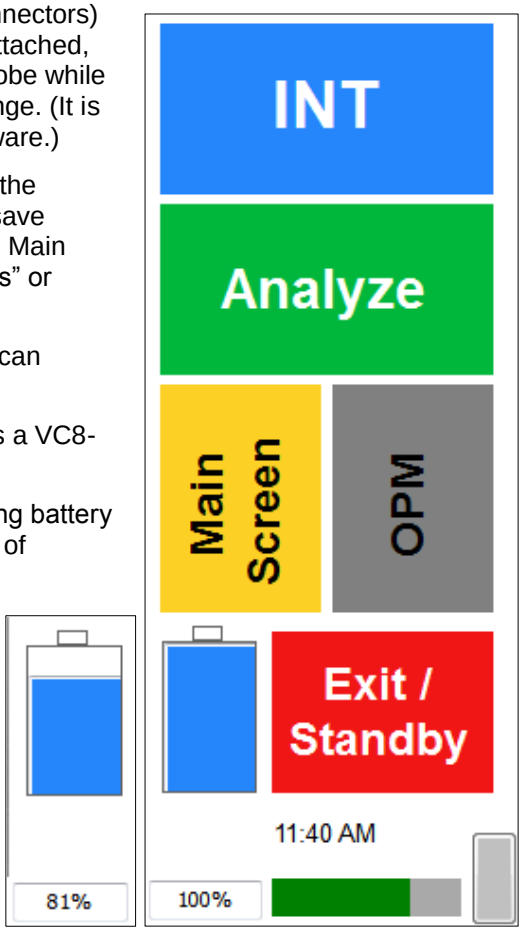
- Blue – Choice is active
- Gray – Choice is not active
- Gold – Opens or switches to a new window
- Red – Exit

Primary Screens

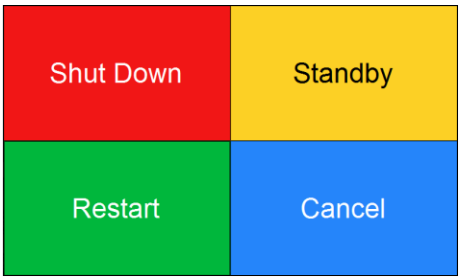
Quick View Screen

The Quick View Screen is the default opening screen. It has all the controls you need to view, analyze and save connector test results. *Only Analysis Reports can be saved from the Quick View Screen.*

INT/EXT – Shifts the view between ViewConn (male connectors) and the probe (female connectors). If the probe is not attached, only the INT will be active. If you attach or detach the probe while in use, you must restart the software to activate the change. (It is not necessary to restart ViewConn, only restart the software.)



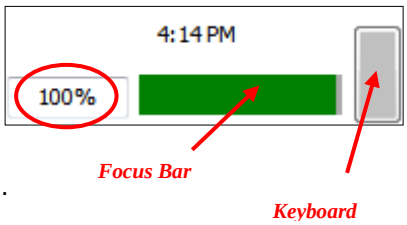
- **Analyze** – Analyzes and displays an Analysis Report of the connector currently displayed. The report can be set to save automatically by activating the [Auto Save] button on the Main Screen, or can be manually saved, by touching the "Pass" or "Fail" portion of the Report.
- **Main Screen** – Opens the Main Screen from which you can access additional controls, settings and features.
- **OPM –** Switches to power meter mode. (Disabled unless a VC8-OPM or VC8-OPM-H is installed.)
- **Power graphic –** States "AC Power" if connected. If using battery the amount of blue color displayed indicates the amount of battery power remaining.
- **Exit / Standby –** Exits ConnectorView Plus software to screen with 4 buttons:
  - **Shut Down –** Shuts off ViewConn Pro.
  - **Standby –** Places ViewConn Pro in Standby mode.
  - **Restart –** Restarts ConnectorView Plus software. (Does not restart ViewConn Pro.)
  - **Cancel –** Returns to the previous screen without restarting the software.



Clock – Displays the current time.

Battery Indicator – Displays the percentage of the charge remaining.

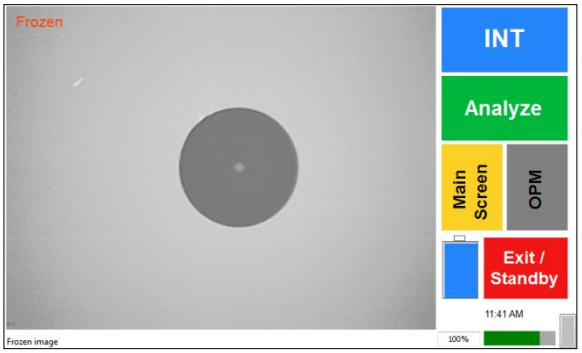
Focus Bar – Helps provide a guide for focusing when viewing the image onscreen is difficult. The more green shown the better the focus. Poorly focused images cannot be analyzed.



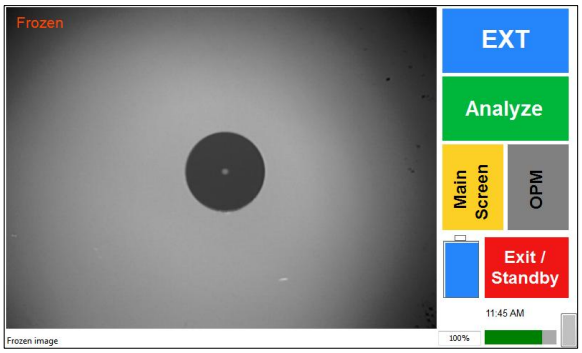
Windows Keyboard – Opens the Windows On Screen Keyboard.

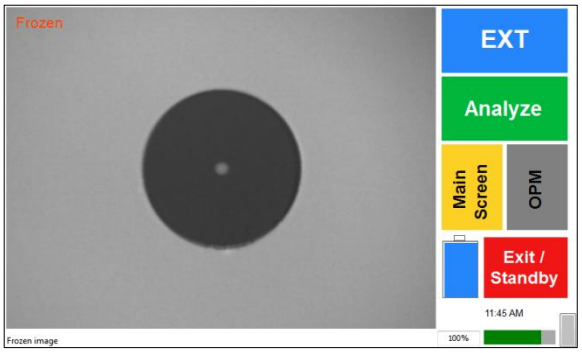
Video window – The left side of the screen displays the connector. Touching this portion of the screen will freeze the image.

When using **INT** setting, touching this portion again returns the screen to live video.



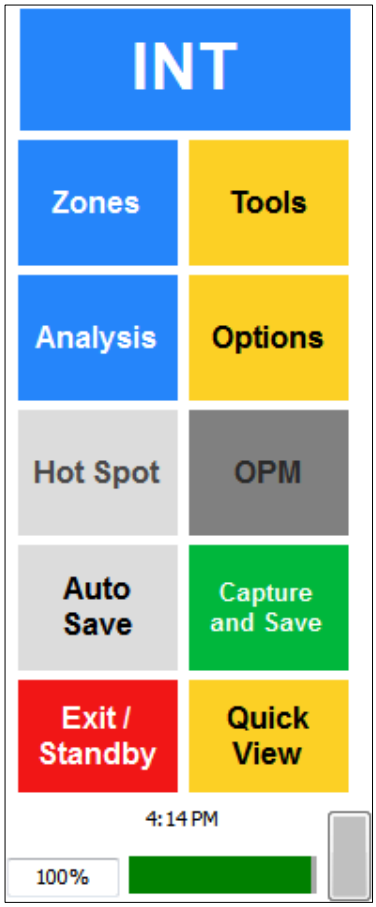
When using **EXT** setting, touch a second time to enlarge the frozen image. Touch this image again to returns the screen to live video.





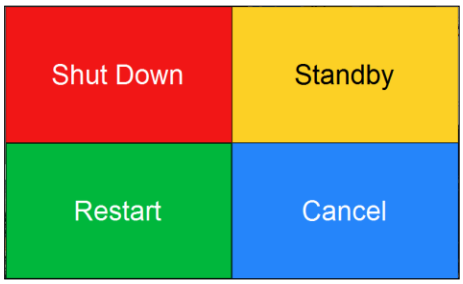
Main Screen

The Main Screen serves as the gateway to all other screens for ViewConn Pro. It also has all the controls you need to view, analyze and save connector images and test results. Either the Quick View Screen or the Main Screen can be set as your default opening screen.



INT/EXT – Shifts the view between ViewConn (male connectors) and the probe (female connectors). If the probe is not attached, only the INT will be active. If you attach or detach the probe while in use, you must restart the software to activate the change. (It is not necessary to restart ViewConn, only restart the software.)

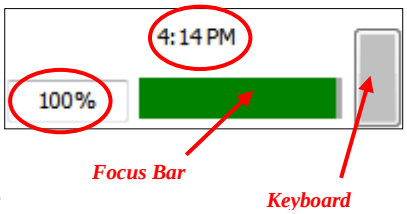
- **Zones** – Activates the cleaning zone/ rings feature when a connector image is frozen.
- **Tools –** Switches screen to the Tools Screen.
- **Analysis** – Activates the Pass/Fail analysis feature. (This choice automatically activates the [Zones] button.
- **Options –** Switches screen to the Options Screen.
- **Hot Spot –** Only for use with the EXT setting (probe). If software is having difficulty locating the connector, activate this control and touch the screen where the connector is located. The software will focus on this region. It is suggested that you deactivate this button when not needed, or inadvertant screen touches may misdirect the software.
- **OPM –** Switches to power meter mode. (Disabled unless a VC8-OPM or VC8-OPM-H is installed.)
- **Auto-Save –** Automatically captures and saves each time an image is frozen. If Analysis button is active, it will save the Analysis Report. Auto-Save button here is the control for both the Main Screen and the Quick View Screen.
- **Capture and Save –**Saves the connector image based on whatever is showing on the screen at that time. Touch the image portion of the screen to return to live video.
- **Exit / Standby –** Exits ConnectorView Plus software to screen with 4 buttons:
    - **Shut Down –** Shuts off ViewConn Pro.
    - **Standby –** Places ViewConn Pro in Standby mode.
    - **Restart –** Restarts ConnectorView Plus software. (Does not restart ViewConn Pro.)
    - **Cancel –** Returns to the previous without restarting the software.



- **Quick View –** Opens the Quick View screen.

Clock – Displays the current time.

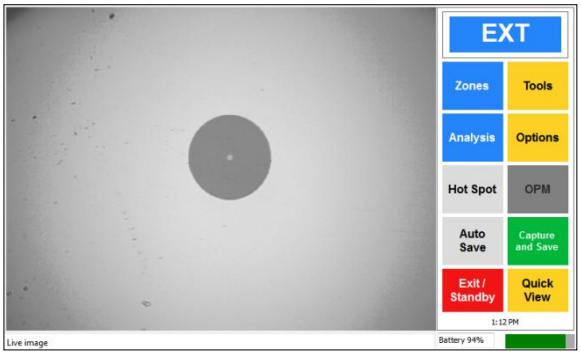
Battery Indicator – Displays the percentage of the charge remaining.



Focus Bar – Helps provide a guide for focusing when viewing the image onscreen is difficult. The more green shown the better the focus. Poorly focused images cannot be analyzed.

Windows Keyboard – Opens the Windows On Screen Keyboard.

Video window – The left side of the screen displays the connector. Touching this portion of the screen will freeze the image and initiate the settings you have selected. Touching this portion again returns the screen to live video.



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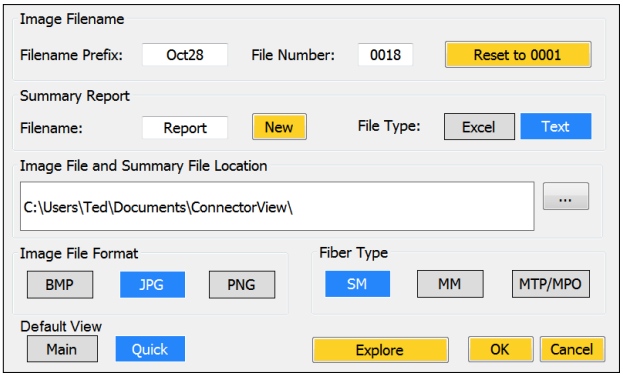
Options Screen



The Options Screen is where you enter the settings you wish to use for your saved images and reports. It is also where you set the type of fiber (single mode, multimode or ribbon) you will be inspecting.

When you touch a textbox, the textbox will be highlighted and the ViewConn Pro keyboard will open allowing you to type in information in the box.

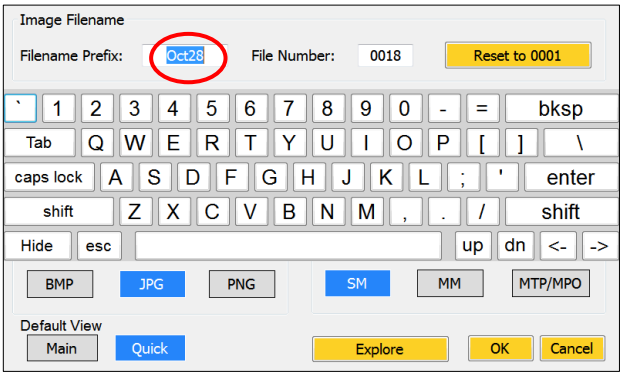


Image Filename – This will be the name assigned to your image captures and Analysis Reports.

Filename Prefix – You can type in a name of any length using any combination of letters, numbers and symbols for your filename prefix.

File Number – The default starting number is 0001. You can type in a different 4-digit number if you wish. Files will automatically be numbered sequentially from the starting number.

Summary Report – The information from each Analysis Report is listed in the Summary Report. You can name the report. If you do not enter a name, the date/time is used for the report name whenever a new report is started. Reports are in a Text file by default. If Excel is available on your unit, you can select the Excel format for your Summary Reports.

Image File and Summary Report Location – A "ConnectorView" folder is created in the My Documents folder as the default location for your files. You can choose a different location by touching the […] button and selecting a different existing folder. Also opens the Windows On Screen Keyboard.

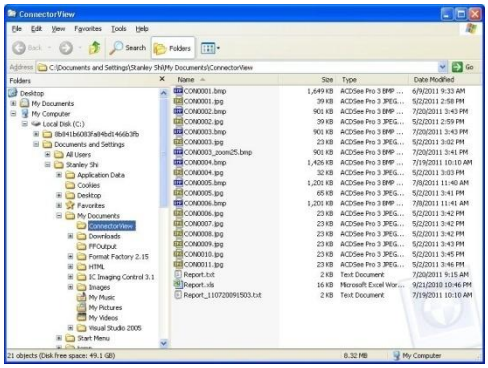
To create and name new folders see the Appendix Creating New Folders.

Image File Format – BPM, JPG, and PNG are the available image formats. Only one can be selected at a time. The default format is JPG, which creates the smallest size files.

Fiber Type – SM (single mode), MM (multimode), and MTP/MPO are the three available fiber types. Only one can be selected at a time. The default type is SM.

Default View – Selects your default opening screen for ViewConn Pro.

Explore – Opens the folder where you are currently storing your images and reports. Also opens the Windows Keyboard. For additional details see the Appendix Creating New Folders.

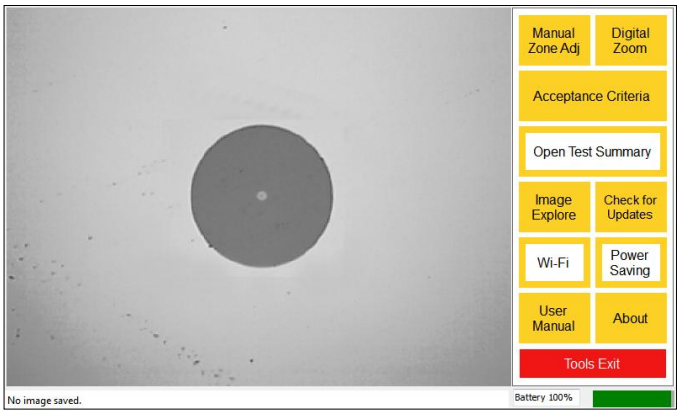


OK – Returns you to the Main Screen and applies any changes you have made.

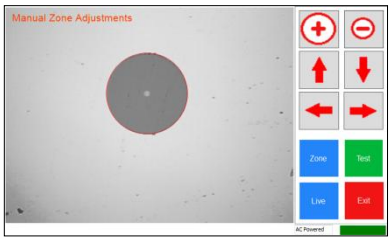
Cancel – Returns you to the Main Screen without applying any changes.

Tools Screen

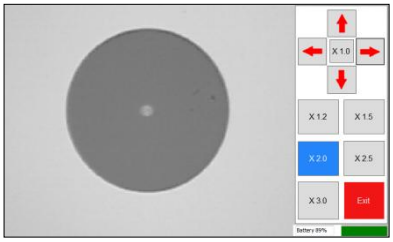
The Tools Screen contains buttons to open windows which will need to be accessed less frequently.



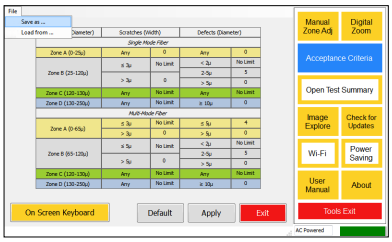
Manual Zone Adj – Opens window to allow you to manual identify the ferrule if ConnectorView Plus cannot correctly locate it. For additional details see the Appendix Manual Zone Adj.



Digital Zoom – Opens window to allow you to digitally enlarge and center the image. Select the zoom size desired and select that button. The arrows con be used to center the image. You cannot save or analyze a zoomed image.



Acceptance Criteria – Opens window to allow you to change the quantities of scratches or defects which cause a "Fail" rating. The changes will be displayed on any new Analysis Reports. ConnectorView Plus uses IEC 61300-3-35 as the default standard. For additional details see the Appendix Acceptance Criteria.



Open Test Summary – Opens window to display the Summary Report.

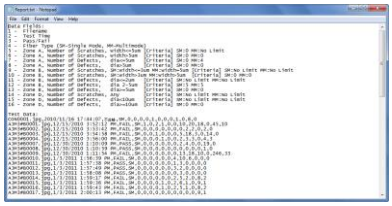


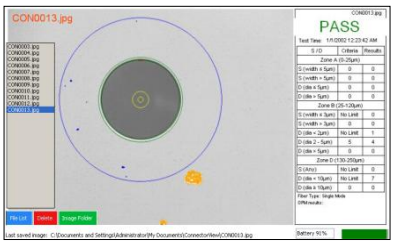
Image Explore – Opens the Image Explore window, so you can view any image in your current image storage folder.

[File List] opens and closes the image list for the folder selected.

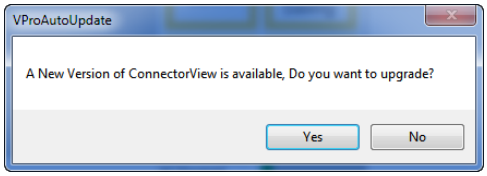
[Delete] permanently deletes the image.

[Image Folder] displays the existing folders, so you can explore additional storage folders if you wish

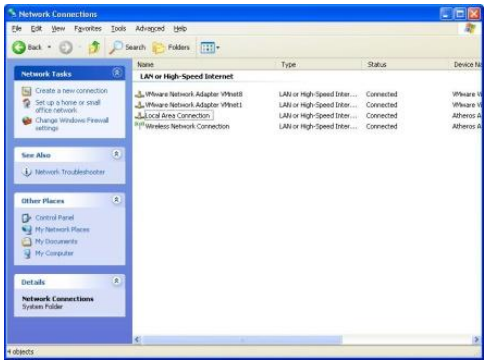
To close Image Explore, touch the image portion of the screen.



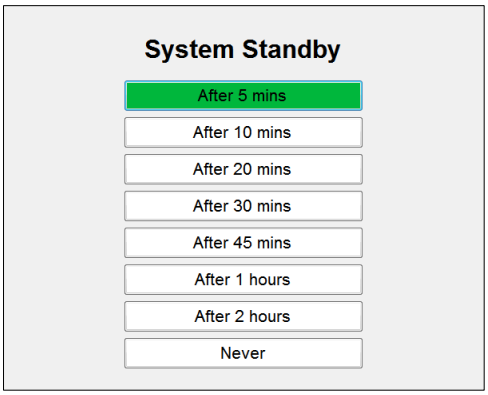
Check for Updates – If you are currently connected to the Internet, you can check for ConnectorView Plus updates. If there is a newer version, you will be asked if you want to install the update. ***You must be signed on as the Administrator to install any update.*** When you click [Yes] the update will download and install automatically. ConnectorView Plus will then restart.



Wi-Fi – Opens the Network Connections window so you can create a Wi-Fi connection. For additional details see the Appendix Wi-Fi.



Power Saving – Opens the Power Saving window so you can set the automatic Standby time using the drop down menu.



User Manual – Opens a pdf version of this User's Manual.

About – Opens a window showing the ConnectorView Plus version information.

Tools Exit – Closes the Tools Screen and returns you to the Main Screen.

Viewing and Saving Images and Analysis Reports

If you intend to use the probe, it should be attached through the USB port, before the ConnectorView software is started. If it is not, the software must be restarted before the probe can be used.

Once you have set up ViewConn Pro, the settings will remain in place even when ViewConn Pro is shut off. You can update or change your settings at any time.

Options Setup

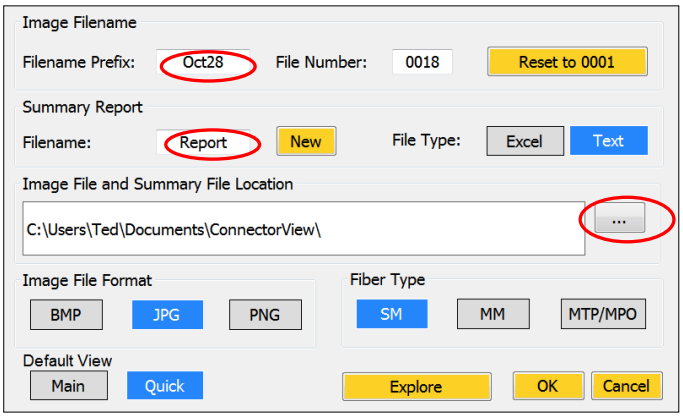
Touch the [Options] button on the Main Screen to open the Options Screen. If you do not want to use the existing Filename, touch the Filename prefix textbox to highlight the letters. The ViewConn Pro keyboard will open automatically. Type in the filename prefix you wish to useThe prefix can be of any length and combination of letters, symbols, and numbers. This prefix and a sequential 4 digit number will be the name for your stored image or analysis report.

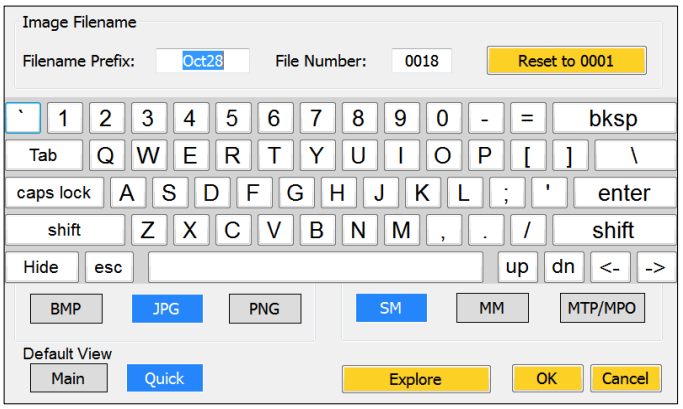
The Report name can be changed in a similar fashion. Summary Reports continue until a new report is started or the Analysis Criteria are changed. If you have not named the Report, the Report will be saved using the date and time when that Report ends and a new Report starts.

Touch the […] button next to the Image File and Summary File Location textbox to change the location to a different folder.* If you expect to be using several different folders, it may be easier to plug in a USB keyboard to do your typing.

Select the correct fiber type you will be inspecting.

Then touch [OK] to return to the Main Screen.



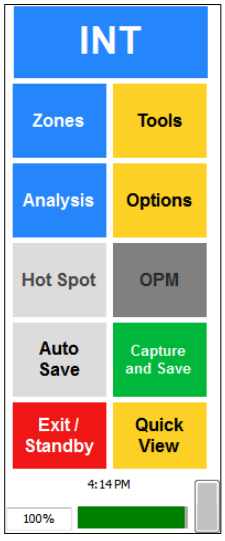


Main Screen Setup

Select [INT] – ViewConn or [EXT] – probe. If the "INT" letters are black, the probe is not properly connected and only [INT] will be available. With the exception of [Hot Spot] (active only in [EXT]), selecting settings in either [INT] or [EXT] changes the settings for both.

Determine if you want to view frozen images only – [Zones] and [Analysis] gray (off), Zones only – [Zones] blue and [Analysis] gray or Analysis – [Zones] and [Analysis] blue. Default is Analysis.

Select [Auto Save] if you wish to save every capture. Auto-Save selects this choice for both the Main Screen and the Quick View Screen.

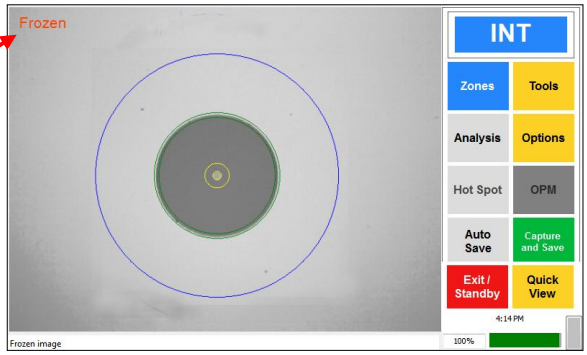


* *When you touch* [Explore] *or touch* […] *you will be operating in Windows rather than in ConnectorView Plus. Only the default Windows On Screen Keyboard is available while in Windows.*

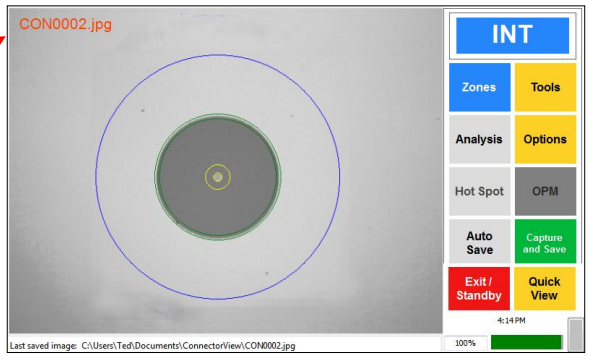
Capturing and Saving Zones Images from the Main Screen

If you are not using AutoSave, you can save Zones images in this way.

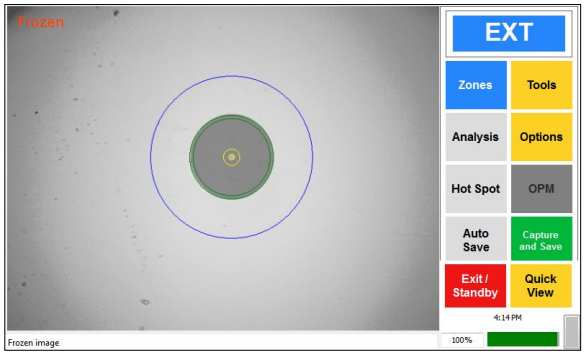
Select [Zones] and touch the video portion of the screen to freeze the image. Or using the hardware controls on ViewConn, move the cursor into the video portion and press the left click (mouse) button. The screen will display a frozen image with the Zones overlayed. The black button on the underside of the probe, can also be used to do this in either [EXT] or [INT] views.

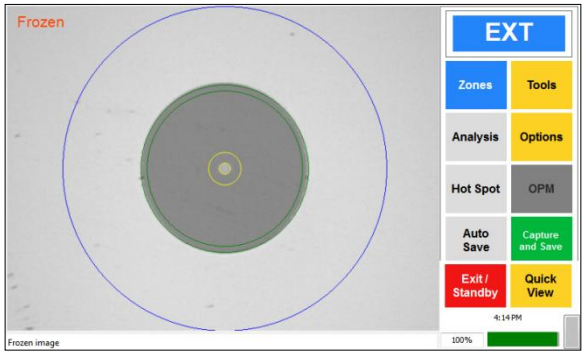


Then touch the [Capture and Save] button. The filename will be displayed in red on the screen when the file has been saved. (The red name is not displayed on the saved image.) Touch the screen again to return to the live view.



When you use the Zones setting in the EXT view, the screen will initially freeze in the wide-view setting. Touching the screen again will switch to the auto-centered view. Either of these views can be captured using the [Capture and Save] button. Touch the screen again to return to the live view.



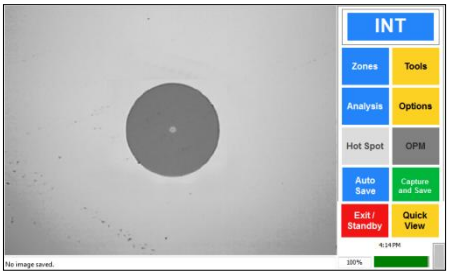


Images can also be captured in the same fashion without either [Zones] or [Analysis] selected.

These image captures are not available from the Quick View Screen.

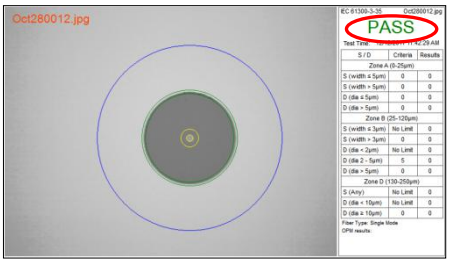
Analyzing Connectors

Main Screen



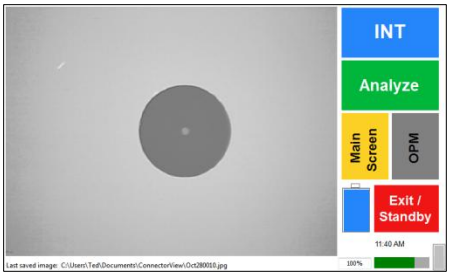
Touch the [Analysis] button to activate this feature. Button will be blue when active. Select the [Auto Save] setting, or you can choose to manually save individual Analysis Reports. [Auto Save] should be gray if you want to save manually.

Once you have a connector image focused on the screen, touch the Live video portion of the screen, or move the cursor into that section of the screen and press the left click button. The word “Wait” will appear briefly in red in the upper left corner of the screen, and then the Analysis Report will be displayed on the full screen.



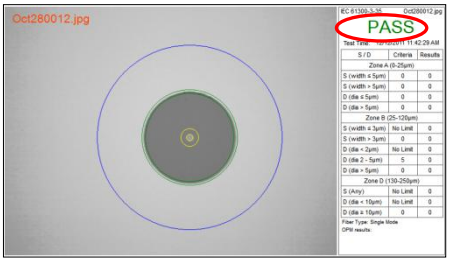
If there is a red number in the upper left corner, the report has already been saved. If there is no number, and you wish to save the report, touch the portion of the report which says “Pass” or “Fail”. This will save the report and a red file name should now appear in the upper left corner. To return to the live video, touch (or left click) on the connector image portion of the report.

Quick View Screen



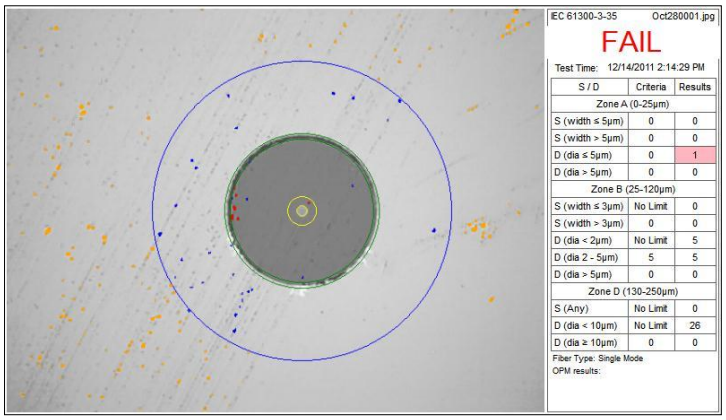
In the Main Screen select the [Auto Save] button if you want all Analysis Reports to be saved. If you choose to individually save the Analysis reports, this can be done from the Quick View Screen.

Once you have a connector image focused on the screen, touch the green [Analyze] button. The word “Wait” will appear briefly in red in the upper left corner of the screen, and then the Analysis Report will be displayed on the full screen.



If there is a red number in the upper left corner, the report has already been saved. If there is no number, and you wish to save the report, touch the portion of the report which says “Pass” or “Fail”. This will save the report and a red file name should now appear in the upper left corner. To return to the live video, touch (or left click) on the connector image portion of the report.

Understanding the Analysis Report



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 on the image would cause the connector to fail inspection if the allowed number of this sized defect is exceeded.

Blue are highlighted items 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.

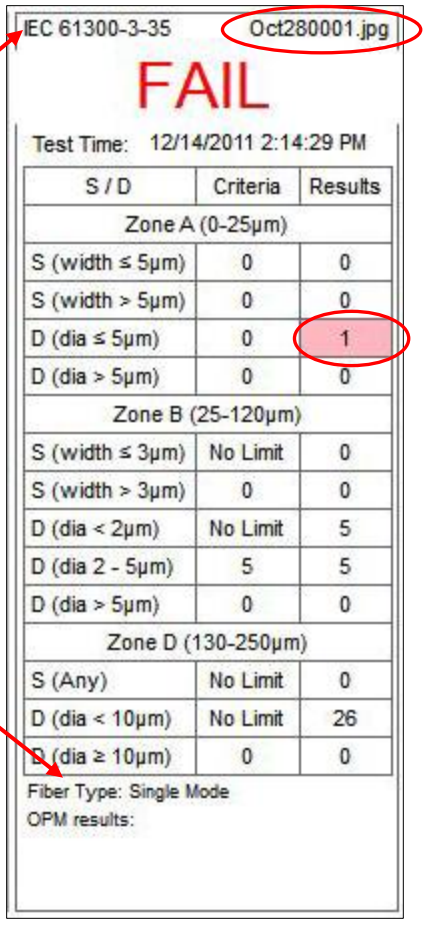
ViewConn Pro uses IEC 61300-3-35 as the default standard for its analysis. If this standard is used it will be indicated on the report.(If you need to change the criteria, go to [Tools]/ [Acceptance Criteria] to make the changes. “Custom” will be displayed as the Criteria type.)

The red file name displayed in the upper left corner at the time the report was saved, is displayed in the upper right corner of the final saved report.

The date and time of the Analysis is also displayed.

This side of the report also contains the statistical information. The individual test criteria used are listed and failing result areas are highlighted in red for easy identification.
(“S” is Scratch, “D” is Defect.)

Fiber type is shown as Single Mode, Multimode or MTP. OPM results can be added if an integrated OPM is installed.



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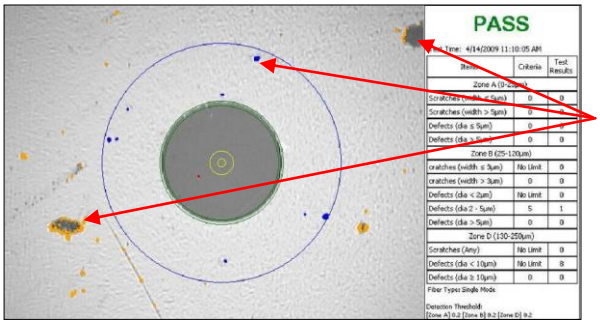
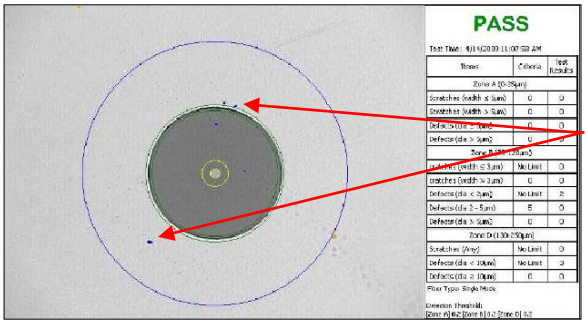
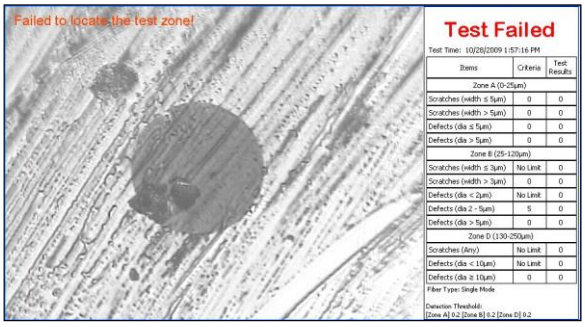


ConnectorView Plus software uses the position of the defects or contamination at the time of the test to give a Pass/Fail rating.

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.



If a connector is too dirty, damaged or poorly focused, you may see the following type screen when attempting analysis. ViewConn Pro will not automatically save a "Test Failed" result, even if [Auto Save] has been selected. If you do wish to save this result, touch the "Test Failed" portion of the screen to manually save it.

Appendix

Zones

ViewConn Pro software will display four fiber 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 here.

Single mode fiber requirements

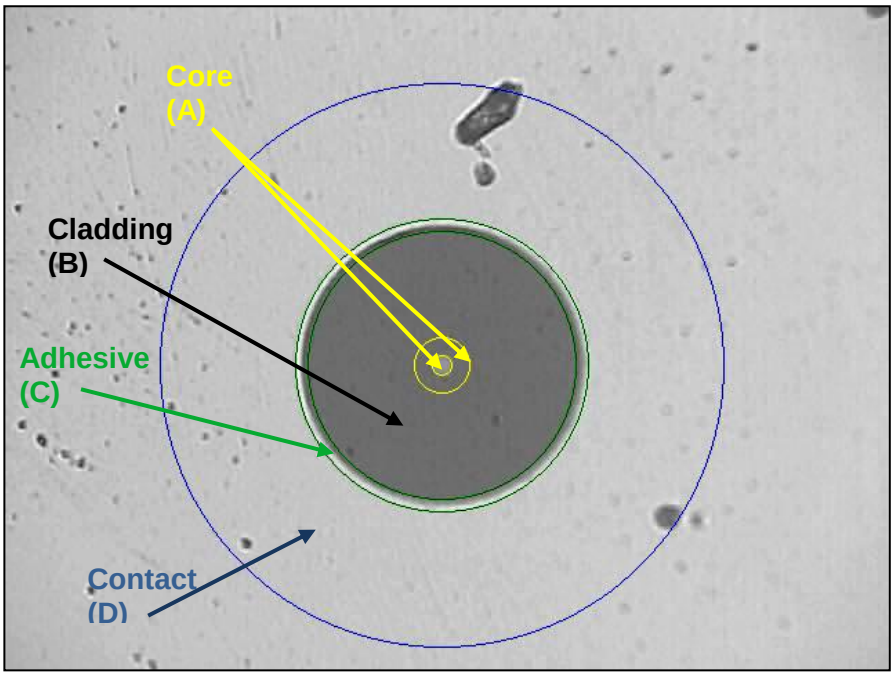
Zone name (diameter)	Scratches	Defects
A: Core (0-9μm, 0-25μm)	None	None
B: Cladding (25-120μm)	No limit	Any < 2μm 5 from 2 - 5μm None > 5μm
C: Adhesive (120-130μm)	No limit	No limit
D: Contact (130-250μm)	No limit	None > 10μm

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

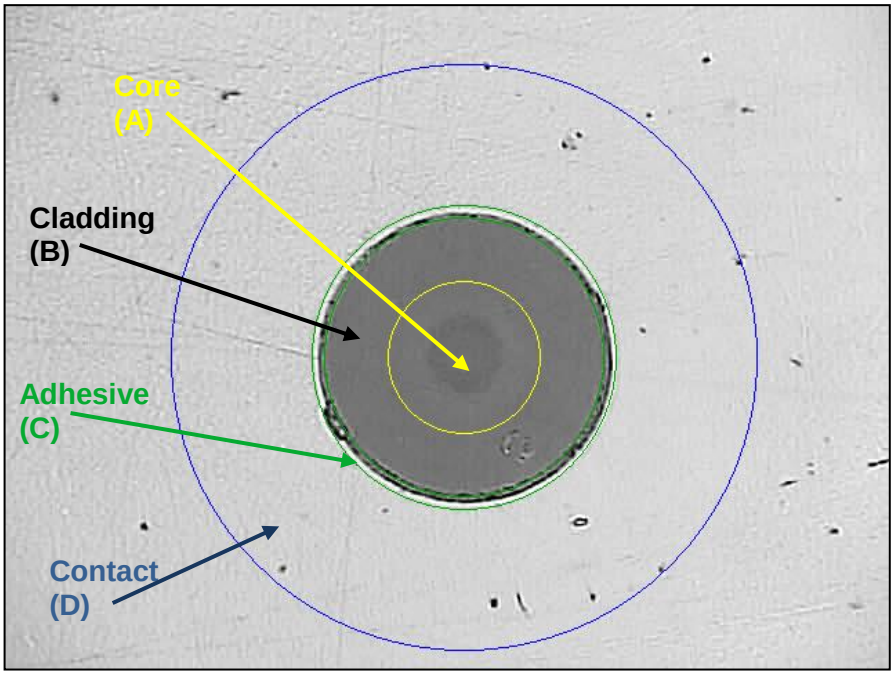
Zone name (diameter)	Scratches	Defects
A: Core (0-65µm)	No limit ≤ 3µm None > 3µm	4 ≤ 5µm None > 5µm
B: Cladding (65-120µm)	No limit ≤ 5µm None > 5µm	Any < 2µm 5 from 2 - 5µm None > 5µm
C: Adhesive (120-130µm)	No limit	No limit
D: Contact (130-250µm)	No limit	None ≥ 10µm

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

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

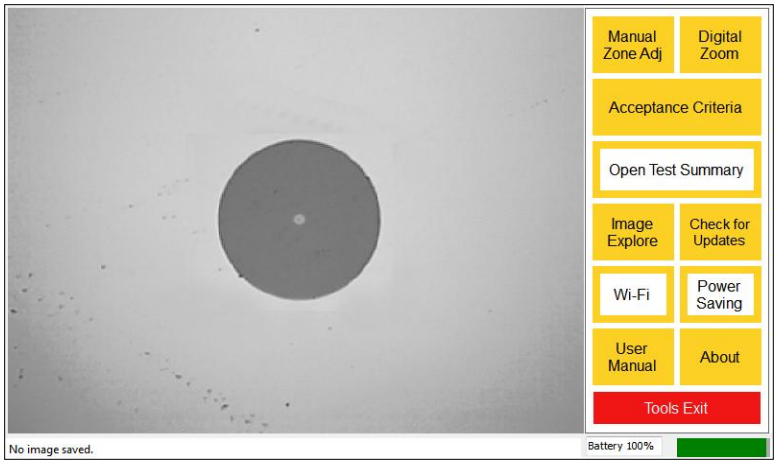
Note 3: ***All loose particles should be removed.*** If defect(s) are non-removable, it should be within the criteria above to be acceptable for use.

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.



Tools Screens

Detailed instructions on selected Tools screens.

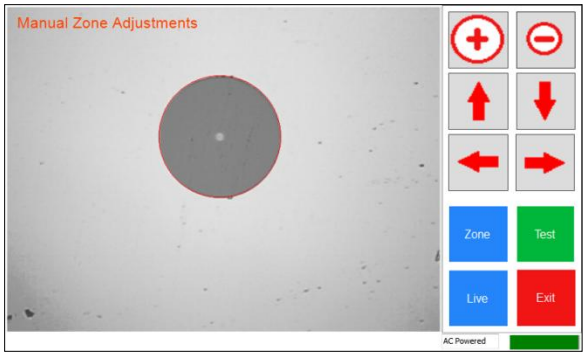


Manual Zone Adj

If ConnectorView Plus is unable to correctly locate the ferrule or the rings are sized incorrectly, you can manually position the target. Touch the screen and drag the red target over the ferrule. Then touch the red arrows or enlarge/reduce (+/-) controls to adjust the size or make small adjustments in the target circle position.

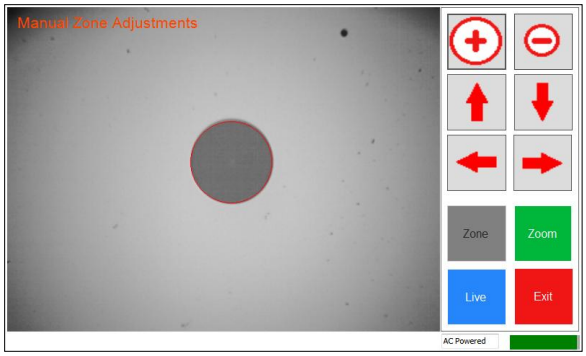
For INT

When the target is positioned correctly, touch the [Zone] button. You can use the red controls to further adjust the position if you wish.



For EXT

When the target is near the ferrule, touch [Zoom] to enlarge the the view and complete your position adjustments using the red controls. (Zoom must be selected before [Zone] or [Test] become active.)



For Both

When you are satisfied with the position of the red target circle you can touch [Zone] to display Zone rings. If you wish you can use the arrows or +/- to make additional adjustments then press [Test] to create an Analysis Report.

Zone – Toggles the window to display the red target [Ring] and [Zone]. The caption shows what will be displayed when the button is next touched.

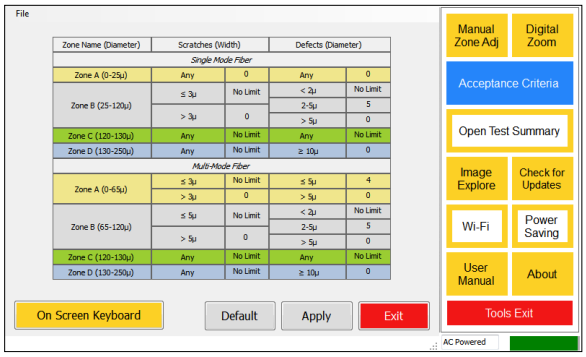
Test – Creates an Analysis Report. The report will be saved if the [Auto Save] on the Main Screen is active. Otherwise, you can save it manually by touching the “Pass” or “Fail”.

Live – Toggles the window between [Live] and [Frozen]. The caption shows what will be displayed when the button is next touched.

Exit – Closes the Manual Zone Adj screen and returns to the Tools screen.

Acceptance Criteria

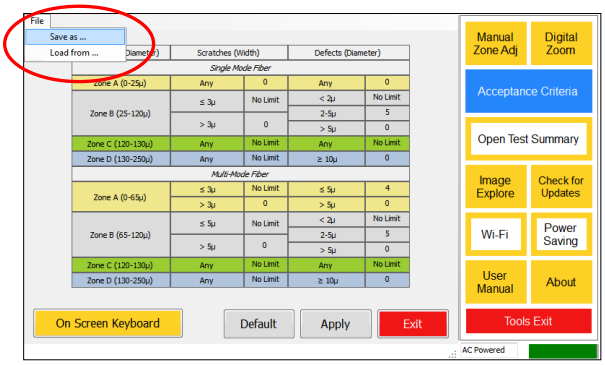
The quantity of defects in each zone which cause a “Fail” result can be changed. The new criteria will be shown on the Analysis Report and the Summary Report. (The size of the zones themselves cannot be changed.)



To change the Acceptance Criteria from the IEC 61300-3-35 default standard, touch the [Acceptance Criteria] button to open the window. Open the [On Screen Keyboard] and highlight the number you wish to change. Type in the new number. Make any additional changes you need to make.

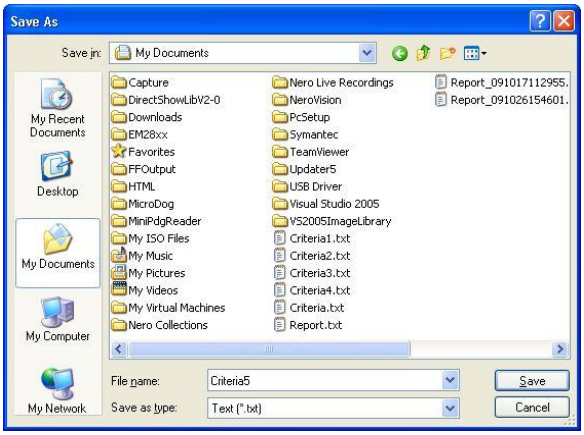
If you only need the new criteria, touch [Accept] to complete your changes and [Exit] to the return to the When you next run create an Analysis Report, you will see a message stating that a new Summary Report has be created with the new criteria and that the previous Summary Report has be saved with the date and time for the file name. A new Summary Report is created every time the criteria are changed.

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. Using the On Screen Keyboard type in a name for each different criteria set. 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 you wish to use and press [Open].The touch [Apply] and [Exit]

The [Default] button returns the the settings to the IEC 61300-3-35.



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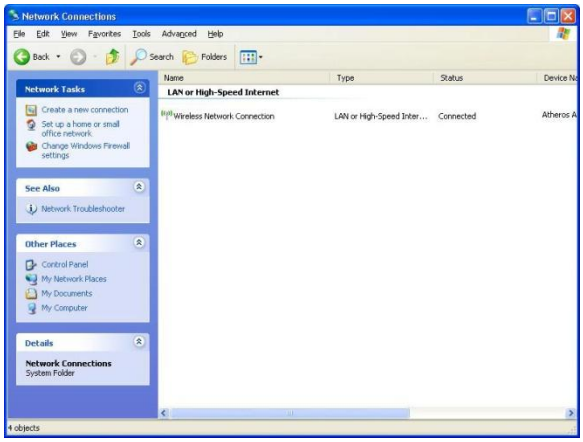
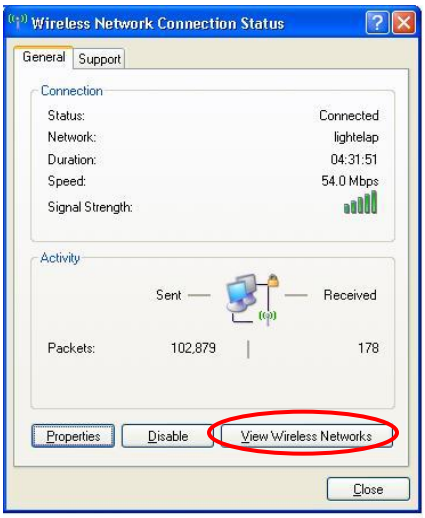
Wi-Fi

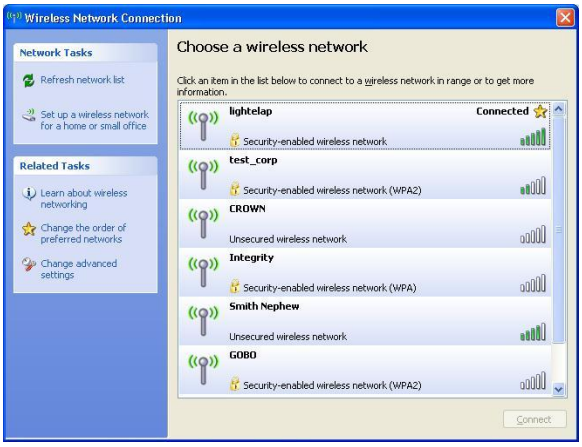
When you want to connect to a wireless network, touch the [Wi-Fi] button. The “Network Connections” window will open and also the ON Screen Keyboard. Touch the “Wireless Network Connection” to open it.



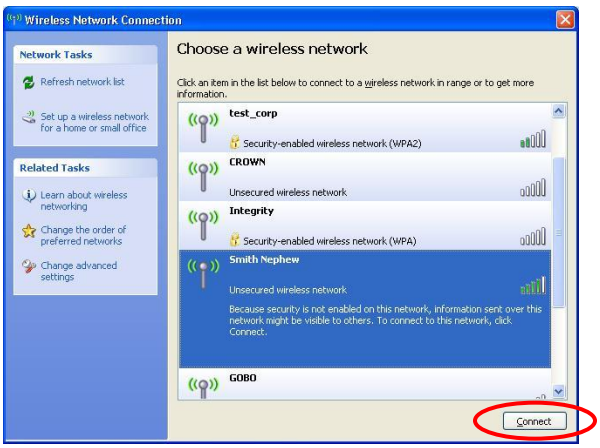
Touch the [View Wireless Networks] button in the “Wireless Network Connection Status” window.



If multiple networks are available, select one.



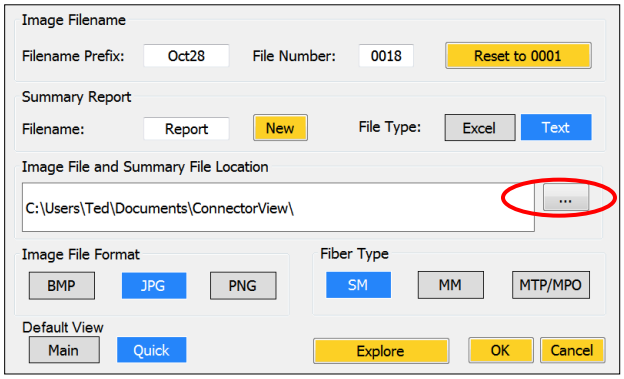
Then touch connect.



If a password is required, type it in using the Windows On Screen Keyboard.

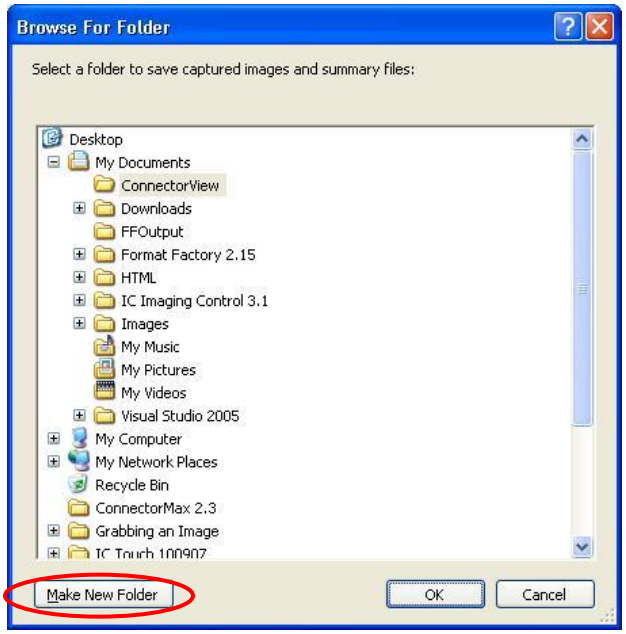
Creating and Naming New Folders

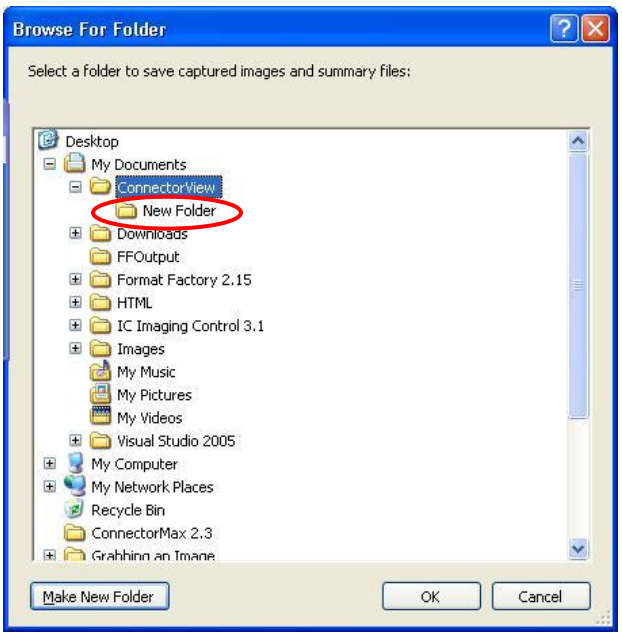
To create sub-folders in the ConnectorView folder or store your images and reports in a different location, go to the Options screen and touch the […] button.



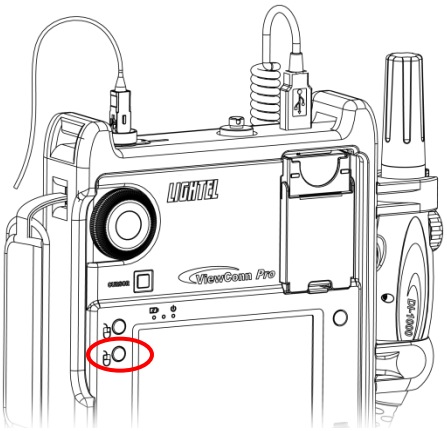
This will open the “Browse for Folder” window and the Windows On Screen Keyboard. If the folder you wish to use already exists, simply highlight it and touch [OK]. The new storage address will appear in the Options window.

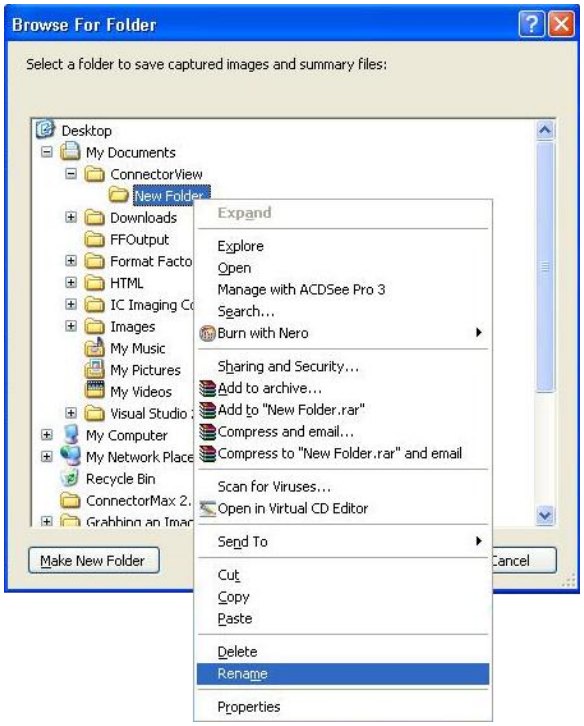
If you wish to create a new folder, highlight the location where you wish to place this folder and touch the [Make New Folder] button.





Highlight the new folder and press the right-click button on ViewConn Pro. Select “Rename” from the drop down menu and thenuse the On Screen Keyboard to type in a name for the folder.





You can repeat this process to create multiple folders for later use. If you plan to create a number of folders, it my be helpful to unplug the probe and temporarily fasten a USB keyboard into the port to simplify typing.

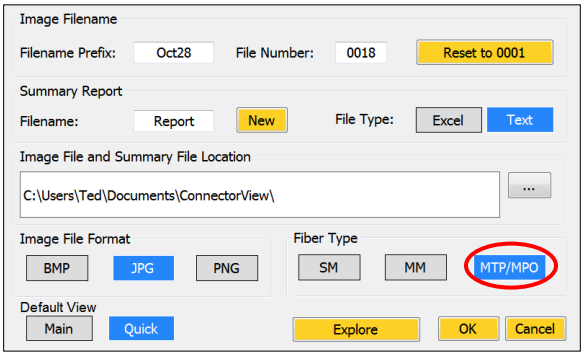
Inspecting MTP/MPO Connectors

MTP or MPO connectors (ribbon connectors) are difficult to analyze, because each ferrule must be analyzed independently and can be a time consuming process. Any failure will require cleaning the entire connector.

ViewConn Pro provides an easy method to view and to document ribbon connectors. It is recommended that analysis of ribbon connectors be done only if absolutely necessary.

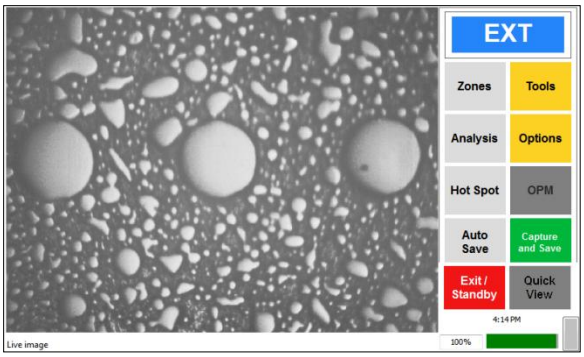
Viewing and Saving MTP Images

Both male and female connectors are inspected with the Probe (EXT). In the options window select [MTP/MPO].



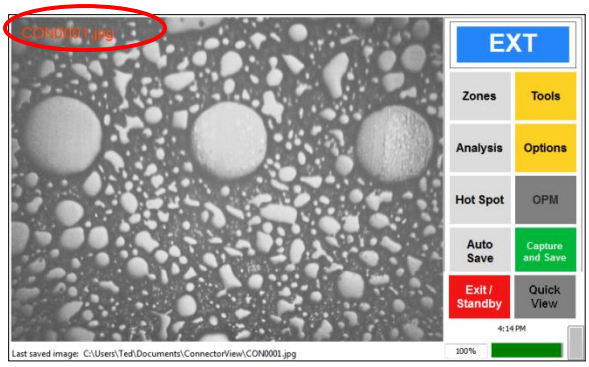
The Quick View Screen is disabled when the [MTP/MPO] *button is selected.*

Following the instructions which come with your MTP tip, attach the tip on the probe. In the main window, focus your MTP connector image. Turn off [Zones] and [Analysis] and turn the tip scanning knob so that you are starting on one end of the connector. You should be able to view 3 fibers at a time.



To save touch the [Capture and Save] button. A red filename will appear in the upper right corner, indicating that the image has been saved. Touch the video portion of the screen to return to a live image and use the tip scanning knob to move to the next group of 3 fibers (refocusing if necessary).

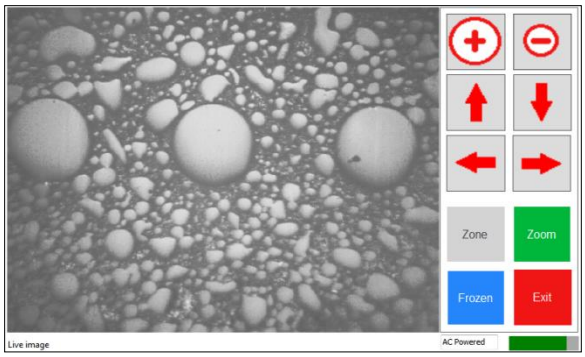
Continue this process until all the fibers in the connector have been inspected.



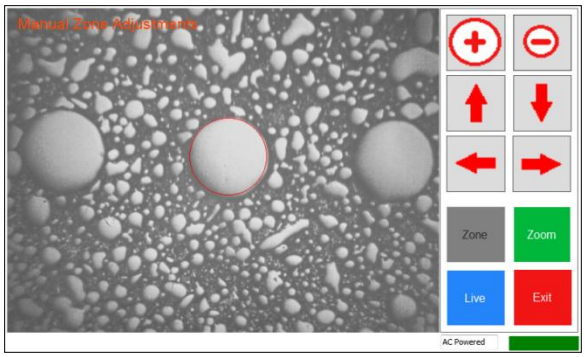
Analyzing MTP Connectors

If you find it necessary to analyze an MTP connector follow these steps. On the Options screen, select [MTP/MPO]. Return to the Main Screen select [Tools] and then [Manual Zone Adj].

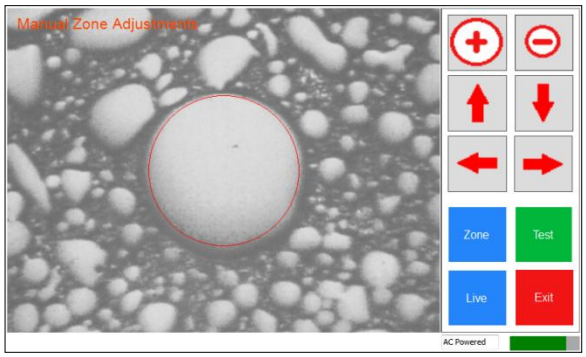
Remember, the buttons show what will occur when touched, not the present position. If the blue button is [Live] touch it, so that you can focus the image.



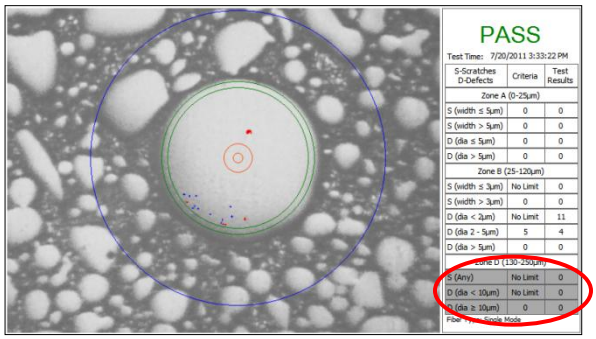
When focused, touch it again, to freeze the image and open the red target circle. Drage the target circle to the ferrule you wish to analyze.It does not need to be exact at this point. Adjust the size if necessary.



Touch [Zoom] and make any additional adjustments. The target circle should be slightly smaller than the ferrule to avoid picking up excessive shadows.



When properly positioned, touch [Test]. Note that Zone D is grayed out. There are no established standards for areas other than the ferrules.



Repeat this process for the other ferrules.

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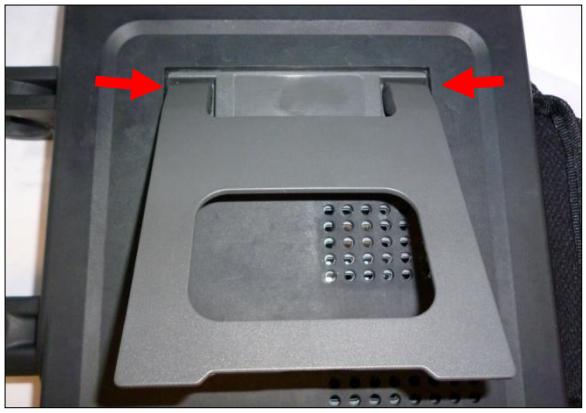
Removing the Ruggedized Cover

To install a new battery or a Viewconn Pro OPM it will be necessary to remove the Ruggedized Cover.

Shut down ViewConn Pro.

Disconnect and set the probe aside.



Remove the fold out stand – Place ViewConn Pro face down on a flat surface. At the top of the stand, press the sides inward until the pins on each side can be popped out of the holes. Lift the stand out.

Remove the wrist strap – Remove the strap from the top pin and then pull it out of the bottom pin.

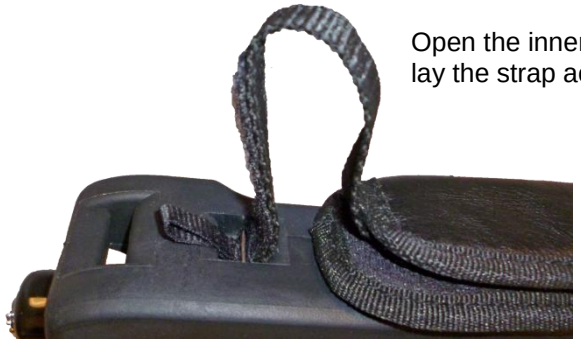
Remove the ruggedized cover – Holding ViewConn Pro in both hands facing you, push the cover back, starting at the bottom. When removing the top portion, be careful to push the protective tip cap and chain through the hole there so as not to break the chain.

Replacing the Ruggedized Cover

To replace the cover, you will be reversing the steps. Start by pushing the tip cap and chain through the opening at the top, then pulling the cover into place first at the top and then the bottom.

Replace the wrist strap – With the leather side of the strap facing away from ViewConn Pro and the open side facing toward the back, thread the loop portion of the strap under the bottom pin in an upward direction. If too difficult to grab, you may want to use tweezers or small pliers to grab the loop.

Open the inner flap on the padded section and lay the strap across it, then close that flap.



Then thread the loop through the top pin, again in an upward direction.

Finally reattach the Velcro to the desired tightness inside the pad.

Replace the fold out stand – Slip the pins on the fold out stand back into the correct holes.

VC8-OPM Integrated Power Meter **(add-in option)**

The VC8-OPM and VC8-OPM-H are identical other than the power ranges. All other specifications and instructions apply to both units. For convenience, both power meters will be referred to as “VC8-OPM” unless otherwise noted.

Specifications

Detector Type	InGaAs
Calibrated Wavelength *(nm)*	850, 1300, 1310, 1490, 1550, 1625
Power Range *(dBm)*	
VC8-OPM	-60 ~ +10
VC8-OPM-H	-40 ~ +25
Resolution *(dB)*	0.01
VC8-OPM	(0.1dB when < -55dBm)
VC8-OPM-H	(0.1dB when < -35dBm)
Uncertainty *(%)*	±5
Interchangeable Tips	Universal 1.25mm and Universal 2.5mm included Individual FC, SC, ST, LC, E2K available
Tone Detection *(Hz)*	
VC8-OPM	270, 1k, 2k *(for 850nm, power within –25 ~ 10dBm, for all other WL, power within –35 ~ 10dBm)*
VC8-OPM-H	*(for 850nm, power within –15 ~ 25dBm, for all other WL, power within –20 ~ 25dBm)*
Display Type	mW / dBm / dB(REF)
Operating Temperature *(°C)*	-10 ~ +50
Storage Temperature *(°C)*	-20 ~ + 70
Humidity (non-condensing) *(%)*	0 ~ 90

Package Contents

(1) VC8-OPM or VC8-OPM-H

(1) 2.5mm universal (PC and APC) power meter tip

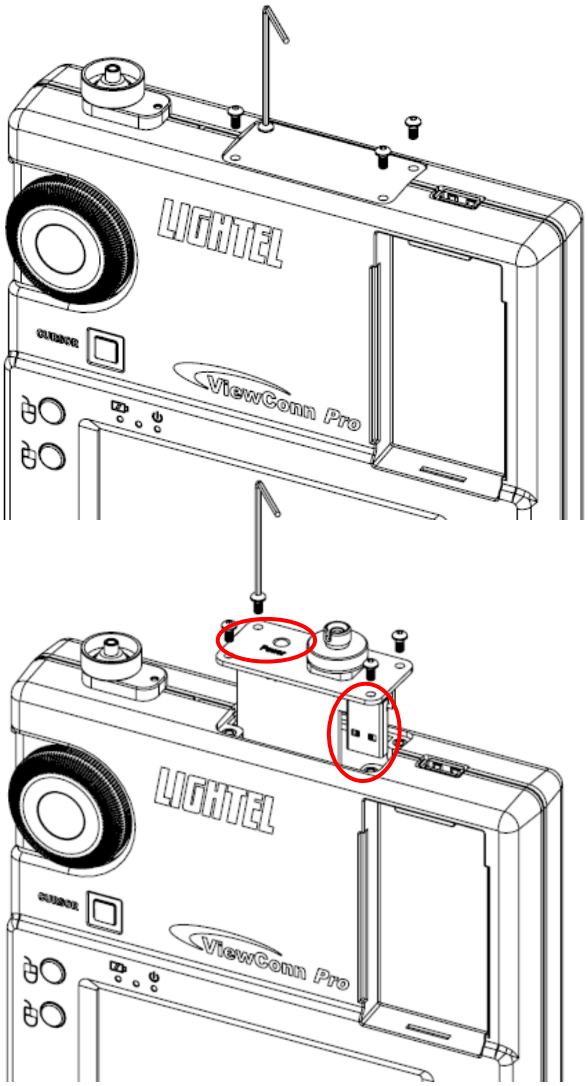
(1) 1.25mm universal (PC and APC) power meter tip

(1) 1.5mm L-wrench (for installation)

Installing the VC8-OPM

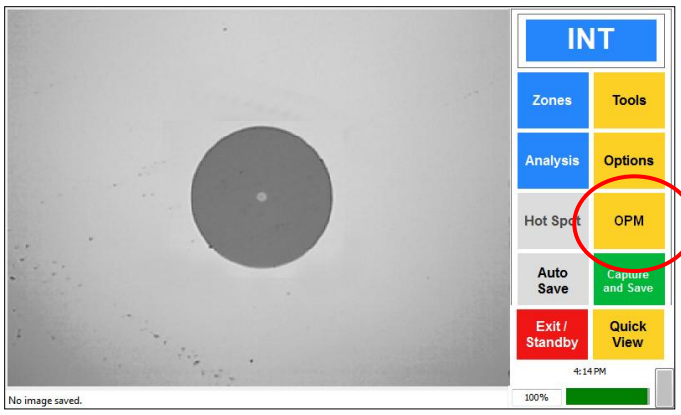
Make sure ViewConn Pro is turned off.

Once the ruggedized cover is out of the way (*see p. 29 for instructions*), use the L-wrench provided with the VC8-OPM to remove the 4 screws and metal plate at the top of ViewConn Pro. Save the screws.



Make sure the “Power” label is facing forward and the USB stick is over the internal USB socket. Plug in the USB stick into the socket and replace the screws.

Your power meter is now installed and integrated with ViewConn Pro.



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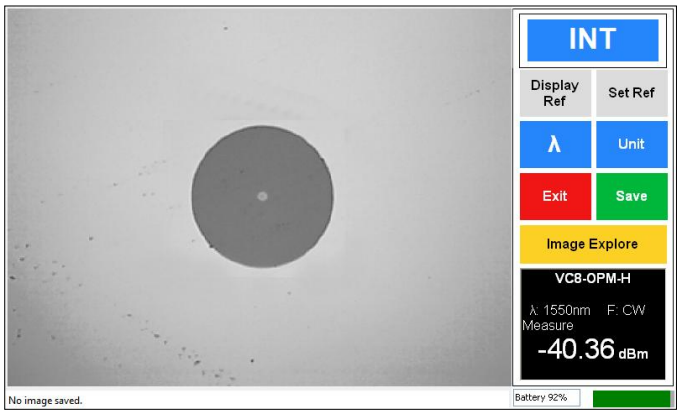
Using the VC8-OPM

When you now touch the gold OPM button the OPM Main Screen will open.

OPM Main Screen



INT (EXT) – Shows which view is currrently being shown in the Live viewing window.

Display Ref – Displays the current reference power setting for 2 seconds.

Set Ref – Sets the current power measurement as the reference power. Power is measured versus this reference. Each time this button is pressed a new reference power will be set. To return to absolute power measurement, press the [Unit] and set to “mW” or “dBm”.

λ – Selects the operating wavelength in a repetitive sequence of 850/ 1300/ 1310/ 1490/ 1550/ 1625nm. The default starting wavelength is 1550nm.

Unit – Selects the unit of measured optical power. By pressing the “mW/dB/dBm” button, you can select the power unit in a repetitive sequence of dBm/mW/dB.

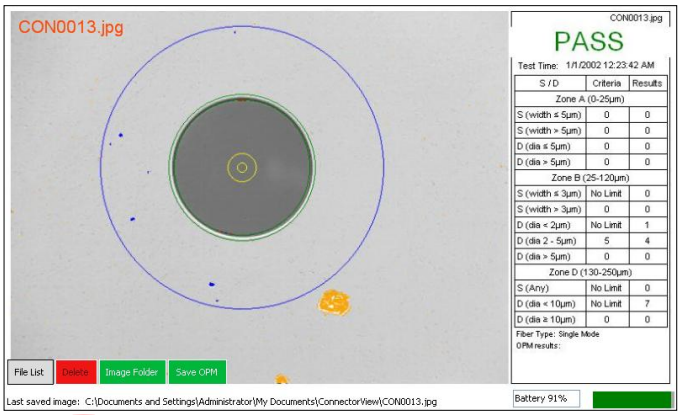
Under the “dB” selection, you are measuring a relative power (versus the set reference power, see “REF” button).

The starting default measurement unit on the VC6-OPM is dBm.

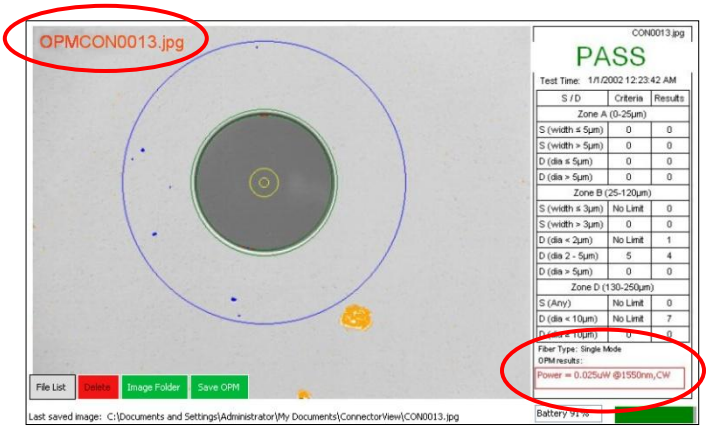
Exit – Returns to the Main Screen.

Save – Saves the current power meter reading displayed in the black window at the bottom. *A reading saved in this way cannot be attached to an Analysis Report.* This button is for use when you only want to save power readings.

Image Explore – Opens the Image Explore screen. When you access this screen from the OPM window an extra button [Save OPM]. To attach the current power reading to the Analysis Report displayed, touch this button.

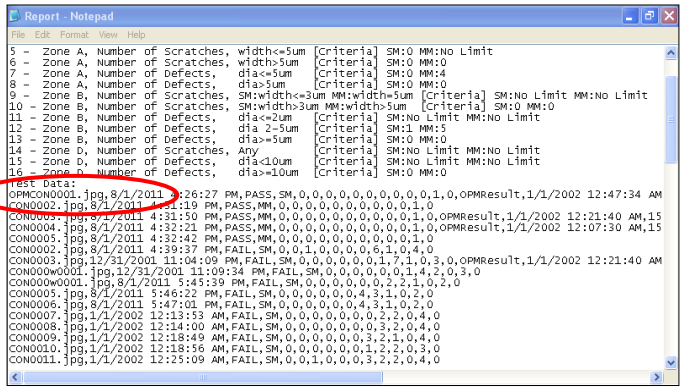


The OPM reading will now appear as part of the Analysis Report and the filename will now start with “OPM”.



If you need to attach the OPM reading to a previous Analysis Report, open the [File List] and display that report. Then touch [Save OPM].

If you attach an OPM reading to an Analysis Report listed in the active Report Summary, the OPM information will be added to the Summary. (Closed Summary Reports will not be updated.)



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