

Cable Prowler™

Full-Color Cable Testing and Report Management

User Manual

- Displays length measurement for each pair in feet or meters using TDR technology
- Detects presence of PoE and mode of PoE per IEEE 802.3af/at with load test for voltage drop
- Detects and reports current link speed and link capabilities for active Ethernet drops, up to 1 Gbps
- Link light to identify location on a hub/switch/router port
- Tests Ethernet cable configuration and verifies connectivity while conducting tests for opens, shorts, miswires, split pairs, and reverses
- Generates selectable tones on selected pins for use with tone tracers
- Supports up to 8 testing & ID remotes for network & telephone cables
- Supports up to 20 network & coax ID-only mapping remotes
- View saved cable tests
- Full color graphical wire-mapping
- Ability to define cable name, save cable tests, and print all results (cable testing & network testing)
- Multilingual (English, French, Spanish)



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ABOUT THIS MANUAL

The Cable Prowler™ combines the functions of a high-end cable tester and length-measurement device. It identifies link status, link capability, and detects PoE. All of this is done in full color with internal memory to save your results.

Feature	Function
TDR technology	▪ Measures cable length and distance to faults
High-resolution color display	▪ Easy viewing in any environment
Color wire map per TIA568A/B codes	▪ Makes data visualization, detection, and saving
USB, RJ45 and coaxial connectors	▪ Tests network and coaxial cables ▪ Easy-to-export results via USB
Tone Generation	▪ Traces cable runs and locates faults by sound
Remotes	▪ Verifies connectivity at the opposite end of a cable and provides identification
Active Network Tests	▪ Detects and reports current link speed and link capabilities for active Ethernet drops, up to 1 Gbps
PoE Detection	▪ Detects presence of PoE and mode of PoE per IEEE 802.3af/at with load test for voltage drop
Save and View Test Results	▪ Tests results can be named, saved, and viewed on the unit
Cable Prowler PC Application	▪ Provides the ability to upload or download test results for saving, viewing, or printing ▪ Makes it easy to update Cable Prowler firmware

Safety Information

To ensure safe operations of the Cable Prowler, 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.

Table 3. Safety Information

Notification	Definition
	The Cable Prowler is designed for use on cabling systems with or without voltage. ▪ The Voltage! icon turns on when the voltage exceeds Safety Extra Low Voltage (SELV) rating of 60 Volts peak AC or DC. ▪ Internal components are protected up to 400 Volts peak AC or DC. ▪ Operating the Cable Prowler when a voltage source exceeds 60 Volts peak AC or DC may pose a safety hazard for the user.
	Do not place equipment and its accessories in the trash. Items must be properly disposed of in accordance with local regulations.
	<i>It is not recommended to use the Cable Prowler when the Voltage! icon is present.</i>

Cable Prowler Kits

Your Cable Prowler is part of a kit. T3 offers three kits to meet your cable testing needs:



CB300

- Cable Prowler Main Unit
- Coax and Network Remote Set: #1-5, F-Conn Coupler (Qty 2) includes foam holder
- Network/Tel Testing and ID Remote #1
- RJ12 Cable – Qty 2
- Micro USB Cable
- Hanging T3 Pouch



CB350

- Cable Prowler Main Unit
- Coax and Network Remote Set: #1-5, F-Conn Coupler (Qty 2) includes foam holder
- #1-8 Network/Tel Testing and ID Remotes
- RJ12 Cable – Qty 2
- Micro USB Cable
- Large T3 Pouch



CB400

- Cable Prowler Main Unit
- #1-8 Network/Tel Testing and ID Remotes
- #1-20 Coax Remotes
- #1-20 Network Remotes
- F-Conn Coupler (Qty 2) includes foam holder
- #1-8 Network/Tel Testing and ID Remotes
- RJ12 Cable – Qty 2
- TrakAll™ – Tone and Probe
- Micro USB Cable
- Large T3 Pouch

Cable Prowler Accessories

AD004	F-Connector Coupler: F81
CA007	Cable Assembly: Micro USB to USB
CA012	Cable Assembly: RJ12, 1-1 pinned, 8 inch
CP100	Hanging T3 Pouch
CP200	Large T3 Pouch
RK120	Coax ID Remote Set: #1-20 coax ID includes foam holder
RK220	Network ID Only Remote Set: #1-20 includes foam holder
RK305	Coax and Network Remote Set: #1-5, F-Conn Coupler includes foam holder
TP200	TrakAll: tone generator and probe
TT001	Network & Telephone Testing/ID Remote #1
TT002	Network & Telephone Testing/ID Remote #2
TT003	Network & Telephone Testing/ID Remote #3
TT004	Network & Telephone Testing/ID Remote #4
TT005	Network & Telephone Testing/ID Remote #5
TT006	Network & Telephone Testing/ID Remote #6
TT007	Network & Telephone Testing/ID Remote #7
TT008	Network & Telephone Testing/ID Remote #8
TT108	Network & Telephone Testing/ID Remotes #1-8

Cable Prowler Description



Remotes



RK305
Coax Network Remote Set: #1-5, F-Conn Coupler includes foam holder



RK120
Coax Remote Set: #1-20 coax ID; includes foam holder



TT108
Network and Telephone Testing/ID Remote Set: #1-8



RK220
Network ID Only Remote Set: #1-20 includes foam holder

LCD Screen

The Cable Prowler features a full-color graphic LCD screen. Press any of the four soft keys (blue) below the on-screen icon to select that function. Alternately, you can use the side or up/down arrows to scroll to your selected on screen function and press enter (the center arrow).

Types of Faults

Several possible error conditions on the cable are detected and displayed on screen of your Cable Prowler.

Cable Fault	Description
Miswire	Cable's wire connection does not follow cabling standards.
Open	Wire connection is not continuous throughout cable length.
Short	A pair has a high resistance fault. This occurs when the wires are making contact with each other due to damage or improper termination.
Split	A cable can be wired with correct continuity but not with correct pairing. This most often happens when the cable is terminated consistently at both ends but in the wrong order.
Length	Displays the pair lengths found. Length discrepancies may be determined by these results.
Network Connectivity	Displays network connectivity which allows the user to determine if it is different than expected.
PoE	Displays results in red if voltages are lower than expected.

OPERATIONS

Follow instructions carefully and pay attention to warning and caution symbols. Failure to observe warnings can result in severe injury, death, and damage to the Cable Prowler tester.

On/Off

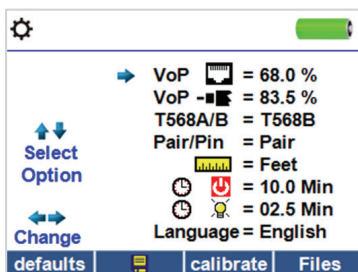
Turn unit On/Off—press the red button  to activate the Cable Prowler or turn it off.

Automatic Power Down

The Cable Prowler automatically turns off to conserve battery power if no input or activity is performed on the device. See “setup” to adjust the length of time before automatic power down.

SETUP

From the main screen, press the blue button on the far right below the "setup" symbol . Use the up and down arrow buttons to scroll through the Setup menu and to select an option.



- Use the up and down buttons to navigate through the settings.
- Use the right arrow buttons to select setting.
- Use the up and down arrow buttons to change the selected setting.
- Press the enter button  to accept your changes.
- Press the left arrow to unselect a setting.

Changing a Setting

- RJ45 VoP **VoP**  : Set the VoP to be used to measure RJ45 cable.
- Coaxial VoP **VoP**  : Set the VoP to be used to measure coaxial cable.
- TIA568A/TIA568B: Set the RJ45 wiring configuration to TIA568A or TIA568B wiring standard.
- Pair/Pin: Set the RJ45 wiremap to measure by pair or pin.
- Meters/Feet  : Set the length measurement to be displayed in Meters or Feet.
- Pair/Pin can be changed to test the RJ45 from Wire Order to Pair Order.
- Power Off Timeout   : Set the desired automatic timeout from 00.5-99.9 minutes.
- LCD Dimmer Timeout   : Set the desired automatic timeout from 00.5-99.9 minutes.
- Language: Set the desired language from English (default) to Spanish or French.
- Tone Generator Timeout: Set the desired automatic timeout 00.5-99.9 minutes.
- PoE Test: Turn the PoE test On or Off. Turning the PoE off will allow the Cable Prowler to detect a network without running a PoE test.
- Press the "Calibrate" softkey to calibrate the Cable Prowler. This will calibrate the Cable Prowler at 0 ft. No cables should be connected to the Cable Prowler when performing a calibration.
- Press the Save soft key to save your options.

Note: If only temporary change is desired, do not press the save button. If the save button is not pressed, the previous settings will be restored once the unit is powered off.

- To restore factory default values, press the defaults soft key.
- To view saved files, press the Files soft key.

CABLE TESTING

Cable Testing Guidelines

The Cable Prowler tests coax, network, and phone cables to detect possible faults, measure cable lengths, show wire pairing and examine a cable's physical/electrical properties.

Important Notes:

- *RJ jacks for data and phone share internal connections on the Cable Prowler. Connect just one RJ cable at a time.*
- *You cannot connect an RJ and coaxial cable at the same time.*
- *If testing RJ cables, remove any coax cable adapters*

Safety Notes

The Cable Prowler is designed for use on cables with voltage below 60V. Do not plug the device into a source with voltage above 60V. Connecting the device to live AC power can damage the unit and pose a safety hazard.

Poorly terminated RJ plugs can damage the jacks on the Cable Prowler. Inspect all RJ plugs before inserting them into the Cable Prowler. Make sure you insert the plug into the appropriate jack of the remote or device.

Cable contacts should be recessed into the plastic housing of the receiving jack. Don't plug a six-position phone plug into an eight-position data jack on a remote or remote device.

Length Testing

Cable Prowler measures cable length and length to faults using Time Domain Reflectometry (TDR). Velocity of Propagation (VOP) is the TDR measurement of the speed of the reflected waveforms compared to the speed of light. VOP values can vary among cable types, lots, and manufacturers. In most cases, these differences are minor and may be disregarded.

Cable Testing with Remotes

#1-8 Network/Tel Cable Prowler remotes (P/N TT108) are used to verify connectivity at the opposite end of a cable and provide an ID. To connect to a telephone cable, use the included RJ12 no fault telephone patch cables to connect to a RJ11 wall plate. The 1-20 Coax (P/N RK120) and 1-20 Network (P/N RK220) remotes are used to provide an ID.

How to Perform a Cable Test

- Power on the Cable Prowler.
- Connect a network, coax, or telephone cable to the appropriate connector on the top of the Cable Prowler.
(Warning! Do not plug an RJ11 cable directly into the Cable Prowler. A standard RJ11 cable will damage the Cable Prowler's RJ45 jack. Use the RJ adapter patch cable (CA012) that is included with the Cable Prowler.)
- Press the enter button to display the cable test menu. The Cable Prowler will automatically perform a test upon entering the cable test menu.
- To test coax or telephone cable, press the coax or telephone soft key.
 
- If a remote is NOT being used (one ended test), the Cable Prowler will test the length of each pair, opens, shorts, or split pairs. Performing a one ended test will not verify connectivity on the opposite end of the cable.
- If a remote is being used, connect the remote to the opposite end of the cable.
- To calibrate the VOP, connect a known length of cable to the Cable Prowler and press the up/down/left/right buttons to increase or decrease the VOP. Press the left and right buttons to select and change the VOP one digit at a time.
- While adjusting the VOP, press the test button until the desired length of the cable is displayed.
- To save the calibrated VOP, enter the settings menu and press the Save soft key (note: your adjusted VoP will be displayed next to the RJ45 or Coax icon).
- Press the green test button  or the loop mode soft key  to perform additional tests.
- To save a cable test, press the save icon. 
- Use the arrow buttons and the enter button to name the cable test file.
- Press the Save icon to save the cable test file. 

Network / Power over Ethernet (PoE) Testing

Power over Ethernet or PoE describes a specification which allows passing of electrical power along with data on Ethernet cabling.

There are two standardized specifications the IEEE 802.3af, and IEEE 802.3at also known as PoE+. The first provides a maximum 12.95 Watts, and the second provides a maximum of 25.5 W.

PoE also has two modes A and B. Mode A uses pins 1 and 2 for the positive voltage and pins 3 and 6 for the negative voltage. Mode B uses pins 4 and 5 for the positive voltage and pins 7 and 8 for the negative voltage.

The Cable Prowler tests to see if either PoE or PoE+ is present. If it is detected It then activates it and tests the voltage under minimum and maximum current load, and displays the result. The Cable Prowler will also display which PoE mode is found.

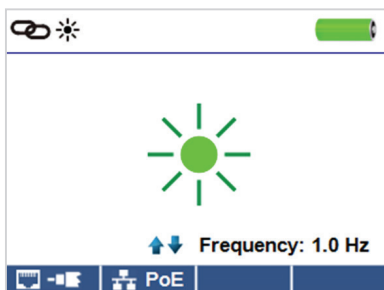
While PoE is activated, the Cable Prowler also communicates and displays the Link Status and Link Capability status.

 PoE 	
Link Capability	Link Flow Control
10Base-T	Full / Half Duplex
100Base-TX	Full / Half Duplex
Connected at	PoE A 12.95W Max
100 Base-TX	57.9 V Min Load
MDI FDX	56.5 V Max Load
    PoE  	

- Power on the Cable Prowler.
- Connect the Cable Prowler to a switch or active network jack.
- Use the left or right arrow buttons to select the Network/PoE icon and press the enter button or press the Network/POE soft key.
- The Cable Prowler will automatically detect and display link capability, connection speed, PoE mode, and PoE Min/Max voltages.
- To perform a Network Test only, press the PoE soft key. 
- To save the PoE data, press the Save soft key. 
- Use the arrow buttons and the enter button to name the PoE file.
- Press the Save soft key to save the PoE file.

Link Light

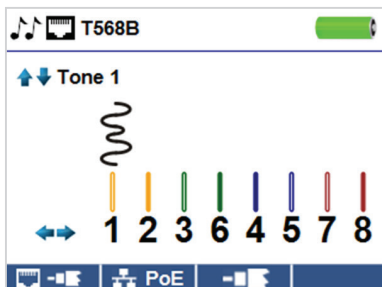
The Link Light test is used to help identify a hub or switch port.



- Power on the Cable Prowler.
- Connect the Cable Prowler to an active Network cable or port.
- Press the Network/PoE soft key  then press the Link Light soft key. 
- The Link Light will automatically begin upon entering the Link Blink menu.
- The Link LED above the LCD screen will flash at the same cadence as the port light.
- Use the up and down arrows to adjust the transmit frequency to suit the switch characteristics.

Tone Generator

Tone generation is used to trace cable runs and locate faults by sound. Selection of this mode emits a cadence from the Cable Prowler through the connected cable. The tone is detected by a tone tracer probe, sold separately. Refer to the Accessories section.



- Power on the Cable Prowler.
- Use the left or right arrow buttons to select the tone generator icon and press the enter button.
- The Cable Prowler will automatically activate the tone generator upon entering the tone generator menu.
- Connect your cable to either the RJ45 jack or coax connector located on the top of the Cable Prowler.
- To switch between network and coax cables, press the coax cable/ RJ45 soft key  / .
- Press the up or down arrow buttons to select tone cadences 1 thru 4.
- Press the left or right arrow buttons to select which pin or pair to place the tone.
- Use a tone probe (P/N TP200 TrakAll) alongside the cable or at the end of the cable to hear an audible tone.



Cable Prowler Application

The Cable Prowler Application gives you the ability to view, save and print cable and network test results on your computer. This application can also update your Cable Prowler's firmware.

To install the Cable Prowler application

- Go to www.t3innovation.com/downloads to download the Cable Prowler software application.
- Save the Cable-Prowler-Application.zip file to your computer's desktop. Double click on the zip file to open it.
- Double-click on "setup.exe" to begin the installation.

To view test results on your computer

- Open the Cable Prowler application .
- Connect the Cable Prowler to your computer with the included USB cable.
- Power on the Cable Prowler . The software will display "Cable Prowler connected" at the bottom left of the screen.
- Click the "Read Cable Prowler" icon to read the test results. The cable names will be displayed on the top left of the screen. The first cable name will automatically be selected and displayed at the top right.
- Click on the cable IDs on the left of the screen to view test results for that ID.
- You may delete a single test by selecting it and "Delete", or to delete the entire test list click on "Delete All Tests."

To save the cable results to your computer

- Click on "File" on the tool bar at the top left.
- Click on "Save File." A "Save As" dialogue will appear; navigate to where you want to save the test results and click "Save." You can also rename the file in the "Save As" dialog window. The computer software application will remember the last place you saved a file.

To read previously saved cable tests

- Click on "File," "Open," and select the desired test result file.
- After tests have been saved, they will automatically be reloaded the next time the Application is opened.

To write cable tests to the Cable Prowler

- Connect the Cable Prowler to your computer using the included USB cable.
- Open the Cable Prowler software application. Click on "File", "Open", and select the desired cable tests.
- Click on "Write Prowler" and the contents of the currently displayed tests will be written to the Cable Prowler.

To print a test

- Select the desired test.
- Click on "File," "Print"

To create and print test results report

- First select the tests to be included in the report in the Test Results list box. To select multiple tests do one or more of the following.
 - Click on a test and drag to the end of a range of tests.
 - Click on the first desired test, then Shift click on the last desired test
 - Press the Control Key and click on a test to add or delete it from the selected tests.
 - Select Create Report Pdf under the File menu.
 - When a Dialog box comes up, select the file name and location for the Pdf file to be saved.
 - Select Create Report Pdf or Create Report CSV under the File menu.
 - When the Dialog box appears, select the file name and location for the Pdf or CSV file to be saved.
- *Note: Columns and Rows may need to be adjusted to view all of the data when CSV files are opened with Excel.

Updating Firmware

To Download the New Cable Prowler Firmware

- Go to www.t3innovation.com/downloads.
- Click on the Cable Prowler Firmware update link to download the new firmware.
- Save the Cable Prowler.cyacd file to your computer.

Updating the Cable Prowler

- Connect the Cable Prowler to your computer using the included USB cable.
- Power on the Cable Prowler . The software will display “Cable Prowler Connected” at the bottom left of the screen.
- Click the “Load File” icon and select the desired Cable Prowler.cyacd firmware file. Click the “Begin Download” icon.
- The Cable Prowler screen will go dark and it will begin the firmware installation (the screen will remain dark during the installation).
- The Cable Prowler Application will display a progress bar to indicate the download progress.
- Once complete, the Cable Prowler application will display “success” along with the installation date and time in the Status Log window. The Cable Prowler will power itself back on after the firmware installation.
- If the Cable Prowler is interrupted or an error occurs during installation the Cable Prowler screen will remain dark. To recover the Cable Prowler firmware, close the Cable Prowler application, disconnect the Cable Prowler from the USB cable, then remove the batteries. Reinsert the batteries and follow the update instructions.

Important Notes: The Cable Prowler screen will remain dark until it has been reprogrammed.

If an error occurs during the download process, follow the steps below:

- Close the Cable Prowler application.
- Reset the Cable Prowler by removing a battery and reinserting it.

Important Notes: the Cable Prowler screen may remain dark, which means it is in firmware update mode.

- Restart the application and it should say “Cable Prowler Attached” at the bottom left of the screen.
- Follow the Cable Prowler Firmware Update instructions above.

MAINTENANCE

Batteries

- The Cable Prowler is powered by six AA alkaline batteries.
- To replace batteries, open the back cover by unscrewing the single screw with a philips head screwdriver.
- Take out the old batteries and replace. Slide the new batteries in by following the directional guidelines in the battery chamber.
- Screw the back cover back on to the Cable Prowler. Do not over tighten the battery back cover.

Warning: Do not use carbon batteries. Do not mix new batteries with old batteries, due to the risk of battery leakage.

Cleaning

- Use a clean, damp cloth to clean the Cable Prowler.
- Before cleaning, disconnect all cables from the Cable Prowler. 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 Cable Prowler in a dry, protective case.
- Batteries should be removed if the device is stored for a long time.
- Do not expose the Cable Prowler to high temperatures or humidity. See the specifications section for temperature limits.

SPECIFICATIONS

Measurement Technology	Time Domain Reflectometry (TDR)
Cable Measurements	Cable Testing and ID: up to 1000 ft (305 m) Split Pair Detection: 3 ft (1 m) to 1,000 ft (305 m) Length Measurement: 0 to 1,500 ft (457 m), $\pm$ (5%+1ft) Supports 8 continuity and ID number remotes (RJ-45) Supports 20 RJ-45 and 20 F-Connector ID only remotes
Power over Ethernet	Tests for IEEE 802.3af and IEEE 802.3at (PoE Plus) compliant PoE Tests for classes and loads cable up to 25.5 watts (at mode 4) Identifies Mode A or B (pairs with PoE)
Active Ethernet	Identifies advertised speeds of 10/100/1000base-t half or full duplex Can Link to network at 10/100base-t
Maximum Voltage	Parameters refer to the maximum voltage that can be applied to any 2 connector pins without causing damage to the tester. • RJ Jack: 66 VDC or 55 VAC • F-connector: 50 VDC or VAC
Save Test Results	Stores up to 256 Cable or network tests with user defined names
Tone Generation	Tone Frequencies: 730 Hz and 1440 Hz
Languages	English, French, Spanish
Battery Life	For 6 x AA, 9 VDC, 2,200 mA-hr (typical) alkaline battery: Operating – 20 hours typical Standby – 1.5 years typical (200uA max standby current) Batteries are included
Altitude	10,000 ft (3048 m) operating
Temperature	Operating: 32 to 122°F (0 to 50°C) Storage: -22 to +140°F (-30 to 60°C)
Humidity	10 to 90% non-condensing
Enclosure	High-strength PC/ABS plastic with V0 rating with boot Withstands 4 foot drop on to concrete
Size	1.85"H x 3.6"W x 6.8"L (4.7 x 9.15 x 17.3 cm)
Weight	With batteries: 1 lb 2 oz (510 g)
Safety Compliances	CE
Warranty	1 Year

CUSTOMER SERVICE

Contacting T3 Innovation

For technical information and customer support, please visit www.t3innovation.com or send an email to support@t3innovation.com.

Contact Numbers: Phone: 805-233-3390
Fax: 805-383-4507

Address: 808 Calle Plano
Camarillo, CA 93012
USA

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

Registration of your purchased equipment and accessories allows you to access support information and receive notifications of product updates. To register products, please visit the T3 Innovation website at www.t3innovation.com/warranty.

Disposal

 WEEE Compliant: Prior to disposal of this product, please contact T3 Innovation for proper disposal options.