NOYAFA ®

Your excellent helper in cable test!

INSTRUCTION MANUAL

Multipurpose LCD Display Cable Test &
Inspection Instrument

POWER

NF-308-S

NOYAFA ®

VOL

PUSH TO TEST

Wire Fault Locator
RECEIVER

NOYAFA ®   NF-308

Pair	12	21.6M
Pair	36	21.6M
Pair	45	21.6M
Pair	78	21.6M

STATUS

NOYAFA ®

PAIR

SCAN
OFF

Wire Fault Locator
EMITTER

NF-308-R

WIREMAP

NOYAFA ®

ORIGINAL
AUTHENTIC
*Patented products,
Counterfeiting not allowed*

REV1.0

The tester uses 9V battery for power supply .

Never put the equipment in the place with much dust, humidity and high temperature (over 40).

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.

Contents

Overview

NF-308 is a practical cable test & inspection instrument with lots of new functions researched and developed by our company, which is composed of tester (NF-308), receiver (NF-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.
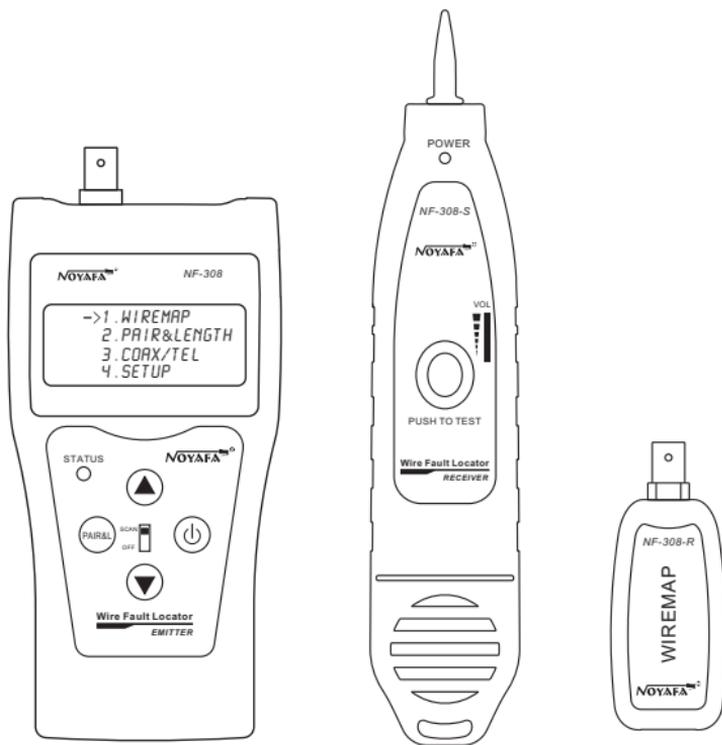
Main tester(NF-308)   Receiver(NF-308-S)   Remote identifier

Main Functions and features

One person enough to complete cable continuity check.

Directly hunt 5E, 6E, telephone wire, coaxial cable, USB cable and other cables.

Check wiring error in 5E, 6E, coaxial cable, such as open circuit, short circuit, jumper wire, reverse connection .

Locate the wiring or connection error.

Measure cable length and determine the distance of open circuit and short circuit.

Dynamically calibrate cable length and make length measurement as accurate as 98%.

Simple and easy use. Big screen to display test result clear.

Portable unit with long battery life (wait-case 50 hours).

Automatically time-delay shut off and backlight display function.

Measure length and pair with or without far-end recognizer.

Far-end recognizer with prompt voice.

Self-checking function 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: 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, telephone line.

(5). Type of cable detected

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

(6). Ambient temperature in work

-10 ~+60

(7). Tester Port

Tester RJ45 master port (M), tester LOOPBACK RJ45 port (L), RJ45 Scan(RJ45 cable tracing);

Remote identifier RJ45 port (R)

The extra BNC and RJ11 converters are used to measure and check the continuity of coaxial cable and telephone line.

(8). Length Measurement of Twin Twisted Cable

Scope: 1~350 M (3 ~1000 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.

Product interface and keypad Introduction

Main tester
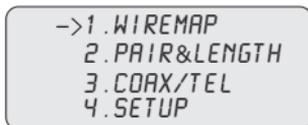
Receiver

Remote identifier
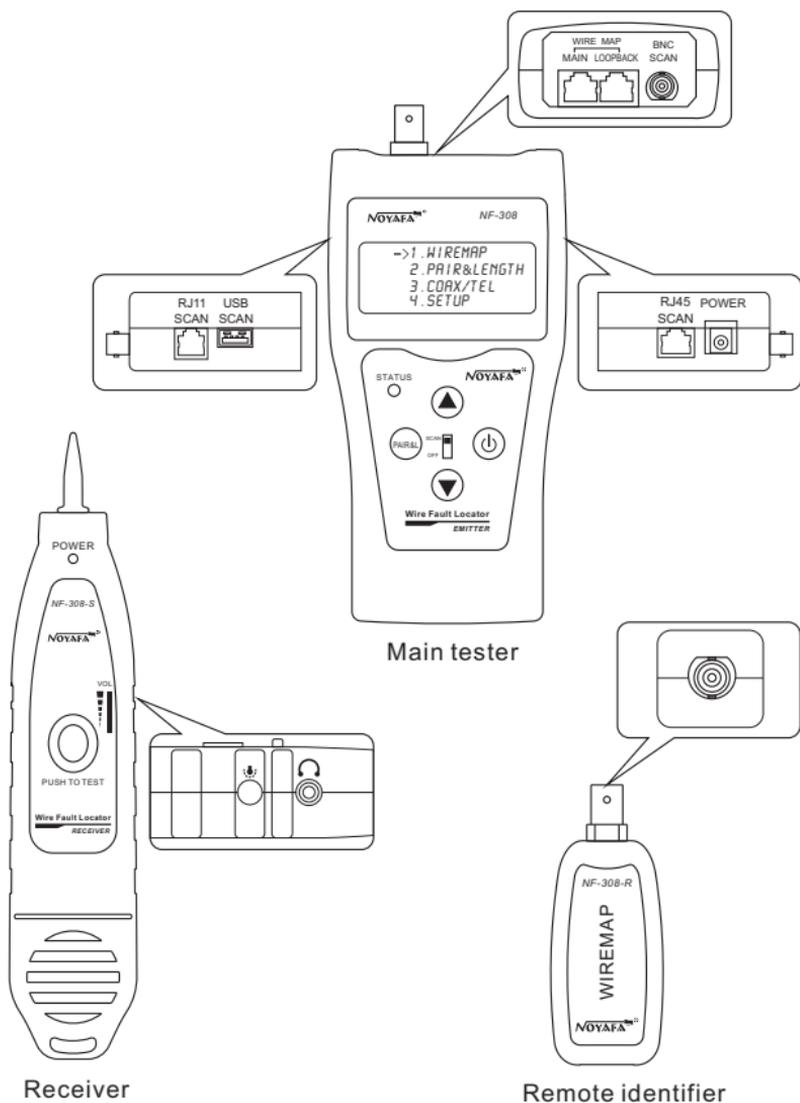
Product operation methods

Bott Screen:

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 arbitrary 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 in M, L, 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. SETUP---Calibrate and set up the tester (Refer to description hereinafter). With main menu display, push ▼▲ key to move cursor " - >" indicator up and down to desired item and then push PAIR&L key to enterrelated test function accordingly.

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

## Wiring diagram (WIREMAP) test function:

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

```
  ----TESTING----
  12345678...
```
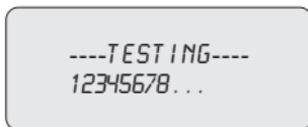
Test Result 1: Short circuit (SHORT)
It displays as follows if there is any short circuit in cable or terminal: (e.g.12 short circuit in the sample)
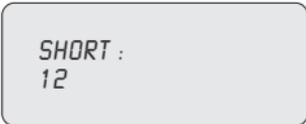
```
SHORT :
12
```

At the moment, push▼▲key to restart testing or push PAIR&L key to return main menu.Always eliminate "short"error firstly and then start further measurement.

Test Result 2:It will display as follows if the far-end of cable to be checked does not insert into the far-end matcher (ID) or if the cable does no insert into the local port(L)
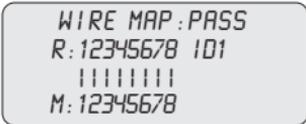
```
NO ADAPTER :
```

At the moment, push▼▲key to restart testing or push PAIR&L key toreturn main menu.

Test Result 3: Normal wiring diagram (WIREMAP) display
The tester will automatically detect far-end matcher (ID) or local port (L)cable and it will display wiring diagram (WIREMAP) as follows if it finds the far-end matcher (ID) or cable to be checked in the local port(L):

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

"R" means "Remote tester" , "ID1"is the number of Remote identifier .
"|" is the connecting line between "R" and "M".
"M:" means "Main tester".
At the moment, push▼▲key to restart testing or push PAIR&L key to return main menu.

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

```
WIRE MAP:FAIL
R:12X45X78 ID1
  ||||||||
M:12345678
```

"R:" line "3" and "6" pins location display "x", it indicates an open circuit in far-end plug "3" and "6" pins and the open circuit is located nearby the far-end plug.(The open point should be at the 10% cable length)
Note: because the detected cable is made of paired cable cores, "open" error at the far-end always displays in pair as above.,which means there is one open circuit or both are open in the far-end"3"and "6"pins.

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

```
WIRE MAP:FAIL
R:12345678 ID1
  ||||||||
M:12X45678
```

"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 (WIREMAP) display when there is an open circuit in the middle of the cable.
It will display wiring diagram (WIREMAP) as follows if there is an open circuit in the middle of the cable:

```
WIRE MAP:FAIL
R:12345678 ID1
  ||X|||||
M: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.) as detailed hereinafter.

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

```
----TESTING----
12345678...
```
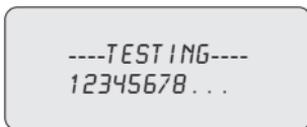
Note:In view of different technical parameters in various brand cables,
the user should calibrate the cable length before length measurement
(Refer to the details herein).

Test Result 1: Short circuit (SHORT)
It will display as follows if there is any short circuit in cable or terminal:
(12 short circuit in the sample)

```
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
```
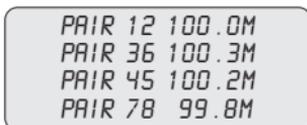
At the moment, push▼▲key to restart test or push PAIR&L key to
return the main menu.

Test Result 3: Abnormal pair and length (PAIR &LENGTH) display
It will display the paired lines and its length first ly,then unpaired lines
display, as shown below.
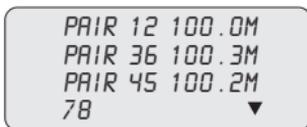
```
PAIR 12 100.0M
PAIR 36 100.3M
PAIR 45 100.2M
78            ▼
```

The last line (78▼) indicates no pair is found in line 7and 8, at the
moment,push the ▼key, it will display the length of unpaired line
number(as shown below)
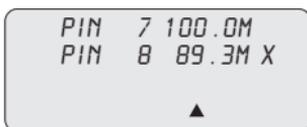
```
PIN  7 100.0M
PIN  8  89.3M X

           ▲
```

It will display " X " to indicate an open circuit if the length is less
than 90% of other lines' length. That is to say, the open circuit is
located at around 89.3M in line 8

Coaxial cable and telephone line measurement function:
After entering into coaxial cable and telephone line measurement
 (Coax/Tel)function, the tester shall start to test and show the test
result as follows:
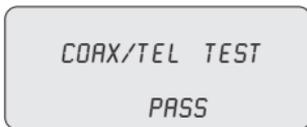
```
COAX/TEL  TEST

          PASS
```

It shall display"OPEN"if there is any open circuit or the coaxial

cable and telephone line is not connected.It shall display "SHORT"

if there is any short circuit.At the moment,push PAIR&L 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.

Note: For coaxial cable measurement, it needs BNC adapter cable.
        For telephone line measurement,it needs RJ11 adapter.

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):

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

At the moment, hold▼and▲key (-/+) to adjust the length to actual given length and then push PAIR&L 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 TO SHORT!
   COHT INNT. CAI
   NO    YES
```

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

```
SHORT
12
    CONTINUE?
NO          YES
```
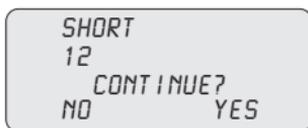
At the moment, push ▼ key (No) to exit calibration function. Push ▲ key (Yes) to repeat the measurement.

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

Start up or shut down AF 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-306

NF-868

NF-8208

NF-168

NF-806B

NF-816

NF-468L

NF-3468

NF-8108-M

NF-801B

NF-388

NF-906A

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