# *Arc Chaser*™ USER MANUAL

The 21st Century Dual Mode TDR for Testing and Monitoring Energized and Unenergized Cables



AC120



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www.t3innovation.com

# Arc Chaser

Touch-Screen Dual Mode Cable Testing for Arc Faults, Shorts, and Opens

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#### **ABOUT THE ARC CHASER**

The Arc Chaser's patented Spread Spectrum Time Domain Reflectometry (SSTDR) technology is a revolutionary way to locate a fault on cables. It can test energized or unenergized cables, in real time, for shorts and opens and determines the fault location and length. The Arc Chaser can conduct a Fault Location (static) test or Live IFD Intermittent Fault Location (dynamic) tests, monitoring for intermittent faults (shorts, open, arcs).

| Feature  | Function  |
|--|---|
| Works on both energized and unenergized cables               | Discover cable events which can only be shown under load                                    |
| Monitors cable for intermittent faults                       | Records intermittent faults such<br>as those caused by vibration or<br>flexing of the cable |
| Shows results in graphical or text format                    | Clear and simple view of faults   |
| Saves reports, transferrable to PCs for storage and printing | Maintain test result history in PDF or CSV  |
| Cable fault finding  | Easily verify quality of entire cable length  |
| Tone generation  | Signal tracing of cables  |
| Cable test setup   | Walks users through cable test setup  |
| No calibration needed  | No metrology calibration required   |
| English or metric measurements                               | International applications  |
| 600V Category II   | Meets international requirements for working on energized cables                            |
| Rechargeable Lithium-ion battery pack                        | 8–10 hours of battery power   |
| Sleep Mode   | Extends battery life  |

#### Features & Benefits

Arc Chaser has a combination of soft keys and touch screen icons for easy navigation across screens. It is designed with both an SD card and USB connection to save results on your computer.

| Physical Features  | Benefits  |
|--|---|
| Color touch-screen display                                       | Easy to navigate in all lighting environments                                 |
| Compact form factor  | Usable in tight spaces and weighs less than 2 lbs                             |
| 3rd generation rechargeable Lithium-<br>ion batteries            | 8–10 hours of continuous use  |
| Bench-top, handheld, or hung up                                  | Easy to use for field flight line and production work                         |
| Modular connector interface                                      | Banana style connector and modular  |
| Waterproof/shock resistant transport case                        | Keeps equipment protected in<br>harsh conditions                              |
| SD card and USB connection for data file transfer of cable tests | Easy-to-maintain report files, save for later viewing                         |
| Upgradeable firmware   | Stay up-to-date with cable settings, features, and enhanced software upgrades |

#### Arc Chaser

The Arc Chaser comes in one kit that will cover all your needs.

| Part Number | Description   |  |
|-------------|---|--|
| AC120       | <ul> <li>Arc Chaser main unit</li> <li>T3 Leader Cable 5ft 600V CAT III</li> <li>Flanged Crocodile Clips: red and black<br/>600V CAT III UL/CSA</li> <li>Dual banana to BNC female</li> <li>Adapter: BNC male to F female</li> <li>Power Supply</li> <li>SD Card</li> <li>Micro USB Cable</li> <li>Carabiner Strap</li> <li>Protective Arc Chaser Case</li> </ul> |  |

#### **Optional Accessories**

| Part Number | Description                                       |  |
|-------------|---|--|
| AD006       | Multi-pin Adapters 1000V Cat III                  |  |
| CA009       | Cable Assembly, Power cord to 3 banana plugs 300V |  |

#### **Safety Information**

To ensure safe operations of the Arc Chaser, follow instructions carefully and observe warning and caution messages in this manual. Failure to observe warnings can result in severe injury or death and can damage the equipment.

| Notification | Definition   |  |  |
|--------------|--|--|--|
| Â            | Warning/caution: potential for personal injury or damage to equipment    |  |  |
| Voltage!     | Warning: hazards could cause harm or death                               |  |  |
| CE           | Conformité Européenne. Conforms to European Economic<br>Area directives. |  |  |
| X            | Disposal information   |  |  |

- Do not use the Arc Chaser or Arc Chaser accessories if they appear damaged or if the Arc Chaser is not working properly.
- Do not use with voltages higher than the Arc Chaser's rated voltage (600V).
- Use with caution with voltages greater than 30 V AC RMS, 42 V AC peak, or 60 V DC.
- Do not use around explosive or flammable gas.
- Use only test leads approved by a safety agency and that have at least the same voltage and category as the Arc Chaser.
- Before opening the battery door, remove leader cables or BNC to dual banana connector.
- Always wear personal protective equipment when working with the Arc Chaser.
- Use caution when handling the probes and cable connections on the Power Prowler when the Voltage! icon is present.

#### **Arc Chaser Description**

Arc Chaser Module





Banana Jacks



7

#### **Arc Chaser Description**

Soft keys for operation shown in display

NOTE: **Soft** keys may have different functions depending on the screen displayed.



#### **General Operations**

#### On/Off

- Turn Arc Chaser on by pressing the red Power button.
- Press the red power button to put the Arc Chaser in sleep mode.
- Press and hold the red power button until the screen turns off and release.

#### **Automatic Power Down**

 The Arc Chaser automatically enters sleep mode to conserve battery power if no input or activity is performed on the device. See System Settings to adjust the length of time before the automatic power down occurs.

#### **System Settings**

The Arc Chaser Setup consists of five screens to configure the unit to the user's preference. Use the settings button 🕐 to navigate through the settings screens.

#### First System Settings Screen



- Turn the Arc Chaser on by pressing the red Power button.
- Select System Settings on the home screen
- Length settings:
  - Under Display Units, select either Feet or Meters.
  - Under Leader Setting, select either Leader Cable or No Leader.
    - Leader should be selected unless the dual banana to BNC (F) is used.
- LCD screen brightness:
  - To the right of Brightness, select Set.
  - Enter a number between 5 and 100 then select OK. To cancel, press the Back button S.
- To continue, select More Settings by pressing the Settings button 2.

#### Second System Settings Screen



- To set time/clock/date:
  - Under Time Format, select either 12-hour or 24-hour format.
  - To the right of Hours (1–12), select **Set Hour**. Enter the hour you wish to display then select **OK**. To cancel, press the **Back** button **(=)**.
  - To the right of Minutes (0-59), select Set Minute. Enter the numbers of the minutes you wish to display then select OK. To cancel, press the Back button
  - Under AM/PM, select AM or PM on the screen.
  - Under Date, set the month, day, and year:
    - Select Set Month. Enter the number of the month, and then select OK. To cancel, press the **Back** button (\*).
    - Select Set Day. Enter the number of the day, and then select OK. To cancel, press the **Back** button **(**).
    - Select Set Year. Enter the year (all four digits), then select OK. To cancel, press the Back button .
- To continue, select More Settings by pressing the Settings button C.

#### **Third System Settings Screen**



- To get Standby power down:
  - Select 10 min. Set to the right of Stand-by.
  - Enter a whole number from 1-10 for the number of minutes then select **OK**. To cancel, press the **Back** button **(D)**.

NOTE: If a Live IFD test is in progress, the timeout will put the screen to sleep mode.

- To set Loop Test Stand-by:
  - Select 30 min. Set to the right of Loop Test Stand-by.
  - Enter a number between 5 and 60 for the number of minutes then select **OK**. To cancel, press the **Back** button **(=)**.
- To set Tone Stand-by:
  - Select 30 min. Set to the right of Tone Stand-by.
  - Select the number between 5 and 60 for the time of the tone then select OK. To cancel, press the Back button (2).
- To set System Shutdown Time:
  - Select 4 hr. Set to the right of System Shutdown.
  - Select the number between 1 and 8 for the hours before system shutdown then select OK. To cancel, press the Back button (5).
- To continue, select More Settings by pressing the Settings button 2.

#### Fourth System Settings Screen (Firmware)

| 100% <mark>&gt;</mark><br>Firmware | System Settings                       | 4:32 PM |
|------------------------------------|---------------------------------------|---------|
| Factory: 1.39                      | Current: 1.4                          | 12      |
| File                               | e Name                                | Version |
| a:/ACV140.BIN                      |                                       | 1.40    |
| a:/ACV141.BIN                      |                                       | 1.41    |
| a:/ACV142.BIN                      |                                       | 1.42    |
|                                    | e Restore Resto<br>are Firmware VOP L |         |
| 🥕 More Setti                       | ings                                  |         |

You can have more than one version of firmware on the SD card – all firmware files on the SD Card will be displayed on this screen.

- The factory installed firmware revision (default firmware) is displayed above the firmware file table.
- The current firmware revision that is being used is displayed above the firmware file table Current x.xx.

#### How to update the Arc Chaser Firmware:

Warning! Do not update the firmware if the battery charge is less than 50%, unless the Arc Chaser is plugged in to A/C power.

- Go to www.t3innovation.com/arcchaser to download the latest software revision.
- To save the firmware update to your Arc Chaser:
  - Remove the SD Card (located on the left side of Arc Chaser) and insert it into your computer. Your computer will recognize the SD Card as a removable drive. Open the removable drive folder and copy the firmware file from your computer to the removable drive window. Re-insert the SD Card into the Arc Chaser. Proceed to the instructions below for updating the firmware.

- Note: When installing SD Card with firmware update refresh the firmware table by exiting and then reentering the firmware screen.
- Update by selecting the firmware file in the firmware table then select Update Firmware on the screen. A new screen will appear, confirming that you are updating firmware. Select OK to continue or Cancel. Another window will appear: Updating firmware. System will reboot after update. Please make sure battery is not low. Press OK to continue or Cancel.
- To reset to the factory firmware, select the Restore Firmware icon. A new screen will appear, confirming that you are deleting the firmware update and restoring to factory default. You will be prompted to select OK to continue or Cancel to cancel. Arc Chaser will then restart.
- To reset to the factory VOP list, select the Restore VOP List icon. A new screen will appear, confirming that you are restoring factory VOP list. You will be prompted to select OK to continue or Cancel to cancel.

#### Fifth System Settings Screen

This screen will display which versions of firmware and hardware are in your Arc Chaser.

| 100%       | System Settings                            | 4:35 PM  |
|------------|--|----------|
| Versions   |  |          |
| Firmware   | Hardware                                   |          |
| Boot:1.05  | Serial #: A0<br>Module type<br>Module revi | е: ÿÿÿÿÿ |
| GUI: 1.42  | Battery: TO                                |          |
| Test: 1.07 | 00:06:66:31<br>NAND size:                  |          |
| 🔑 More Set | tings                                      |          |

#### Firmware

- · Boot (initializes hardware, loads, and executes operating system)
- GUI (graphical user interface)
- Test

#### Hardware

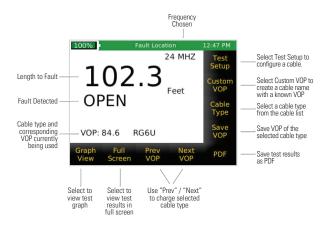
- Serial Number (for your Arc Chaser)
- Module revision (number of your updated module)
- Battery (type of battery)
- Battery Date (provides date of battery manufacture)
- Wi-fi MAC (Media Access Control network address)
- NAND size (flash memory in megabytes)

#### You're done!

Press the **More Settings** soft key 🛹 to return to the first System Settings screen or press the Home button 💿 to save the system settings and return to the **Home** Screen.

#### **Fault Location Mode**

The Arc Chaser is designed to conduct tests for fault location and intermittent faults.



| Cable Fault | Description  |  |
|-------------|--|--|
| Open        | Wire connection is not continuous throughout cable length  |  |
| Short       | Two or more wires in a cable are connected (short circuit) |  |
| No Fault    | No fault found   |  |

This test mode identifies a cable fault as Short or Open and will provide a length measurement to the fault. The Fault Location mode is also useful for determining cable characteristics, such as VOP (velocity of propagation) and test frequency. A characteristic frequency for the length of the cable is displayed on the upper right of the screen.

#### **Test Setup**

- Turn Arc Chaser on by pressing the red Power button.
- On the Home Screen, select the Fault Location icon
- Connect the leader cable or dual banana to BNC adapter to the Arc Chaser.
- Connect a cable to the leader cable or dual banana/BNC adapter.



Configure Cable Characteristics

- Select Test Setup from the Fault Location screen.
  - Select Leader or No Leader (use Leader unless you are using the dual banana plug to female BNC adapter).
  - Under Cable Type, select Twisted Pair/Coax or Other.
    - Twisted Pair/Coax should only be used on those cables with low-loss.
    - **Other** should only be used with high-loss cable (e.g. Romex).
  - Use ONE of three velocity of propagation (VOP) options below to select your test VOP
    - Select Custom VOP.
      - Enter your VOP value and select OK.
      - To cancel, press the **Back** button 🕥 .
    - Select Cable Type, and a preset list of common cable types will appear.
      - Press Up or Down to view cable type options on the screen.
      - Highlight the desired cable type with a finger touch.
      - Select the Select icon.
      - Edit the cable type by selecting the Edit icon.
      - Enter the revised name of the cable type and select OK.

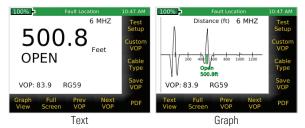
- To cancel, press the **Back** button 🖭.
- To delete a cable type, select **Delete**.
- Select **Discover VOP** to find the VOP of your test cable.
  - Enter the length of the cable
  - Select OK.
- Select Save to return to the Fault Location screen.

#### **Fault Location Options**

In the Fault Location screen there are three VOP options:

- Select **Prev VOP** or **Next VOP** to scroll through the preset cable types of VOP. If the cable type is not listed with the desired VOP, follow the instructions below to edit the VOP.
- From the Fault Location screen select Cable Type; a preset list of common cable types will appear.
  - Press Up or Down to view cable type options on the screen.
  - Highlight the desired cable type with a finger touch.
  - Select the Select icon.
  - Edit the cable type by selecting the Edit icon.
  - Enter the revised name of the cable type and select **OK**.
  - To cancel, press the **Back** button <sup>(1)</sup>
  - To delete a cable, select **Delete**.
- 3. To create a new cable type with a known VOP, select **Custom VOP** to enter a VOP of the test cable.
  - Enter the VOP and select OK.
  - To cancel, press the **Back** button 🖘 .
  - Select Save VOP and enter a cable type.
  - Select the **OK** to save.

#### **Fault Location Testing**



In the Fault Location screen there are three VOP options:

- · Press the green test button to perform a test.
- The default view of the test result appears in the Text View showing the length of the cable, Open or Short, cable name, and VOP, the cables characteristic frequency, and feet or meters.
- Select Full Screen to expand your view to the full screen. Press the Back button to exit full screen.
- Select Graph View or Text View on the screen to toggle between a graphical view of your test or a text display.
- In Graph View and Full Screen selected, Zoom + and Zoom allows for the expansion or contraction of the scale. The graph can also be moved by dragging with a finger.

#### Saving Test as a PDF

In the Fault Location screen there are three VOP options:

- Press PDF on the Fault Location screen.
- $\bullet$  Enter the desired file name for your test and select  $\mathbf{OK}$  to save the file name.
- A new screen will appear with space to enter optional comments. Enter comments and select **OK**.
- Arc Chaser will save the PDF under your new file name.
- A Saving PDF Dialog Box will appear.
- \*\* DO NOT REMOVE SD CARD UNTIL DIALOG BOX DISAPPEARS\*\*

Note: Maximum PDF that will show in the File Manager screen is 510. The tests will continue to save; but, they will not be visible on the screen.

#### Live/Intermittent Fault Detection (Live IFD) Mode

T3 Innovation's SSTDR technology allows for live measurements taken in real time on energized or unenergized cable. The Arc Chaser can monitor intermittent faults such as arcs, shorts, or vibration faults.

| •       |                                 |                              |
|---------|---------------------------------|------------------------------|
| est Dis | mum Test<br>stance<br>'0.0 VOP) | Accuracy                     |
|         | 25 feet<br>meters)              | +/- 2.5 feet<br>(.75 meters) |
|         | 50 feet<br>meters)              | +/- 5 feet<br>(1.5 meters)   |
|         | 00 feet<br>) meters)            | +/- 10 feet<br>(3 meters)    |
|         | 100 feet<br>) meters)           | +/- 20 feet<br>(6 meters)    |
|         | 100 feet<br>) meters)           | +/- 40 feet<br>(12 meters)   |
|         |                                 | +/- 80 feet<br>(24 meters)   |
|         |                                 | 4000 feet<br>) (1280 meters) |

#### **Live IFD Test Frequency Details**

Note: Maximum test length will vary depending on cable VOP and attenuation/loss.

#### **Test Setup**

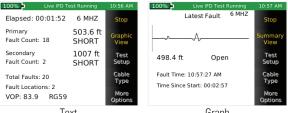
- Turn Arc Chaser on by pressing the red **Power** button.
- On the Home Screen, select the Live IFD icon
- Connect the leader cable or dual banana to BNC adapter to the Arc Chaser.
- Connect a cable to the leader cable or dual banana/BNC adapter.
- Configure the System for Live Intermittent Fault Detection by selecting **Test Setup**.
  - A. Select Leader or No Leader (use Leader Cable unless you are using the dual banana plug to female BNC adapter).
  - B. Use ONE of two Test Frequency options below to select your Test Frequency:

- Manually select Test Frequency by selecting one of the radio buttons (Using Live IFD Test Frequency Details Table).
- 2. To discover the appropriate Test Frequency:
  - Under Cable Type, select Twisted Pair/Coax
     or Other.
    - Twisted Pair/Coax should only be used on those cables or cables with low-loss.
    - **Other** should only be used with high-loss cable (e.g. Romex).
  - Select Estimated Test Length. Use the keypad to enter the length of the cable under test then select OK.
- C. Use ONE of two velocity of propagation (VOP) options below to select your test VOP:
  - 1. Select **Custom VOP**, to enter a known VOP value then select OK.
  - 2. Select **Cable Type** to choose from the saved cable type list.
    - Enter the revised name of the cable type and select **OK**.
    - To scroll through the list, select the Up and Down icons.
    - Select the desired Cable Name.
    - Select the **Select** icon to use the highlighted cable type.
    - To edit or delete a cable type, select **Edit** or **Delete**.
  - D. Select Save to return to the Live IFD screen or Cancel to exit without saving any changes.

### Live IFD Options

- Select the **Start** icon to start and stop a test. The green test button can also be used to start and stop a test.
- Select Graphic View to cycle through the optional test result screens.
- Select Test Setup to configure the Live IDF test.
- Select Cable Type to choose the cable type and associated VOP to be tested (also in Test Setup).
- Select More Options to display additional options.
- Select PDF or CSV to save your test results.
- Select Custom VOP to enter a known VOP value (also in Test Setup).

#### Live IFD Testing



Text

Graph

- Select the Start icon on the touch screen or press the Test button to start a test. Elapsed time will begin at the top of the screen.
- The Arc Chaser Live IFD testing remains in progress even as the user selects different viewing options. While the test is running, the inactive options will be greved out on the screen.
- Fault types and distances will be displayed by number of occurrences. The Primary Fault location has the most number of occurrences. The Secondary Fault location will be displayed as well.
- Select Graphic View to view a graphical representation of the faults. The graph will show open events in green (above the x axis). and short events in red (below the x axis).
- Select Graph Scale to select the desired dimensions (10 to 500 feet or auto-scale), then press Save or Cancel to return to the Live IFD Test Screen
- Selecting Current View displays the SSTDR waveform. Time of Latest Fault, and Elapsed Time for the latest fault. The test frequency appears in the upper right corner of the display.
- Press the Summary View to return to the default Live IFD screen.
- To stop the test select Stop or press the Test button. When the test is stopped, the Arc Chaser will automatically save the test results to flash memory in case the unit runs out of battery or the unit is accidentally powered off. The last test result will be saved in the internal flash memory until a new test is started. It is strongly RECOMMEND-ED to manually save the test as a PDF or CSV to the SD card.

#### Note: Test will auto stop when testing time reaches 24 hours, 500 faults in one location or 1000 total faults.

#### Saving test as a PDF file

To save an overview of the test, select the **PDF** icon. Both PDF and CSV features can be used independently of each other.

- To save results, if PDF button is not visible, select **More Options**.
- Select PDF to create a PDF file of your test.
- Enter the name of your file and select **OK**.
- Enter comments to be printed on the test results (optional).
- A saving PDF dialog box will appear.





#### Saving test as a CSV file

To save an extensive report of the test, select the  $\ensuremath{\mathsf{CSV}}$  icon. Both PDF and CSV features can be used independently of each other.

- To save results, if CSV button is not visible, select More Options.
- Select CSV to save as a CSV (convertible to a Microsoft Excel file).
- Enter the name of your file and select OK.
- Enter comments to be printed on the test results (optional).
- A saving **CSV** dialog box will appear.

\*\* DO NOT REMOVE SD CARD UNTIL DIALOG BOX DISAPPEARS\*\*

| VOP Name      |       |              | Test Duration |     |
|---------------|-------|--------------|---------------|-----|
| RG6U          | 84.6  | 3:43:22 PM   | 0:01:03       | 19  |
| Primary Fault |       | Secondary Fa | ult           |     |
| 116.2 ft      | OPEN  | 114.4 ft     | SHORT         |     |
| Distance      | Fault | Time         | Time Since St | art |
| 114.4         | Short | 3:43:27 PM   | 00:05.9       |     |
| 114.4         | Short | 3:43:31 PM   | 00:09.5       |     |
| 114.4         | Short | 3:43:42 PM   | 00:21.0       |     |
| 114.4         | Short | 3:43:43 PM   | 00:21.7       |     |
| 114.3         | Short | 3:44:14 PM   | 00:52.4       |     |
| 114.4         | Short | 3:44:17 PM   | 00:55.9       |     |
| 114.4         | Short | 3:44:19 PM   |               |     |
| 14.5          | Open  | 3:43:35 PM   | 00:13.8       |     |
|               | Open  | 3:43:37 PM   |               |     |
| 14.6          | Open  | 3:44:03 PM   |               |     |
|               | Open  | 3:43:49 PM   | 00:27.9       |     |
| 116.2         |       | 3:43:50 PM   |               |     |
| 116.5         | Open  | 3:43:50 PM   |               |     |
| 116.7         | Open  | 3:43:52 PM   | 00:30.1       |     |
| 116.6         |       | 3:43:53 PM   |               |     |
|               | Open  | 3:43:53 PM   |               |     |
| 115.8         | Open  | 3:43:56 PM   | 00:34.9       |     |
|               | Open  | 3:43:57 PM   |               |     |
| 115.7         | Open  | 3:43:57 PM   | 00:35.6       |     |
|               |       |              |               |     |

#### Tone

- Turn Arc Chaser on by pressing the red **Power** Button.
- On the Home Screen, select the **Tone** icon 🥺 .
- Connect the leader cable or dual banana to BNC adapter.
- Connect a cable to the leader cable or dual banana/BNC adapter.
- Select Tone on the Home Screen 🕺.
  - Under Tone Selection, one of four tones can be selected:
    - Low (lowest frequency)
    - High (highest frequency)
    - Melody #1 (a three-tone jingle)
    - Melody #2 (a four-tone jingle)
  - Select Start (SYMBOL) to transmit the tone output to the cable under test. The icon and message Sending Tone will appear.
  - A tone probe placed along-side or at the end of the cable will produce an audible tone.
  - Select Stop icon or press the green key to halt tone output.

#### File Manager

You can rename files in preparation for saving to your computer, or delete them from your file list, using the File Manager function.

- Select File Manager E. A screen will appear with a list of Fault Location files and type of test displayed above the file list.
- Fault location files are displayed first.
- Select the  $\boldsymbol{Up}$  or  $\boldsymbol{Down}$  icons to go to the last or first selection on the list.
- Select the file name on the screen to select a file.
- To rename the file, select Rename.
- After creating the file name, select **OK**.
- To delete a file, select a file on the screen then press Delete. A dialog box will appear to confirm.
- Select either OK or Cancel.

#### Managing IFD files

- To manage Live IFD files, select the Show IFD icon on the screen to show Live IFD files.
- Select Up or Down to go to the first or last selection on the list.
- Select the file name on the screen.

- To rename the file, select Rename.
- After creating the file name, select OK.
- To delete a file, select a file on the screen then press Delete. A screen will appear to confirm.
- Select either **OK** or Cancel.

## Saving Results to Your Computer

You can copy test files with results to your computer using the SD card or the micro USB cable (included). Where and how your files will appear on your computer may vary with each computer's configuration.

## USB

- Connect the Arc Chaser from the USB port found on the left side of the unit to your computer using the included micro USB cable.
- From the Home Screen, select USB Չ .
- If a micro USB cable is not connected, a confirmation screen will appear to connect a micro USB cable. Select **OK** or **Cancel**.
- A removable drive window will appear on your computer (If a removable drive window does not appear, open **Computer** and look for the removable drive, then double click on it). Double click on the Fault Location folder or the Live IFD folder to view your test files.
- Copy the files onto your computer's hard drive or other preferred location.

# SD Card

- Remove the SD card from the Arc Chaser.
- Insert the SD card into a computer or through an SD card USB adapter.
- A removable drive window will appear on your computer. (If a removable drive window does not appear, open Computer and look for the removable drive, then double click on it).
- Open the **Reports** folder and inside open either the Fault Location (**FLT\_LOC**) folder or the Live IFD (**LIVE\_IFD**) folder to view your test files.
- Copy the files onto your computer's hard drive or other preferred location.

#### MAINTENANCE

#### Batteries

- The Arc Chaser is powered by a rechargeable Lithium ion battery.
- To charge the battery, plug the charger into the side port and then plug the charger into the power source.
- Arc Chaser battery is not user serviceable. If the event you need to remove the battery, unscrew the back panel of the Arc Chaser and unplug the battery from the Arc Chaser. Be sure to remove all the leads connecting the battery to the device.
  - NOTE: The advanced Lithium ion battery is designed to last the life of the unit and should not have to be replaced. Lithium ion batteries are hazardous waste and should be disposed of in compliance with local, state, and federal hazardous waste regulations.

#### Cleaning

- Use a clean, damp cloth to clean the Arc Chaser.
- Before cleaning, disconnect all cables from the Arc Chaser. Failing to disconnect cables can damage the device and cause personal injury.
- Do not use harsh cleaners, abrasives, or solvents.

#### Storage

- When not in use, store the Arc Chaser in the included protective case.
- Do not expose the Arc Chaser to high temperatures (above 80°C) or humidity. See the specifications section for temperature limits.

#### **CUSTOMER SERVICE**

For technical information, visit www.t3innovation.com. For customer service, email support@t3innovation.com.

| Contact Numbers: | Phone: 805-233-3390<br>Fax: 805-383-4507      |
|------------------|---|
| Address:         | 808 Calle Plano<br>Camarillo, CA 93012<br>USA |

#### **SPECIFICATIONS**

| Measurement<br>Technology | Spread Spectrum Time Domain Reflectometry<br>U.S. Patents and Patents Pending  |  |
|---------------------------|--|--|
| Power                     | Wall power voltage input Range: 10->28V, 20W<br>Arc Chaser will run with wall power down to 4V, however<br>batteries will not charge unless input voltage is greater<br>than 10V.<br>Totex battery pack, with four LIO Rechargeable Cells.<br>Full screen brightness, dynamic test, 7.8V battery: 335mA.<br>0->100% brightness, @7.8V: 90mA<br>Typical battery current: 185mA<br>Low power mode (or timed out): 70mA;<br>Off mode: 420 µA board (+500uA battery pack circuitry.) |  |
| Maximum Range             | 12,000 ft (3,657m) at .999 VOP<br>Maximum testable cable length varies with VOP and<br>cable type.<br>VOP (%) with 3 digit precision ranging from 20.0% to 99.9%   |  |
| Output Connector          | Banana Jacks 600V CAT II   |  |
| Leader Cable              | Leader Cable, Cable Assembly, 5 ft. (1.5m) 600 Volt CAT III,<br>95 Ohm   |  |
| Battery Life              | Battery Pack, initial 5200 mA-hr (typical):<br>Operating at static screen or occasional static test:<br>185mA (assuming 65% LCD brightness)<br>Dynamic Operation: 280mA (assuming 65% LCD brightness)<br>Low power: 70mA, assuming full charge of 5000mAH,<br>71 hours.<br>Off : 420 µA board (+500uA battery pack circuitry)  |  |
| Altitude                  | 6,500 ft (2,000 m)   |  |
| Temperature               | Operating: (-10 if standard crystal) -20 to 70°C;<br>Storage: (-30 to 80°C)  |  |
| Humidity                  | 10 to 90% non-condensing   |  |
| Enclosure                 | Operating: (-10 if standard crystal) -20 to 70°C;<br>Storage: (-30 to 80°C)  |  |
| Size                      | 2.41H x 4.18W x 9.03L (6.12 x 10.61 x 22.94 cm)  |  |
| Weight                    | With batteries: 1 lb 9 oz (862 g)  |  |
| Safety<br>Compliances     | Complies with ANSI/ISA 82.02.01 (61010-1) 2004, CAN/<br>CSA-C22.2 No 61010-1-04, UL 6101B (2003) and IEC/EN<br>61010-1 2nd Edition for measurement Category II, 600 V,<br>EMC EN61326-1  |  |

#### PATENTS/INTELLECTUAL PROPERTY

T3 Innovation product: Arc Chaser may be covered by one or more of the following patents: US Patent No. 6868357, US Patent No. 6937944, US Patent No. 7069163, US Patent No. 7215126, US Patent No. 7250772, US Patent No. 7271596, US Patent No. 7165200, US Patent No. 7495450, US Patent No. 7075309, US Patent No. 7282922, US Patent No. 7634012, US Patent No. 7622931, US Patent No. 7548071.

#### Warranty Information

T3 Innovation guarantees that its products will be free of all defects in material and workmanship. This warranty extends for a period of 12 months for the T3 Innovation test equipment from the date of manufacture or proof-of-purchase.

All products deemed defective under this warranty will be repaired or replaced at T3 Innovation's discretion. No further warranties either implied or expressed will apply, nor will responsibility for operation of this device be assumed by T3 Innovation.

#### **Product Registration**

Registering your Arc Chaser allows you to access support information and receive product updates. Register your products on the T3 Innovation website: www.t3innovation.com/warranty.

#### Disposal

**EXAMPLE COMPLIANT:** Prior to disposal of this product, please contact T3 Innovation for proper disposal options.

#### Returns

Prior to returning any product to T3 Innovation, you must first request a Return Merchandise Authorization Number by contacting the Customer Service Department at 805-233-3390 or by emailing support@t3innovation.com.

Note: Shipments will not be accepted without this number, which must be clearly marked on the shipping label.

- Prior to packing, include a copy of the sales receipt if available. Otherwise the date of manufacturer will be used to calculate warranty date.
- 2. Provide a description of the operational problem with the product(s) being returned.
- 3. Include a contact name, phone number, and e-mail address.
- 4. Pack items securely to prevent damage during shipping.
- 5. Ship prepaid to: T3 Innovation

808 Calle Plano Camarillo, CA 93012 USA

# Arc Chaser™

The 21st Century Dual Mode TDR for Testing and Monitoring Energized and Unenergized Cables

# **User Manual**



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