

**NEW!**

*Your excellent helper in cable test!*

# **INSTRUCTION MANUAL**

## **Network Cable Tester**



VER: V1



**Please read and learn safety instructions before use or maintain the equipment**

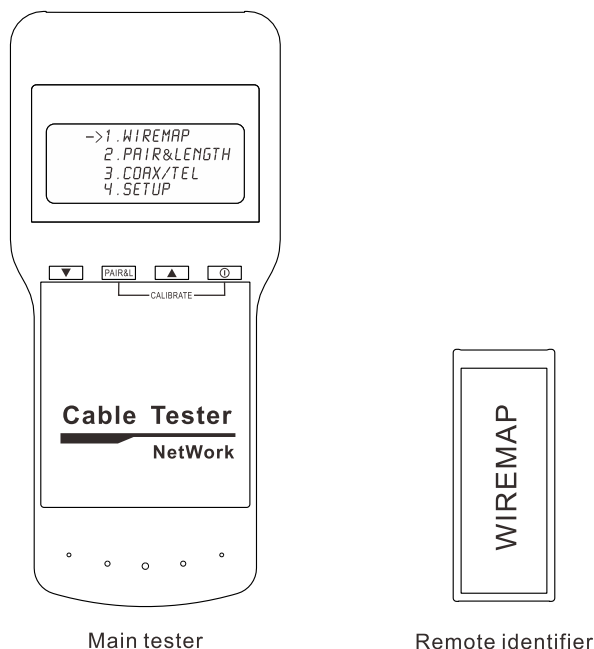
- Please store the test in right place and operate in correct way in case of the sharp probe hurts sb .
- Main testerr uses 6V DC for power supply;Receiver uses 9V battery for power supply .
- Never put the equipment in the place with much dust, humidity and high temperature (over 40°C).
- Please use battery according to the specification; otherwise, it may result in damage to equipment.
- Please never dismount the equipment arbitrarily. The maintenance and care shall be conducted by professional personnel.
- The tester will shut off automatically if it does not work for 30 minutes in succession.
- Please take out the battery in launcher and receiver if the equipment is not used for a long time so as to prevent that the battery liquid is leaked in future.
- Never use the equipment to detect power cord with electricity (such as power supply circuit of 220V), other wise, it may result in damage to equipment and personal injury.
- Never conduct related operation of communication line in thunderstorm weather so as to prevent lightning stroke and impact on personal safety.

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## Overview

The equipment, Network cable tester, is composed of tester and remote identifiers. It is especially designed to check and test network cable. Such as open, short, reserve. It can also test cable length accurately. Thus, it becomes an available tool in communication field.



## Main Functions and features

- One person enough to complete cable continuity check.
- Check wiring error in 5E, 6E, coaxial cable such as open, short, jumper wire, reverse connection .
- Measure cable length and determine the distance short circuit for Lan cable.
- Simple and easy use. Big screen to display result
- Backlight help working in dark environment.
- Portable unit with long battery life (wait-case 50 hours).
- Automatically time-delay shut off.
- Self-checking and automatically compensate any change in battery capacity or ambient temperature.
- Single board computer software watchdog design and reliable operation.

## Technical indexes

### (1). Overall dimension

Main tester: 180×80×40mm;

Remote identifier: 77×31×21mm.

### (2). Power

Main tester uses 4\*1.5V DC for power supply.

### (3). Display

Special 4 x 16 character big screen LCD lattice (valid visual field 61.6 x 25.2 mm).

### (4). Type of cable tested

STP/UTP twin twisted cable, coaxial cable.

**(5). Ambient temperature in work**

-10°C~+60°C

**(6). Tester Port**

Tester RJ45 master port (M), tester LOOPBACK RJ45 port (L), Remote identifier RJ45 port (R)

**(7). Length Measurement of Twin Twisted Cable**

Scope: 1~1000 M ( 3 ~3200 ft)

Calibration accuracy: 3% (+/- 0.5M or +/- 1.5 ft) (calibrating cable > 10 M)

Shipment accuracy: 5% (+/- 0.5 M or +/- 1.5 ft). (AMP, AT&T Class 5 cable)

Display: M or ft.

**(8). Length Calibration:**

User can calibrate cable length by himself with a given length cable. The length of calibrating cable is more than 10 M.

**(9). Wire Sequence and Locating Cable Error:**

Check errors such as open, short , reverse connection.

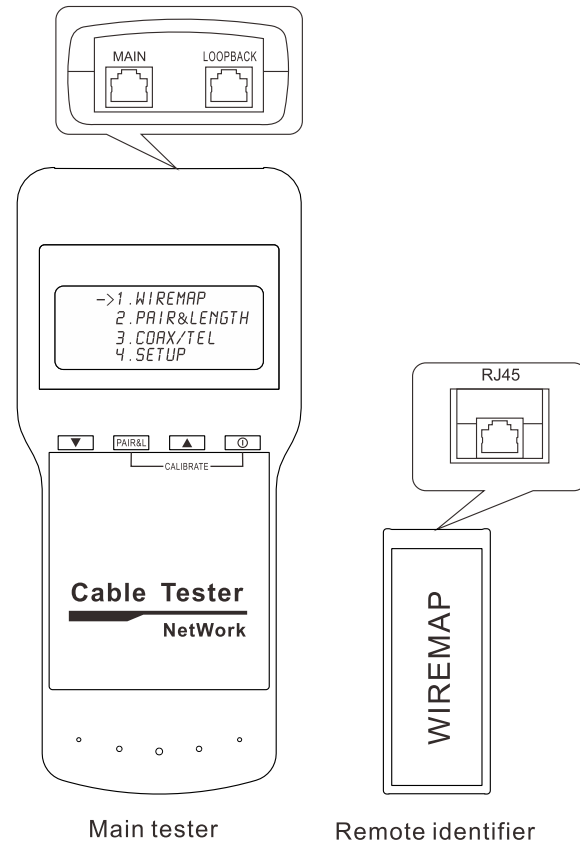
**(10). Locating Cable**

Trace cable among a group of unknown cables.

**(11). Automatic Time-delay Shut Off Time:**

The time-delay can be seted on by yourself.

**Product interface and keypad Introduction**



## Product operation methods

Start and display:

Carry out self-checking at the same time (The dotted line dynamically displays the course of self-checking from left to right):

```
NETWORK
-----
CABLE TESTER
```

Wait 5 seconds or push any key to display main menu.

Main menu display:

```
->1.WIREMAP
  2.PAIR&LENGTH
  3.COAX/TEL
  4.SETUP
```

### There are four functions to be chosen on main menu.

1. WireMap --- Wiring diagram measurement to check end-to-end continuity of cables M, L, R and locate error.
2. Pair & Length---Pair and measure length to verify cable length, open circuit, pairing .
3. Coax/Tel---Coaxial cable measurement to check continuity and indicate open and short circuit.
4. SETUP---Calibrate and length of cable.

### Wiring diagram (WIREMAP) test function:



After entering the wiring diagram (WIREMAP) test function, the tester shall carry out wiring diagram (WIREMAP) test and displays as follows while checking is being undertaken:

```
----TESTING----
12345678...
```

### Test Result 1: Short circuit (SHORT)

It displays as follows if there is any short circuit in cable or terminal: (e.g.12 short circuit in the sample)



```
SHORT :
12
```

At the moment, push   key to restart testing or push **PAIR&L** key to return main menu. Always eliminate short circuit error first and then start further measurement.

### Test Result 2: Neither far-end matcher (ID) nor cable inserts into local port (L) .

The tester will automatically detect remote unit and connected it will display as follows if the cable to be checked does not insert into the remote unit or if the cable does not into the local(L) in local test:

```
NO ADAPTER :
```

At the moment, push   key to restart testing or push **PAIR&L** key to return main menu.



### Test Result 3: Normal wiring diagram (WIREMAP) display

The tester will automatically detect remote unit and local port (L) cable and it will display wiring diagram (WIREMAP) as follows if the remote unit(ID) or the cable to be checked is found:

```
WIRE MAP :PASS
M:12345678 ID1
|||||
R:12345678
```

"R:" means "Remote" tester.

"M:" means "Master" tester.

At the moment, push   key to restart testing or push **PAIR&L** key to return main menu.

**Test Result 4: Wiring diagram (WIREFMAP) display when there is an open circuit at the far-end of cable.**

```
WIRE MAP: FAIL
M: 12345678 101
| | | | | | | |
R: 12X45X78
```

"R:" line "3" and "6" pin location display "x", it indicates an open circuit in far-end plug "3" and "6" pin and the open circuit is located nearby the far-end plug.(The open circuit should be located within 10% cable length if it is measured from the far-end plug)

Note: because the cable is made via paired cable cores,the open circuit at the far-end always displays in pair as shown above where there is one open circuit or all are open circuits in the far-end "3"and "6"pins. For identification, it is simple to move the tester to the far-end to have the measurement.

**Test Result 5: Wiring diagram (WIREFMAP) display when there is an open circuit at the near-end of cable.It will display wiring diagram(WIREFMAP) as follows if there is an open circuit at the near-end plug of the cable:**

```
WIRE MAP: FAIL
M: 12X45678 101
| | | | | | | |
R: 12345678
```

"M:" line "3" pin location displays "x", it indicates an open circuit at near-end plug "3" pin and the open circuit is located nearby the near-end plug. (The open circuit should be located within 10% cable length if it is measured from the near-end plug)

**Test Result 6: Wiring diagram (WIREFMAP) display when there is an open circuit in the middle of the cable.**

```
WIRE MAP: FAIL
M: 12345678 101
| | X | | | | |
R: 12345678
```

"|" line "3" pin location displays "x", it indicates an open circuit in the middle of "3" pin cable. (The open circuit should be located within 10%-90% cable length if it is measured from the near-end plug.) The pair and length function (PAIR & LENGTH) can make user know where the open point accurately is.

**Pair and length measurement (PAIR & LENGTH) function:**

When measuring cable length, just connect one end of cable with Main tester, no need to connect the other end with remote unit. After entering into "PAIR & LENGTH" measurement , it will display as follows to indicate the measurement is being undertaken:

```
----TESTING----
12345678...
```




Note:In view of different technical parameters of different brand cables, the user should use "calibration" function before length measurement (Refer to the details herein).

**Test Result 1: Short circuit (SHORT)**

It will display as follows if there is any short circuit in cable or terminal: (12 short circuit in the sample)

```
SHORT :
12
```

(The tester is incapable to exactly locate short circuit.)




At the moment, push   key to restart test or push  key to return the main menu.

Always correct short circuit error first and then start further measurement.

**Test Result 2: Normal pair and length (PAIR & LENGTH) display**

It will display as follows if pair and length(PAIR & LENGTH) measurement is in normal condition:

```
PAIR 12 100.0M
PAIR 36 100.3M
PAIR 45 100.2M
PAIR 78 99.8M
```

At the moment, push   key to restart test or push  key to return the main menu.

### Test Result 3: Abnormal pair and length (PAIR & LENGTH) display

It will display the paired lines first if there is unpaired lines and length (PAIR & LENGTH) measurement:

```
PAIR 12 100.0M
PAIR 36 100.3M
PAIR 45 100.2M
78 ▼
```

In which, the last line (78 ▼) indicates there is no pair is found in lines 7 and 8, at the moment, it will display the length of unpaired line number.

```
PIN 7 100.0M
PIN 8 89.3M X
▲
```

It will display "X" to indicate an open circuit if the length is less than 90% of other line pair length and the open circuit is located at around 89.3M from the tester. (The open circuit line number could be rechecked by WIREMAP function.)

At the moment, push key to go back previous picture and push key to show further unpaired line number length. (Or push key to return the main menu)

### Coaxial cable and telephone line measurement function:

After entering into (Coax/Tel) function, the tester will show the test result as follows if the cable is normal:

```
COAX/TEL TEST
PASS
```

It shall display "OPEN" if there is any open circuit or the coaxial cable is not connected. It shall display "SHORT" .At the moment, push key to repeat the measurement or push key to return the main menu.

Note: For coaxial cable measurement, it needs accessories: BNC adaptor cable: one end is connected to "main" port, the other end is connected to the coax cable.

### Calibration and setup (SETUP) function:

After entering into calibration and setup (SETUP) function, the tester shall display as follows:

```
----SETUP----
->UNIT : METER
CALIBRATION
QUIT
```

Push key to move cursor "→" indicator up and down to the desired item and then push key to enter related setup function accordingly.

UNIT: It is used to set up length unit and shifts between meter (Meter) and feet (FT).

Calibration:

For an accurate measurement of cable length, the calibration operation should be done as follows.

```
CALIBRATION?
NO YES
```

Push key (No) to exit calibration function.

Insert same type cable of given length into "M" port, do not need insert far-end recognizer, push key (Yes) to undertake measurement and display the measured length :

```
PLEASE ADJUST?
20.0M
- OK +
```

At the moment, hold and key (-/+) to display the length to be adjusted to actual given length and then push key to reserve calibration factor and exit calibration function.

It will display as follows if the cable length being measured is too short (<10M) which reminds the user to change a longer cable for calibration:

```
CABLE TOO SHORT!
COHT INNT . CAI
NO YES
```

At the moment, push  key (No) to exit calibration function. Push  key (Yes) to repeat the measurement.



SHORT  
12  
CONTINUE?  
NO YES

At the moment, push  key (No) to exit calibration function. Push  key (Yes) to repeat the measurement.

**Note:** If the tester is restarted, the tester will recover the standard calibration factor of Class UTP5 cable as the value set before.