

# ENHANCED MULTI-NETWORK CABLE TESTER WITH TONE GENERATOR

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## INSTRUCTION MANUAL



## **A. GENERAL**

The Enhanced Multi-Network Cable Tester with Tone Generator is a perfect companion to any network professionals. It combines the function of a simple to use cable tester with a built in tone generator. The tester can enhance one's ability to quickly locate and verify the status of a commonly used voice and data cable. The Enhanced Multi-Network Cable Tester's test functions include; loop-back, continuity, open, shorts, miss-wire and pin-to-pin configuration. It also generates a low emission frequency "tone". When coupled with LANCHECK Tracker or other compatible tone tracer, the tone can help a technician to quickly isolate and locate the cable being tested.

The Enhanced Multi-Network Cable Tester comes in two modular units, a tester and a remote terminator. The modular design enables the tester to be used for local loop-back test of a patch cable or remote testing of pre-installed premise wiring. It can verify a cable up to 2,000 feet in length. Furthermore, It comes with shielded connectors, which enables the testing of shielded twisted pair (STP) cables. It also features the convenient Auto Scanning and precision Manual Scanning modes.

The Enhanced Multi-Network Cable Tester comes complete with

adapters for testing of 10 BASE-T, EIA/TIA 568 A/B, AT&T 258A, 100BASE-TX, TOKEN-RING, TP-PMD, ISDN, USOC and BNC networks. Other adapters such as RJ45-USB, RJ45-IEEE1394 and F-BNC can also be added to expand the Enhanced Multi-Network Cable Tester functionality. A RJ45-to-RJ45 patch cord is also included for testing patch panels and RJ45 network wall plates.

**WARNING: NEVER CONNECT THE TESTER TO A LIVE WIRE.**

***DOING SO MAY DAMAGE THE TESTER AND/OR THE EQUIPMENT***

## **B. LOOP-BACK TEST**

- 1) Using the Main tester unit/Transmitter, connect one end of the cable into "TX/Remote" and the other end to "Rx/Loop Back"
- 2) Set the power switch to ON/TONE.
  - a) Auto Scan Mode:

When in Auto Scan mode, the LED in the TX row will scroll in sequence (1, 2, ..., shield/GND and repeat), to indicate the pins being tested. The RX row of LED will light (or not), in relation to the TX row, to indicate status.
  - b) Manual Scan Mode:
    - By pressing the "TEST" button, the tester will change from Auto Scan to Manual Scan mode. The TX row of LED will hold and

flash to indicate the pin being tested. The RX row of LED will light (or not), in relation to the TX row, to indicate status.

Any subsequent press of the "TEST" button will advance the LED to the next one in sequence (1, 2, 3, ..., shield/GND and repeat).

c) LED Status:

When combining the information indicated by the RX and TX LEDs, a cable pin-to-pin configuration (cross, straight, reverse, miss-wire...etc.) can be determined.

i) If more than one LED from the same row is lit or if TX & RX LEDs are unlit simultaneously—This indicates a "short"

ii) If a LED is skipped—This may indicate an "open" or a burnt out LED

iii) If no LED will light—Please check or replace your battery

3) To test BNC, USB or other cable configurations please use the appropriate adapters and follow the above procedure. See RX and TX LED for test result.

## C. REMOTE TEST

- 1) Connect one end of the test cable to the Main tester unit/Transmitter marked "TX /Remote".
- 2) Set the power switch to ON/TONE and set the tester to Auto scan. The TX LED will begin to scroll in sequence (1, 2, 3, ..., shield/GND

and repeat), to indicate the pins being tested. Use a patch cord (included) if the test cable terminates into a wall jack or patch panel.

- 3) At the remote location, connect the other end of the test cable to the Remote terminator. The LED on the Remote terminator will light (or not) in relation to the Main tester unit/Transmitter to indicate status. A tone tracer can be used to isolate and locate the cable being tested.

a) LED Status:

By reading the information indicated by the Remote terminator, a cable pin-to-pin configuration (cross, straight, reverse, miss-wire...etc.) can be determined.

i) If more than one LED from the same row is lit or if TX & RX LEDs are unlit simultaneously - This indicates a "short"

ii) If a LED is skipped—This may indicate an "open" or a burnt out LED

iii) If no LED will light—Please check or replace your battery in the Main unit

- 4) To test BNC, USB or other cable configurations, please use the appropriate adapters and follow the above procedure.

- 5) If LANCHECK Tracker or a compatible tone tracer is used in conjunction to connecting the grounding plug (supplied) to the Main tester unit/Transmitter, the sequencing of the Main tester can easily be determined. A louder "tone" can be heard whenever Pin 1 is repeated in the sequence.

## D. SENDING TONE TO IDENTIFY CABLES

Using Enhanced Multi-Network Cable Tester's tone generator along with LANCHECK Tracker, or other compatible tone tracer, enables one to quickly isolate and locate a hidden cable. A break (open) or short in the middle of a cable or a connector can also be located using this method.

- 1) Using the Main tester unit, connect one end of the cable into "Tx/Remote".
  - a) UTP/BNC Tracing—Insert the supplied grounding plug cable into the ground jack located between the BNC & RJ45 Jacks, on the Main tester, to enhance the tone signal.
  - b) STP Tracing—Connect the UTP patch cord (supplied with the tester) into the Main Tester unit/Transmitter, then connect the STP cable to the UTP patch cord with a RJ45 to RJ45 coupler.
  
- 2) Set the power switch to ON/TONE and set the tester to auto scan. A "tone" will be delivered through the connected cable to the remote end of the cable. A sequencing tone is supplied on each of the 8 pins, shield, and BNC cable. The "tone" signal can then be received by the LANCHECK Tracker or a compatible tone tracer.

- a) If a "tone" can not be detected, a break may be present.  
Tracing the tone from the Main unit towards the remote end of the test cable until the tone disappeared will indicate the location of the break.
  - b) The built-in tone generator is capable of generating alternating tone to any specific in or shield for locating breaks within a cable.
  - c) For wire Tracing, set the Main Unit on shield position and attach the grounding Plug cable into the ground Jack located between the BNC and RJ45 Jack to Enhance the tone signal.
- 3) Once the test cable is located, the status of the test cable can be verified by following the procedure outlined in Remote Test under Section C.

## **E. REMARKS**

- 1) The Main tester runs on one 9V alkaline battery.
- 2) Please make sure the battery is fresh and have sufficient power.  
If a battery is weak or fails, the LED indicators will be dim or fail to light. The tester may not scan.
- 3) Please take out the battery if you do not need to use the tester for any extended period.

## SPECIFICATIONS

1. Power	Main unit --- 9V Alkaline battery Remote unit --- None required
2. Size	Battery life --- 60 hours (typical) Main unit --- 4.57" × 2.67" × 1.13" / 116mm × 68mm × 28mm Remote unit --- 4.65" × 1.28" × 1.11" / 118mm × 32.5mm × 28mm
3. Weight	180g / 0.4lb with battery Shipping weight --- 360g / 0.8lb
4. Operating temperature	0 to 45 degrees centigrade
5. Material	ABS
6. Built-in interface	RJ45 Jack --- accepts both RJ45 & RJ11 plugs Ground Jack --- for grounding Enhanced-Multi Network Cable Tester during Trace operation
7. Display	3 $\phi$ LED and 9 segments Bar-Graph
8. Tone Freq.	800 HZ
9. Output tone	Approx. 5V peak to peak square wave
10. Test	For continuity, detects, opens, shorts, reversals, crossed and miswires.
11. Cable types supported	UTP, STP 10 Base-T, 100 Base-TX, Token Ring (RJ45) TP-PMD, T568 A / B, 10Base-2, BNC / COAX and USOC 8,6,4,2 cables.
12. Distance maximum length	2,000ft. / 610m

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