

NF-308/NF-388

*Your excellent helper in cable test!*

# INSTRUCTION MANUAL

## Wire Fault Locator

*Your excellent helper in cable test!*



NF-308

NF-388





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

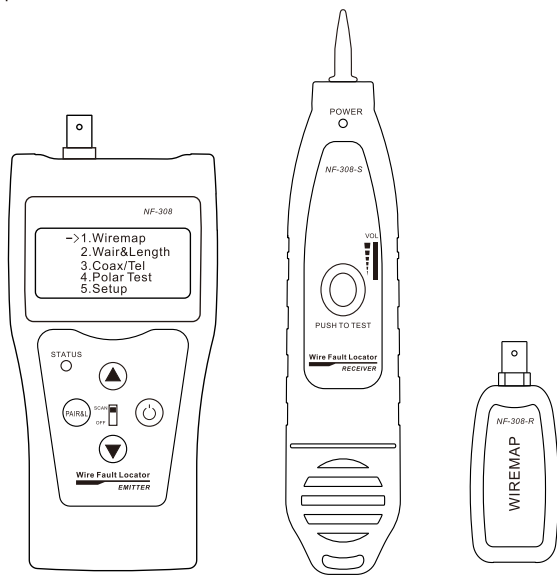
- The tester uses 9V battery for power supply .
- Never put the equipment in the place with much dust, humidity and high temperature (over 40°C).
- Please use battery according to the specification; otherwise, it may result in damage to equipment.
- Please never dismount the equipment arbitrarily. The 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

MP-308 is a practical cable test & inspection instrument with lots of new functions researched and developed by our company, which is composed of tester (MP-308), receiver (MP-308-S) and remote identifier. It owns three great functions of wire hunting, wire sorting and circuit status testing quickly and accurately. thus, it becomes available tool for technicians in installation and maintenance of weak current system, such as, communication line, comprehensive wiring circuit, etc. It is widely applicable to telephone system, computer network and other fields.



Main tester(NF-308)

Receiver(NF-308-S)

Remote identifier

## Main Functions and features

- Check 5E, 6E and Coaxial Cable continuity, such as open circuit, short circuit, cross circuit, reverse connection.
- Measure network cable length and determine the distance of open and short circuit is.
- Directly locate 5E, 6E, telephone cable, coaxial cable, USB cable and other cables.
- Port Flashing function helps to find the 5E 6E network cable which connected to the switch easily.
- Locate wiring or connection error.
- Dynamically calibrate cable length and make the cable length measurement as accurate as 98%.
- Simple and easy use. Big screen to display the test result clearly.
- Portable unit with long battery life (wait case 50 hours).
- Automatically time-delay shut off and backlight display function.
- Far-end identifier with prompt voice.
- Self-checking function and automatically compensate any change in battery capacity or ambient temperature.

## Technical indexes

### (1). Overall dimension

Main tester: 185×105×50mm; receiver: 218×46×29mm;  
Remote identifier: 84×34×27mm.

### (2). Power

Two laminated batteries of 9V.

### (3). Display

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

### (4). Type of cable tested

STP/UTP twin twisted cable, coaxial cable.

### (5). Type of cable detected

5E, 6E, telephone wire, coaxial cable, USB cable and other metal wires.

### (6). Ambient temperature in work

-10°C~+60°C

### (7). Tester Port

Master: RJ45 main port, Port Flash , RJ45 Scan,

RJ11 scan, USB Scan, BNC port and power port.

Remote Identifier: RJ45 port (R) , BNC Port.

### (8). 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.

### (9). Length Calibration:

User can set calibration coefficients by himself with a given length cable.

The length of calibrating cable is more than 10 M.

### (10). Wire Sequence and Locating Cable Error:

Check errors such as open circuit, short circuit, reverse connection, cross-over.

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

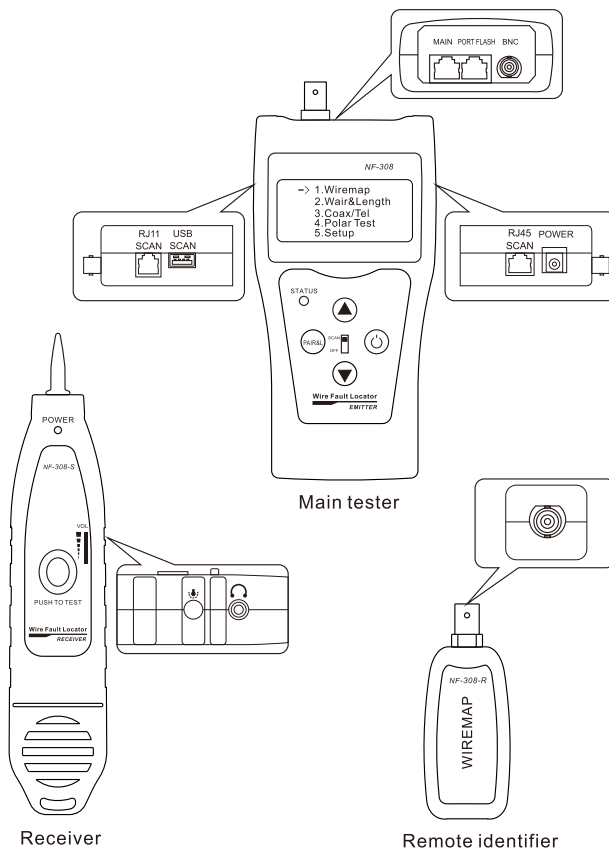
The tester will shut off automatically after 30-minute non-operation.

### (12). Port Flash

Insert one end of the network cable into the “port flash ” port on the main tester, another end to the switch.

It will help to find the target cable easily(network cable condition must be good) .

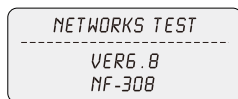
## Product interface and keypad Introduction



## Product operation methods

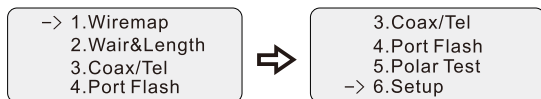
Boot Screen:

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 arbitrary key to display main menu.

Main menu display:



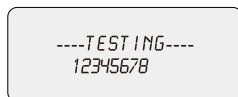
### There are six functions to be chosen on main menu.

1. WireMap --- Wiring diagram measurement to check end-to-end continuity of cables in M, R and locate errors.
2. Pair & Length --- Pair and measure length to know open, short, points, verify cable length, open circuit distance.
3. Coax/Tel --- Coaxial cable and telephone line.
4. Port Flash --- Insert the cable into port flash, it will help find the target cable which connected to the switch easily.
5. Polar Test --- help find the positive and negative power.
6. SETUP --- Calibrate and set up the tester (Refer to description hereinafter).

**Note: never put a telephone cable into RJ45 Port especially a charged one, for fear of burnout to the tester.**

### Wiring diagram (WIREFMAP) test function:

After entering the wiring diagram (WIREFMAP), the tester shall carry out wiring diagram (WIREFMAP) test and displays as follows



### 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)



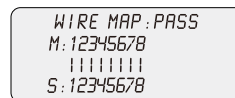
**Test Result 2:** It will display as follows if the cable to be checked does not insert into the far-end matcher (ID) or the cable does not insert into the local port



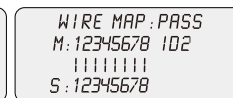
At the moment, push key to restart testing or push key to return main menu.

**Test Result 3:** Good condition (eg, STP cable)

3.1. Local test mode: One end to "MAIN" port, the other end to "RJ45 SCAN" port of transmitter. The result is as below.



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3.2. Remote test mode: One end to "MAIN" port of transmitter, the other end to "RJ45" port of remote. The result is as below.

```

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

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```

WIRE MAP: PASS
M: 12345678 ID2
|||||
R: 12345678
    
```

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**Attention:** in remote test mode, NF-388 cannot display "G" for the ground due to its remote programme' limit. if you need to test "G" with NF-388, you can only test "G" locally.

"M" is short for "Main" side. "S" is short for "SCAN", "R" is short for "Remote", "ID2" means the cable is connected to "Remote ID 2" (only for NF-388)

#### Test Result 4: Open circuit at one side (Test locally)

One end to "MAIN" port , the other end to "RJ45 SCAN" port of transmitter. The results are as below.

```

WIRE MAP: FAIL
M: 12345678
|||||
S: 12X45X78
    
```

image 1

```

WIRE MAP: FAIL
M: 1X345678
|||||
S: 12345678
    
```

image 2

in image 1, Pin 3 & pin 6 near "SCAN" side is open .  
in image 2, Pin 2 near "Main" side is open.

#### Test Result 5: Open circuit in the middle

```

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

Test by remote

```

WIRE MAP: FAIL
M: 12X45678
|||||
S: 12X45678
    
```

Test locally

In the above two test modes, pin 3 is open around at the middle of the cable.

### Pair and length measurement (PAIR & LENGTH) function: When testing cable length, just connect one end of cable with Main tester, no need of remote unit.

After entering into "PAIR & LENGTH" function, it will display as follows to indicate the measurement is being undertaken:

```

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

Note: In view of different technical parameters in various brand cables, the user should calibrate the cable length before length measurement (Refer to the details herein).

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

If the cable is short, when measure its length, it won't display length, but show Short information as below.

```



SHORT:
12
    
```

#### 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 and its length firstly, then unpaired lines display, as shown below.

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

There exists breakage in pair 78, in this case, press  to see its length separately.

It means the pin 8 is broken at around 89.3m.




```
PIN 7 100.0M
PIN 8 89.3M X
▲
```

It means the pin 8 is broken at around 89.3m.

### Coaxial cable continuity test function:

After entering into coaxial cable measurement (Coax/Tel) function, the tester shall start to test and show the test result as follows:

```
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" if there is any short circuit. At the moment, push  key to repeat the measurement or push   key to return the main menu. The far-end recognizer will have "beep" if the connection is in normal condition.

### Calibration and setup (SETUP) function:

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

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

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

CALIBRATION is calibration function. (Detailed as related chapters hereinafter)


QUIT is used to return the main menu.

Dynamic calibration (CALIBRATION) function:




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

After entering into dynamic calibration function, the tester shall display as follows:

```
CALIBRATION?
NO YES
```

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 (as shown below):

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

At the moment, hold  and  key (-/+) to adjust the length 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) to remind the user to change a longer cable for calibration:

```
CABLE TOO SHORT!
COHT INMT. CAL
NO YES
```

If there is short circuit in cable, It will display as follows.



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

**Note:**The calibration will recover the standard value of Class UTP5 cable at factory.

### Polarity test

Firstly, insert into RJ11/SCAN port with the standard alligator clips.  
Secondly, choose "polar Test" from the main menu when you have clamped the battery polarity with the clips.  
Thirdly, you can see the result shown on the screen: Voltage of the battery, Red & Black tells you the polarity. ("+" means anode, "-" means cathode).

**ATTENTION:** whenever you connect anode or cathode for the red & black clips, it's doesn't matter for the result.

### Start up or shut down and hunting function

(1). Press PUSH key, the hunting indicator light (SCAN) flashes, which indicates that audio frequency transmission of main tester is normal, insert the cable to be tested into RJ45 SCAN Port. then hold the receiver to trace cable needed (the usage of receiver is shown in the following). RJ11/BNC/ USB cable is located when inserted into its corresponding port.

### Usage of the receiver

Install 9V battery, press "PUSH" key, then approach the cable with probe and find targeted one among lots of cables. When the probe is near target wire, the "beep, beep and beep" sound will come out and the signal indicator light "POWER" will be on. When loudest "beep" and brightest indicator means that is the required cable.

- (2). The user can turn volume switch to control the volume.
- (3). The floodlight function helps the users operate in dark environment.
- (4). Earphone helps avoid external interference in noisy environment.
- (5). The test can not measure cable length and wire faults when it is operated to trace cable.

## 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