

Your excellent helper in cable test!

# INSTRUCTION MANUAL

## Network Cable Tester



NF-8108



NF8108-A



NF8108-M



VER: V3



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

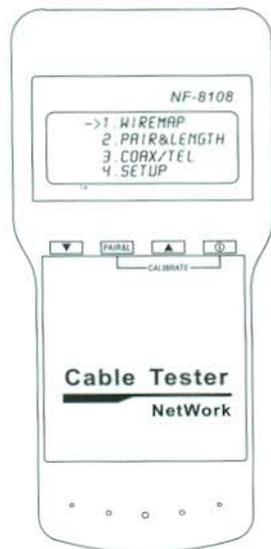
- Please store the test in right place and operate in correct way in case of the sharp probe hurts sb .
- Main tester uses 6V DC for power supply; Receiver uses 9V battery for power supply .
- Never put the equipment in the place with much dust, humidity and high temperature (over 40°C).
- Please use 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

NF-8108 Network cable tester composed of Main tester & far-End Test Jack, It can test cable for STP/UTP twin twisted network cables and Check cable errors such as open circuit, short circuit, reverse connection, cross over or cross-talk interference ...



Main tester(NF-8108)



Remote identifier

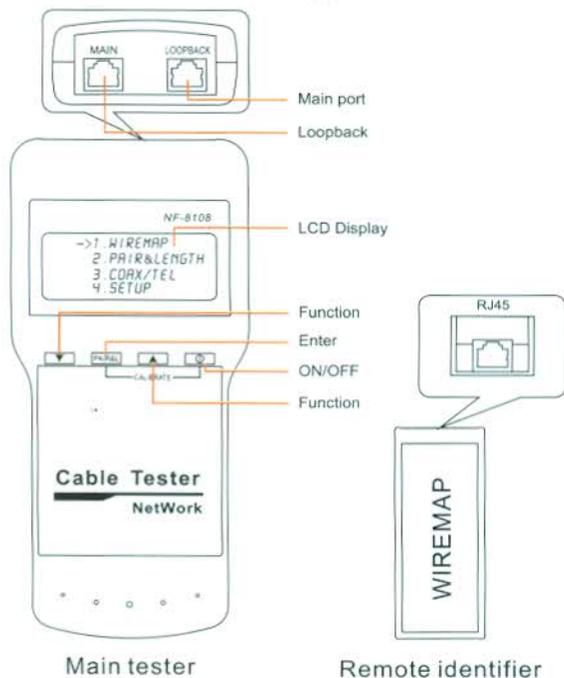
## Main Functions and features

- Type of cable tested for STP/UTP twin twisted cables.
- Measure Network cable length can arrive 1000 meter (3200ft).
- Check cable errors such as open circuit, short circuit, reverse connection, cross over or cross-talk interference.
- The length of calibrating cable is more than 10m.
- Automatic Time-delay shut Off Time for 30mins.
- With 8 far end jacks to locate cable wiremap.  
( Only for NF8108-M).

## Technical indexes

NF-8108 Transmitter specifications	
Indicator	LCD 53x25mm
Tone frequency	225Hz
Max.distance of cable map	1000m
Max.working current	Less than 70mA
Compatible connectors	RJ45
Function selection	3 position buttons&1 power switch
Faults LCD display	LCD display
Voltage protection	AC 60V/DC 42V
Low battery display	LCD (6.5V)
Battery type	DC 4x1.5V
Dimension (LxWxD)	184x84x46mm
NF-8108 Remote unit specifications	
Compatible connectors	RJ45
Dimension (LxWxD)	78x33x22mm

## Product interface and keypad Introduction



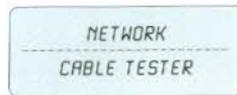
### Accessories

1. RJ45 adaptor cable
2. Cable clips
3. Earphone
4. Instruction manual
5. Pouch bag

## Product operation methods

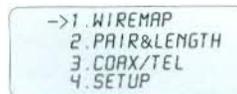
Start and display:

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



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

Main menu display:



**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 errors. (when verify network cable breaking point, should wire map locally can identify the breakpoint, don't connect with remote).
2. Pair & Length --- Pair and measure length to verify cable length, open circuit, distance and pairing.
3. Coax/Tel --- Coaxial cable and telephone line measurement.
4. SETUP --- Calibrate.

### Caution:

When testing cable for wiremap with remote, do not connect over 60V.

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

If there is any short circuit in the cable or terminal, the display will read as shown to the right (e.g. shows short circuit between 1 and 2).

```
SHORT :  
12
```

The tester is incapable of identifying the exact location of the short circuit. Press the "↵" key to restart testing or press the "PAIR&L" key to return to the main menu. Always correct short circuit errors first before beginning further measurements.

### Test Result 2:

If the far-end of the cable to be checked does not insert into the far-end matcher (ID), or the local (L) in local test, the display will read as shown (right).

```
NO ADAPTER :
```

Press the "↵" key to restart testing or press the "PAIR&L" key to return to the main menu.

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

The wiring diagram (WIREFMAP) will be displayed as shown (right), if it is found that the far-end matcher (ID) or the local port (L) on the far-end of the cable are checked. "R" means remote unit, while "M" means main tester. (eg. NF-8108)

```
WIREF MAP :PASS  
R:12345678  
|||||  
M:12345678
```

Press the "↵" key to restart testing or press the "PAIR&L" key to return to the main menu.

### Wiring diagram (WIREFMAP) test function:

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

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

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

```
WIREF MAP : FAIL  
R:12x45x78  
|||||  
M:12345678
```

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

#### Note:

As the network cable is made of pair cores, if there is open circuit, it will show the faults in pairs, just as in the image at the bottom of page 4, which means an open circuit exists in either number "3" or number "6" pin, or in both.

### Test Result 5:

The wiring diagram (WIREMAP) will display when there is an open circuit at the near-end of the cable. It will display the wiring diagram (WIREMAP) as shown (right) if there is an open circuit at the near-end plug of the cable.

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

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

### Test Result 6: Open circuit in the middle of the cable

If there is an open circuit in the middle of the cable, it will display the wiring diagram (WIREMAP) as shown:

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

"|" The "3" pin location displays "X", which indicates an open circuit in the middle of the "3" pin cable.

The open circuit should be located within 10%-90% of cable length if it is measured from the near-end plug.

For further locating an open circuit, the function "**PAIR&L**" of the tester could be used as detailed in the section below. The display will be as shown (right), indicating that the measurement is being undertaken

**Note:** In view of different technical parameters in various brand cables, the user should apply the tester dynamic calibration function before length measurement.

**Test Result 7: Normal Pair & Length (PAIR & LENGTH) Display**  
If pair and length measurement is conducted in normal conditions, it will display as shown.

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

When testing cable length, just connect one end of the cable with the main tester. There is no need for the remote unit. Press the "**▼▲**" key to restart testing or press the "**PAIR&L**" key to return to the main menu.

**Test Result 8: Abnormal pair and length (PAIR & LENGTH) display**  
If there is unpaired lines in the pair and length measurement, it will display the paired lines first.

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

The last line- 78▼(right), indicates there is no pair is in lines 7 and 8.

It will display the length of unpaired line numbers as shown:

```
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 the other line pair length and the open circuit is located around 89.3m from the tester. (The open circuit line number could be rechecked by WIREMAP function.)

**Note:** Cannot check the wiremap of coax cable and telephone cable directly as it will require an RJ11 cable adaptor and BNC cable adaptor.

## Calibration and Setup

After entering into calibration and setup function, the tester shall display as shown .

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

A quick way to enter into dynamic calibration is to hold the "PAIR&L" key while starting the tester.

For an accurate measurement of cable length, the calibration operation should be completed as follows:

```
CALIBRATION?
NO      YES
```

After entering into the dynamic calibration function, the display will be shown on the tester.

Insert the same type of cable of a given length into port "M".

You do not need to connect the receiver.

Press the  key (yes) to undertake measurement and display the measured length .

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

Press and hold the  and  key (-/+) to display the length to be adjusted to the actual given length and then press the "PAIR&L" key to reserve calibration factor and exit calibration function. If the cable length being measured is too short (<10m) the display will remind you to change to a longer cable for calibration.

Press the  key (no) to exit the calibration function. Press the  key (yes) to repeat the measurement.

**Note:** If the tester is restarted after it turns off, it will recover the standard calibration factor of class UTP5 cable as set up in manufacturing.

## Maintenance

The only field service required for maintaining proper operation is the periodic replacement of the batteries.

### A. Battery Replacement



**WARNING**

Before opening the case, remove the test leads from the circuit and shut off the unit. Failure to observe these warnings can result in severe injury or death.

### B. Cleaning

Periodically wipe with a damp cloth and mild detergent; do not use abrasives or solvents.

### C. Service

Should you need for any reason to return the tester for repair or replacement take prior agreements with the local distributor from whom you purchased the item. Use only original packaging for any transit of shipment. The manufacturer will not be responsible for any damage to persons or things.

End of life



Caution:

This symbol indicates the equipment and its accessories shall be subject to a separate collection and correct disposal.

## Diagram of series products



NF-868



NF-268



NF-8601



NF-806B



NF-800



NF-816



NF-468L



NF-820



NF-2100



NF-708



NF-905



NF-911



*Your excellent helper in cable test!*