



# CableMaster 800/850

Identify, Monitor, and Correct LAN Issues

## User Manual



# CableMaster 800/850

Identify, Monitor, and Correct LAN Issues

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## USER MANUEL

- Pings IPV4 and IPV6 devices to verify DHCP and network devices
- Discovers CDP, LLDP, and VLAN
- Network Mapping
- Detects presence and mode of PoE per IEEE 802.3af/at and identifies PoE or PoE+
- Detects and reports current link speed and link capabilities for active Ethernet drops, up to 1 Gbps
- Displays length measurement for each pair in feet or meters using TDR technology
- Tests Ethernet cables for opens, shorts, miswires, split pairs, and reversals
- Supports up to 8 testing & ID remotes for network & telephone cables
- Supports up to 20 network & coax ID-only mapping remotes
- Full color graphical wire-mapping
- Save cable and network tests for reviewing, documenting, and printing
- Multilingual (English, French, Spanish, Italian, German)

## CABLEMASTER 800/850 FEATURES

The CableMaster 800/850™ Cabling and Advanced Network Tester has the capability to identify, monitor, and troubleshoot LAN issues associated with physical layer and link conditions in the network.



<b>IPV4 and IPV6 support</b>	CableMaster 800/850's active network features support both IPV4 and IPV6
<b>Ping Test</b>	Ping specified IPV4 and IPV6 addresses or URL targets
<b>Network Mapping</b>	Map Network devices by obtaining network IP4 addresses, device names, and MAC addresses.
<b>CDP and LLDP Detection</b>	Detects and displays LLDP and CDP switch information.
<b>PoE Detection</b>	Detect presence of PoE AF or AT of PoE per IEEE 802.3af/at with load test for voltage drop
<b>TDR Technology</b>	Measure cable length and distance to faults
<b>One Ended Cable Test</b>	Measures and identifies Opens, Shorts, and Split Pairs without a remote
<b>High-resolution color display</b>	Easy viewing in any environment
<b>Color wire map per TIA568A/B codes</b>	Makes data visualization, detection, and saving easy
<b>USB, RJ45, and coaxial connectors</b>	Tests network and coaxial cables, Easy-to-export results via USB
<b>Tone Generation</b>	Trace cable runs and locates faults by sound
<b>Network/Telephone Testing Remotes</b>	Verifies connectivity at the opposite end of a cable and provides identification
<b>ID Only Remotes</b>	Identify up to 20 RJ45 or Coax remotes

<b>Active Network Tests</b>	Detects and reports current link speed and link capabilities for active Ethernet drops, up to 1 Gbps
<b>Save and View Test Results</b>	Save Cable tests, Network PoE tests and Network Mapping tests
<b>CableMaster 800/850 PC Application</b>	<ul style="list-style-type: none"> <li>▪ Provides the ability to upload or download test results for saving, viewing, or printing</li> <li>▪ Makes it easy to update CableMaster 800/850 firmware</li> </ul>
<b>TCP/UDP Throughput Test</b>	Transfers data in both directions over the network using TCP or UDP. Reports throughput and packet count. Allows control of total data size and delay between packets. Displays visual bidirectional socket control.

## Safety Information

To ensure safe operation of the CableMaster 800/850, 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

<b>Notification</b>	<b>Definition</b>
	<ul style="list-style-type: none"> <li>▪ The CableMaster 800/850 is designed for use on cabling systems with or without voltage.</li> <li>▪ Operating the CableMaster 800/850 when a voltage source exceeds 60 Volts peak AC or DC may pose a safety hazard for the user.</li> </ul>
	<ul style="list-style-type: none"> <li>▪ Do not place equipment and its accessories in the trash. Items must be properly disposed of in accordance with local regulations.</li> </ul>

## Cable Master 800/850 Description



Coax Connector

USB Port

RJ45 Jack

Cable Tracker: Tone Generator Probe



## Remotes



**Coax and Network Remote Set: #1-5, F-Conn Coupler with foam holder**



**Coax Remote Set: #1-20 coax ID**



**Network and Telephone Testing/ID Remote Set: #1-8#1-20 coax ID**



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

## Included in the kit

### CableMaster 800



- Professional cable tester includes:
- 1 network/tel testing and ID remote
  - 6xAA batteries,
  - 2 RJ45 cables,
  - micro USB cable,
  - pouch

### CableMaster 850



- Professional cable tester includes:
- 1 CableTracker CT15 tone probe,
  - 8 network/tel testing and ID remotes,
  - 1 cable assembly RJ45 to alligator clips,
  - 1-20 coax ID remotes,
  - 6xAA batteries,
  - 9 RJ45 cables,
  - micro USB cable,
  - pouch

## LCD SCREEN

The CableMaster 800/850 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


Cable Fault	Description
<b>Miswire</b>	Cable's wire connection does not follow TIA568A/B Ethernet cabling standards.
<b>Open</b>	Wire connection is not continuous throughout cable length.
<b>Short</b>	A pair has a low resistance fault. This occurs when the wires are making contact with each other due to damage or improper termination.
<b>Split</b>	A cable can be wired with correct continuity but not with correct circuit pairing. This most often happens when the cable is terminated consistently at both ends but in the wrong order.
<b>Length</b>	Displays the pair lengths found. Length discrepancies may be determined by these results.
<b>Network Connectivity</b>	Displays network connectivity which allows the user to determine if it is different than expected.
<b>PoE</b>	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 or death and damage to the CableMaster 800/850 tester.


### On/Off

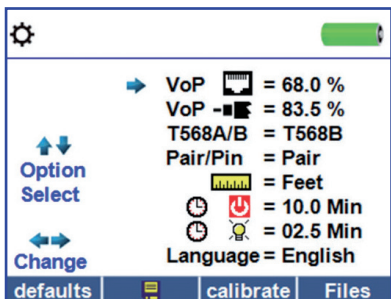
- Turn unit On/Off—press the red power button  to turn the CableMaster 800/850 on and off.




### Automatic Power Down

The CableMaster 800/850 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 soft key on the far right below the "setup" symbol. 



- Use the up and down buttons to navigate through the 5 settings pages.
- Use the left or right arrow buttons to select setting.
- Use the up and down arrow buttons to change the highlighted setting.
- Press the enter  button to accept your changes.
- When editing an IP address, press the "Done" soft key to return to the setup screen. 
- Press the Save soft key  to save your changes.

## Changing a Setting

<b>RJ45 VOP</b> VoP 	Set the VoP to be used to measure RJ45 and Telephone cable.
<b>Coaxial Vop</b> VoP 	Set the VoP to be used to measure coaxial cable.
<b>TIA568A/TIA568B</b>	Set the RJ45 wiring configuration to TIA568A or TIA568B wiring standard.
<b>Pair/Pin</b>	Pair/Pin can be changed to test the RJ45 from Wire Order to Pair Order
<b>Meters/Feet</b> 	Set the length measurement to be displayed in Meters or Feet.
<b>Power Off Timeout</b>  	Set the desired automatic timeout from 00.5-99.8 minutes. To disable the timeout, set to 99.9.
<b>Language</b>	Set the desired language from English (default) to Spanish, French, Italian, or German.
<b>LCD Dimmer Timeout</b>  	Set the desired automatic timeout from 00.5-99.8 minutes. To disable the timeout, set to 99.9.
<b>Tone Generator Timeout</b>  	Set the desired automatic timeout 00.5-99.8 minutes. To disable the timeout, set to 99.9.
<b>PoE -Test</b>	Turn the PoE test On or Off. Turning the PoE off will allow the CableMaster 800/850 to detect a network without performing a PoE test.
<b>DHCP Test:</b>	Turn off DHCP to test a fixed IP environment.
<b>Source Port:</b>	Set the desired Ethernet port to be used when connecting to the PC application. This must match the port number entered in the application. The default port number is the same as the default application port number.

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<b>Destination Port:</b>	Set the desired destination port to be used with the CableMaster 800/850 application. The default port number is the same as the CableMaster 800/850 application.
<b>IP Configuration:</b>	Use the down arrow button to change the network IP. The network IP settings are used when DHCP is disabled. If the DNS address is set to an IPV6, it will be used as the IPV6 DNS address.
<b>Favorite Ping:</b>	Use the down arrow button to select one of six Favorite Ping memory slots. Use the right arrow button to assign or change the favorite ping address. To ping a URL press the Keypad soft key <b>Keypad</b> then the URL soft key. <b>URL</b>
<b>Test List:</b>	To access the list of test results, press the folder soft key. <b>Folder</b> You can edit, rename, and delete results in the test list.
<b>Calibrate:</b>	To calibrate the CableMaster 800/850's zero length press the Calibrate soft key. <b>calibrate</b>

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- Press the Save soft key to save your options. **Save**
- To restore setup menu defaults, press the Defaults **defaults** soft key.

*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.*

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### Cable Testing Guidelines

The CableMaster 800/850 tests coax, network, and telephone cables to detect possible faults, measures cable lengths, shows wire pairing and examines a cable's physical/electrical properties.

#### **Important Notes:**

- *RJ jacks for data and telephone share internal connections on the CableMaster 800/850. 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 CableMaster 800/850 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 CableMaster 800/850. Inspect all RJ plugs before inserting them into the CableMaster 800/850. Make sure you insert the plug into the appropriate jack of the remote or device. Do not plug a telephone cable directly into the CableMaster 800/850; Use the RJ12 no fault telephone patch cable.

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


### Length Testing

CableMaster 800/850 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 CableMaster 800/850 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 RJ12 no fault telephone patch cables (P/N CA012) 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 CableMaster 800/850. 
- Connect a network, coax, or telephone cable to the appropriate connector on the top of the CableMaster 800/850.
- If a remote is being used, connect the remote to the opposite end of the cable.

*Warning! Do not plug an RJ11 cable directly into the CableMaster 800/850. A standard RJ11 cable will damage the CableMaster 800/850's RJ45 jack.*

- Press the enter button  or cable test soft key  to display the cable test menu. The CableMaster 800/850 will automatically perform a test upon entering the cable test menu.
- To test coax cable, press the coax soft key. 
- To test telephone cable, press the coax soft key  then the telephone soft key. 
- If a remote is NOT being used (one ended test), the CableMaster 800/850 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.
- To calibrate the VOP, connect a known length of cable to the CableMaster 800/850 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 soft key. 
- Use the arrow buttons and the enter button to name the cable test file. Press the Delete soft key  or the delete all soft key  to clear an entry .
- Press the Save soft key  again to save the file name. The CableMaster 800/850 will display „Test Saved” at the top of the screen
- Press the back button to return to the previous screen.  
*\*The CableMaster 800/850 can save up to 256 cable labels. You can also view, edit, or delete existing cable labels by pressing the Files soft key.*
- Press the Save soft key  again to save the 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 Watts.

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 CableMaster 800/850 tests if either PoE or PoE+ is present. If it is detected, it then activates and tests the voltage under minimum and maximum current load, and displays the result. The CableMaster 800/850 will also display which PoE mode is found.

*\*Note: PoE voltages displayed in red indicate a possible issue with wire pair resistance.*

This may be an indication that the cable wire is low quality aluminum clad and not solid copper.

The CableMaster 800/850 also communicates and displays the Link Status up to 100Mb and Link Capability status up to 1000Mb.



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

The CableMaster 800/850 will also identify the “Connected at” status and display the physical connection condition:




- MDI: Straight cable connection
- MDIX: Crossover cable connection
- FDX: Full Duplex
- HDX: Half Duplex
- REV: Data polarity is reversed
- Link Flow Control: Flow Control is enabled

**Please notice:** *The CableMaster 800/850 can only connect with 100 Base-TX speed.*

### How to Perform a Network/PoE Test


- Connect the CableMaster 800/850 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 CableMaster 800/850 will automatically detect and display link capability, connection speed, PoE mode, and PoE Min/Max voltages.
- *Note: if Link Flow Control is displayed but the Link Status is not, turn off the PoE test.*
- To perform a Network Test only, press the PoE off  soft key.
- To save the Network/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 again to save the file name. The CableMaster 800/850 will display “Test Saved” at the top of the screen.
- Press the back button to return to the previous screen.

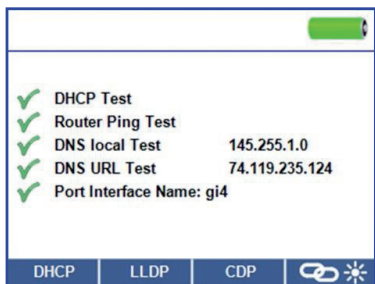
## Port Testing

In Port Discovery mode, the CableMaster 800/850 will perform a Port Test, display DHCP information, discover LLDP and CDP switch information.

- From the Network/PoE test screen, press the Port Test  soft Key .

## Port Test

- The CableMaster 800/850 will automatically perform a Port Test upon entering the Port Test mode.
- The CableMaster 800/850 will provide a green check next to the Port Test results:





- The CableMaster 800/850 will also ping a URL to verify WAN throughput.
- If the port interface number is available, it will be displayed at the bottom of the screen.
- Depending on the switch, the Port interface name (Port Number) may take up to 1 minute to be displayed.

## DHCP

- Press the DHCP soft key to view DHCP IP addresses and lease time.



DHCP	
DHCP Configured	
Got IP address	192.168.1.128
Got Netmask	255.255.255.0
Got DNS server	192.168.1.22
Got Default router	192.168.1.1
Lease expires in	24.0 hours

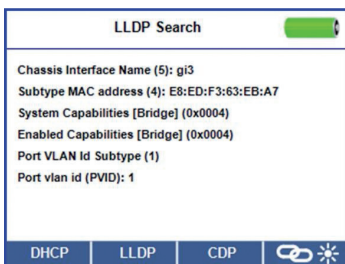
DHCP | LLDP | CDP |  

## LLDP/CDP

- If the switch you are connected to supports LLDP or CDP, press the LLDP or CDP soft key and the information provided by the switch will be displayed.
- VLAN results will be displayed if it is supported by the switch. VLAN Subtype and ID will be displayed in the LLDP Search Screen.

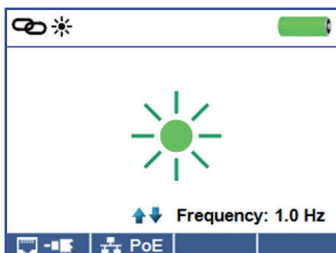
CDP Search	
Port-ID:	gi3
System Name:	switch6eeba7
Device ID:	switch6eeba7
Version:	1.3.0.62
Platform:	Cisco SG300-10 (PID:SRW2008-K9)-VSD
Capability:	L2 Switch, IGMP snooping
Native VLAN ID:	1

DHCP | LLDP | CDP |  



## Link Light







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



- Connect the CableMaster 800/850 to an active Network cable or port.
- From the home screen, 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 adjust the link light cadence.





## Ping IPV4/IPV6

The default Ping is set to IPV4. To change to IPV6, press the IPV6 soft key.


- Connect the CableMaster 800/850™ to a switch, router, or active network jack.
- From the home screen, press the right arrow button to select the Network Discovery icon  and press the enter button or press the Network Discovery soft key. 
- The CableMaster 800/850 will display DHCP test information upon entering the IPV4 Device Discovery screen.
- Press the IPV6 soft key to ping IPV6. 
- Press the ping soft key. 
- Use the left and right arrows to highlight a digit. To change a digit, use the up and down arrows or press the keypad soft key  to use an alphanumeric keypad. To unselect the keypad, press the keypad soft key again.
- Press the Test button  to ping the IP address.
- The CableMaster 800/850 will display the Response IP, device name (if available), and response time in milliseconds.

## List




The CableMaster 800/850 will automatically add an IP address to the List after it has been pinged. If a Network Mapping test has been performed, the discovered IP addresses will also be added to the list (see Network Mapping pg. 16).

- From the Ping screen , press the List soft key  to view discovered IP addresses and manually pinged IP addresses.
- To ping an IP address in the list, use the up and down buttons to navigate to the desired IP address and press the  test button.
- To ping IP addresses stored as Favorites, press the Favorites soft key. 
- Use the up and down arrow buttons to scroll to the desired IP address.









- Press the Test button  to select an IP address then press the test button again to ping the selected IP.

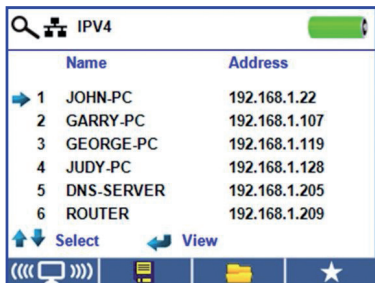
## Favorites

- From the List screen , press the Favorite's soft key  to view the favorites list.
- Use the up and down arrows to scroll to the desired IP or URL.
- Press the test button  to select the IP/URL to be pinged. The CableMaster 800/850 will automatically obtain the URL IP address from the DNS server.
- Press the Test button again to ping the selected IP (the CableMaster 800/850 will automatically obtain the URL IP address from the DNS server, press the test button to ping the URL IP).




## Network Mapping





The CableMaster 800/850 pings network devices using NDP to identify broadcasted devices by obtaining their IP addresses.

- From the Network Mapping home screen , press the Network Mapping soft key. 
- The CableMaster 800/850 will scan the network and display IP addresses. The list will include device labels to the left of the IP addresses.
- To save the Network Mapping results, press the Save soft key. 
- Use the arrow buttons and the enter button to name the test file. Press the Delete soft key  or the Delete All soft key  to clear an entry.
- Press the Save soft key  again to save the file name. The CableMaster 800/850 will display “Test Saved” at the top of the screen.
- Press the back button to return to the previous screen.
- Additional information can be viewed by selecting an IP address then press the enter button:



	Name	Address
➔ 1	JOHN-PC	192.168.1.22
2	GARRY-PC	192.168.1.107
3	GEORGE-PC	192.168.1.119
4	JUDY-PC	192.168.1.128
5	DNS-SERVER	192.168.1.205
6	ROUTER	192.168.1.209

Navigation:   Select  View

Bottom bar:    

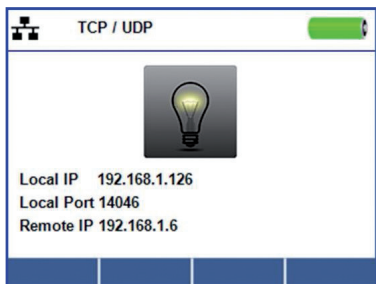


*\*The CableMaster 800/850 can save up to 20 Network Mapping List tests containing up to 256 IP addresses each.*

- Press the List soft key to return to the Network Mapping list.

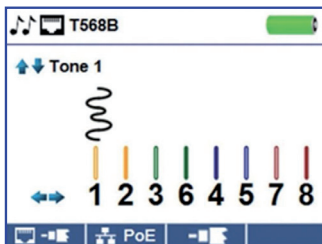
## TCP/UDP Throughput Test





The TCP/UDP Throughput test verifies connectivity between the CableMaster 800/850 and a PC on the same LAN. The light bulb graphic can be adjusted using the up and down arrow buttons and the light bulb graphic on the CableMaster 800/850 application will adjust simultaneously. See Throughput instructions under CableMaster 800/850 Application on Page 22. To exit the TCP/UDP test screen, press the back button.



## Tone Generator

Tone generation is used to trace cable endings and locate faults by sound. Selection of this mode emits a cadence from the CableMaster 800/850 through the connected cable. The tone is detected by a tone tracer probe (sold separately). Refer to the Accessories section.



- From the home screen, press the Enter button or the Cable Test soft key. 
- Press the tone generator soft key. 
- The CableMaster 800/850 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 CableMaster 800/850.
- To switch between network and coax cables, press the coax cable  or 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 at the end of the cable to hear an audible tone.

## CableMaster 800/850 Application

The CableMaster 800/850 Application gives you the ability to view, save and print cable and network test results to your computer. This application can also update your CableMaster 800/850's firmware.




Additional features include the ability to perform network tests such as Link Validation and Throughput Testing.

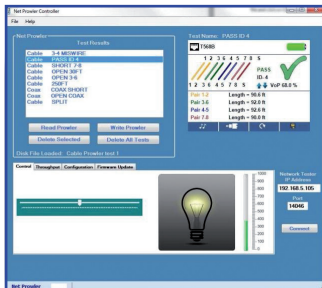
*\*Note: The CableMaster 800/850 is Windows XP, Vista, 7, and 8 compatible. MAC and Linux are currently not supported.*

## To install the CableMaster 800/850 Application

- Go to <http://emea.psiberdata.com/download> to download the CableMaster 800/850 software application.
- Save the Net Testet Software.zip file to your computer's desktop. Right click on the .zip file and click on Extract All.
- Double click on the CableMaster 800/850 x.xx folder.
- Double-click on "setup.exe" to begin the installation.

## Test Results

- Open the CableMaster 800/850 application by double clicking on the application shortcut on your desktop.
- Connect the CableMaster 800/850 to your computer with the included micro USB cable.
- Power on the CableMaster 800/850.  The software will display "CableMaster 800/850 connected" at the bottom left of the application screen.
- Click on Read Net Tester to read the test results. The cable names will be displayed in the Test
- Results window. The first cable name will automatically be selected and displayed at the top right.



- Click on the cable IDs in the Test Results list to view test results for that ID.
- You can delete a single test by selecting a cable label and click on Delete Selected or delete the entire test list by clicking on Delete All Tests.

## **Saving results to your computer**

- Click on File.
- Click on Save File. A Save As dialogue will appear; navigate to where you want to save the test results, name the file, and click Save. The computer software application will remember the last place you saved a file.
- After tests have been saved, they will be automatically reloaded the next time the application is opened.

## **Read previously saved tests**

- Click on File, Open, and select the desired test result file.

## **Write cable tests to the CableMaster 800/850**

- Connect the CableMaster 800/850 to your computer using the included micro USB cable.
- Open the CableMaster 800/850 software application. Click on File, Open, and select the desired test.
- Click on Write Net Tester and the contents of the currently displayed tests will be written to the CableMaster 800/850.

## **Printing test results**

- Click on the desired test or press and hold the Ctrl key and click on multiple tests to print more than one.
- Click on File then Print.

## **Create PDF and CSV reports**

- Click on the desired test or press and hold the Ctrl key and click on multiple tests.

- Select Create Report Pdf, Create Report CSV, or Create List PDF under the File menu.
- When a Dialog box comes up, select the file name and location for the pdf 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.*

## Update Firmware

### Downloading the CableMaster 800/850 Firmware:

- Go to <http://emea.psiberdata.com/download>.
- Click on the CableMaster 800/850 Firmware update link to download the new firmware.
- Save the CableMaster 800/850.cyacd file to your computer.

### Updating the CableMaster 800/850:

- Connect the CableMaster 800/850 to your computer using the included USB cable.
- Open the CableMaster 800/850 application on your PC.
- Power on the CableMaster 800/850. The software will display CableMaster 800/850 Connected at the bottom left of the screen.
- Click on the Firmware Update tab.
- Click the Load File icon and select the desired CableMaster 800/850.cyacd firmware file. Click the
- Begin Download icon.
- The CableMaster 800/850 screen will go dark and it will begin the firmware installation (the screen will remain dark during the installation).
- The CableMaster 800/850 Application will display a progress bar to indicate the download progress.
- Once complete, the CableMaster 800/850 application will display Success along with the installation date and time in the Status Log window. The CableMaster 800/850 will power itself back on after the firmware installation.




- If the CableMaster 800/850 is interrupted or an error occurs during installation the CableMaster 800/850 screen will remain dark. To recover the CableMaster 800/850 firmware, close the CableMaster 800/850 application, disconnect the CableMaster 800/850 from the USB cable and then remove the batteries.
- Reinsert the batteries and follow the update instructions.

*Important Notes: The CableMaster 800/850 screen will remain dark until it has been reprogrammed.*

## Configuration

- Enter the CableMaster 800/850 IP address in the box next to Tester IP Address. To obtain the CableMaster 800/850 IP address, perform a DHCP test with the CableMaster 800/850 (See pg. 14) Use the IP address next to Tester IP address. The Port can also be specified in the CableMaster 800/850 setup menu (see pg. 9 under changing a setting) and in the application under “Port”. The default port number is 14046.
- If DHCP is not available, click on the Configuration tab, uncheck the DHCP Enable/Disable check box.
- Enter the Tester IP address, Subnet Mask, Router Address, DNS IP address, Destination IP addresses and Source Port.

## TCP/UDP Throughput Test

- Open the CableMaster 800/850 application.
- Click on the Control tab.
- Power on your CableMaster 800/850 and connect it in to an active port/cable.
- From the home screen; Press the Device Discovery soft key,  then press the TCP/UDP soft key.  Click Start on the application to begin the Throughput test. The test can also be initiated using the CableMaster 800/850 by pressing the Test button. 

## Throughput:

### Measure the throughput of a specified amount of data:

- Adjust the CableMaster 800/850 Brightness scale left or right (0-100%) or use the up and down arrow buttons on the CableMaster 800/850, this will indicate a successful connection.
- Power on your CableMaster 800/850 and connect it in to an active port/cable. Press the Network/Poe soft key.
- Click on the Throughput tab on the application.
- Select TCP or UDP.
- Enter a delay (if desired). The delay value is in milliseconds.
- Enter a desired amount of data to send. The data value is in kilobits.
  - \* Note: Increasing the amount of data will increase the time it will take for the test to be performed. This may impact the battery life of the CableMaster 800/850.*
- *Click Start to begin the data transfer.*

## Glossary

### **Open**

Wires/Cable Pairs do not have continuity throughout the cable or the CableMaster 800/850 remote is not detected.

### **Short**

Wires/Cable Pairs are making an electrical connection with each other or foreign object.

### **Split**

A cable that has been correctly wired pin to pin at both ends, but not in correct color code. When this happens, signals from one circuit pair becomes cross coupled with another that creates signal corruption and slow data speed symptoms.

### **MDI**

Straight Cable connection: Pin 1 and 2 used for receiving data, Pins 3 and 6 used for transmitting data.

### **MDI-X**

Crossover Cable connection: Pin 3 and 6 used for receiving data, Pins 1 and 2 used for transmitting data.

### **FDX**

Link is Full Duplex.

### **HDX**

Link is Half Duplex.

### **Rev**

Data polarity is reversed.

### **Link Flow Control**

Flow control is enabled. Link Flow Control is a pause in data transmission when there is system congestion.

## **Ping Test**

Ping is a network utility that verifies communication between devices by sending and receiving ICMP packets.

## **DNS Local**

Local DNS server translates URL's and website names to their IP address.

## **DNS Address**

Name or IP address of the DNS server that you want to connect to.  
Example: dns4.local or 10.1.1.50

## **DHCP**

Dynamic Host Configuration Protocol is a standardized networking protocol used on Internet Protocol (IP) networks for dynamically distributing network configuration parameters, such as IP addresses for interfaces and services. With DHCP computers, request IP addresses and networking parameters automatically from a DHCP server, reducing the need for a network administrator or a user from having to configure these settings manually.

## **LLDP**

Link Layer Discovery Protocol is a vendor-neutral link layer protocol in the Internet Protocol Suite used by network devices for advertising their identity, capabilities, and neighbors on an IEEE 802 local area network, principally wired Ethernet.

## **CDP**

Cisco switch Discovery Protocol is a proprietary Data Link Layer protocol developed by Cisco Systems. It is used to share information about other Cisco equipment that are directly connected, such as the operating system version and IP address.

## MAINTENANCE

### Batteries

- The CableMaster 800/850 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 CableMaster 800/850. 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 CableMaster 800/850.
- Before cleaning, disconnect all cables from the CableMaster 800/850. 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 CableMaster 800/850 in a dry, protective case.
- Batteries should be removed if the device is stored for a long time.
- Do not expose the CableMaster 800/850 to high temperatures or humidity. See the specifications section for temperature limits.



## SPECIFICATIONS

<b>Measurement Technology</b>	Time Domain Reflectometry (TDR)
<b>Cable Measurements</b>	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 FConnector ID only remotes
<b>Power over Ethernet</b>	Tests for IEEE 802.3af and IEEE 802.3at (PoE Plus) compliant PoE Tests for mode and loads cable up to 25.5 watts (at mode 4) Identifies Mode A or B (pairs with PoE)
<b>Active Ethernet</b>	Indicates advertised speeds of 10/100/1000base-t half or full duplex Can Link to network at 10/100base-t Ping IPV4 DHCP Ping IPV4 or IPV6 IP addresses
<b>Device Discovery</b>	Discover IPV4 Device Host Names and IP addresses
<b>Maximum Voltage</b>	Parameters refer to the maximum voltage that can be applied to any 2 connector pins without causing damage to the tester. <ul style="list-style-type: none"><li>• RJ Jack: 66 VDC or 55 VAC</li><li>• F-Connector: 50 VDC or VAC</li></ul>
<b>Save Test Results</b>	Stores up to 256 Cable or Network tests with user defined names.
<b>Tone Generation</b>	Tone Frequencies: 730 Hz and 1440 Hz
<b>Languages</b>	English, French, Spanish, Italian, and German
<b>Battery Life</b>	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



<b>Altitude</b>	10,000 ft (3048 m) operating
<b>Temperature</b>	Operating: 32 to 122°F (0 to 50°C)
<b>Storage</b>	22 to +140°F (-30 to 60°C)
<b>Humidity</b>	10 to 90% non-condensing
<b>Enclosure</b>	High-strength PC/ABS plastic with V0 rating with boot Withstands 4 foot drop on to concrete
<b>Size</b>	1.85"H x 3.6"W x 6.8"L (4.7 x 9.15 x 17.3 cm)
<b>Weight</b>	With batteries: 1 lb 2 oz (510 g)
<b>Safety Compliances</b>	CE
<b>Warranty</b>	1 Year

## CUSTOMER SERVICE

### **Contacting Psiber Data:**

For technical information and support please contact the Psiber Office in your country.

### **Europe/Middle East/Africa:**

Psiber Data GmbH, a Softing Company

Phone: +49 (89) 8913 6060,

e-mail: [info@psiber-data.com](mailto:info@psiber-data.com), [www.psiberdata.com](http://www.psiberdata.com)

### **Psiber Asia/Pacific:**

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a Softing Company,

Phone: +65-6569-6019,

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## WARRANTY

Psiber Data warrants that the product shall be free from defects in parts or workmanship for a period of 12 months from the date of purchase if used in accordance with Psiber Data operating specifications.

THIS IS THE ONLY WARRANTY MADE BY Psiber Data AND IS EXPRESSLY MADE IN LIEU OF ALL OTHER WARRANTIES EXPRESSED OR IMPLIED, INCLUDING BUT NOT LIMITED TO ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE.

Should any parts or workmanship prove defective, Psiber Data will repair or replace at Psiber Data' option, at no cost to the Buyer except for shipping costs from the Buyer's location to Psiber Data. This is Buyer's SOLE AND EXCLUSIVE REMEDY under this Agreement. This warranty does not apply to products which have been subject to neglect, accident or improper use, or to units which have been altered or repaired by other than an authorized repair facility.

For European-Customers:

Return of Equipment – To return a product to Psiber Data GmbH, first obtain a Return Authorization number from our Customer Service by calling +49-89-89136060. The RMA# must be clearly marked on the shipping label.

**To: Psiber Data GmbH  
a Softing Company  
Lise-Meitner-Str. 3  
82152 Krailling  
Germany**

**RMA# XXXXXXXX**

For ASIA/PACIFIC-Customer:

Return of Equipment - To return a product to Psiber Data Pte. Ltd., first obtain a Return Authorization number from Our Customer Service by calling +65-6569-6019 or e-mail: [asiasales@psiber-data.com](mailto:asiasales@psiber-data.com). The RMA# must be clearly marked on The shipping label.

**To: Psiber Data Pte. Ltd.  
a Softing Company  
3 Science Park Drive  
#03-09 The Franklin  
Singapore Science Park 1,  
Singapore 118223**

**RMA# XXXXXXXX**

# *CableMaster* **800/850**

Identify, Monitor, and Correct LAN Issues

## **User Manual**

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