*Your excellent helper in cable test!*

# Network Cable Tester
# INSTRUCTION MANUAL

*Your excellent helper in cable test!*

ORIGINAL
AUTHENTIC

*Patented products,*
*Counterfeiting not allowed*

*VER: V2*

## Read the precautions before your operation

● Please do not place the device in a location that is dusty, humid, or hot (above 40°C).

● Please use a battery that meets the specifications, otherwise the device may be damaged.

● Please do not disassemble the device. Repair and maintenance should be done by a professional staff.

● When not using the device for a long time, please remove the battery inside the test terminal to prevent the battery liquid from leaking out.

● Please do not use this device to detect live power lines (such as 220V power supply lines), the device may be damaged and personal safety may be influenced.

● Please do not perform related operations on the communication line during thunderstorms to prevent lightning strikes and personal safety.
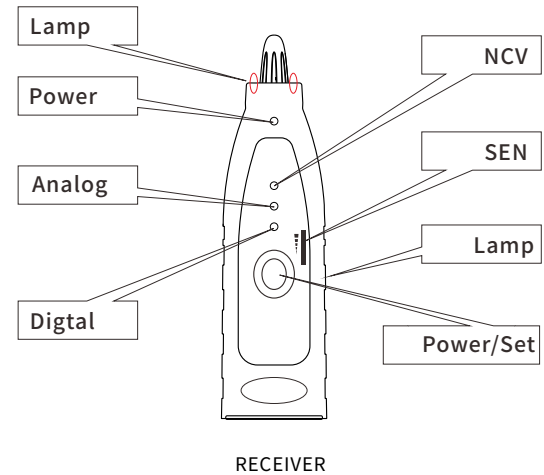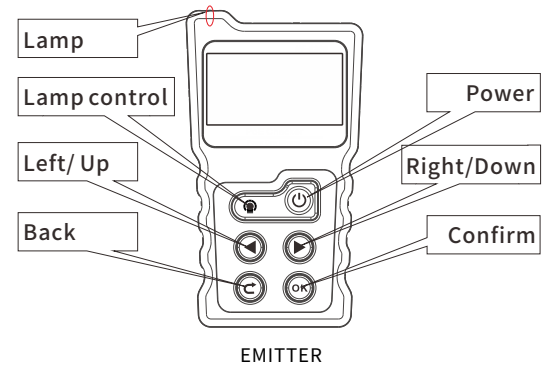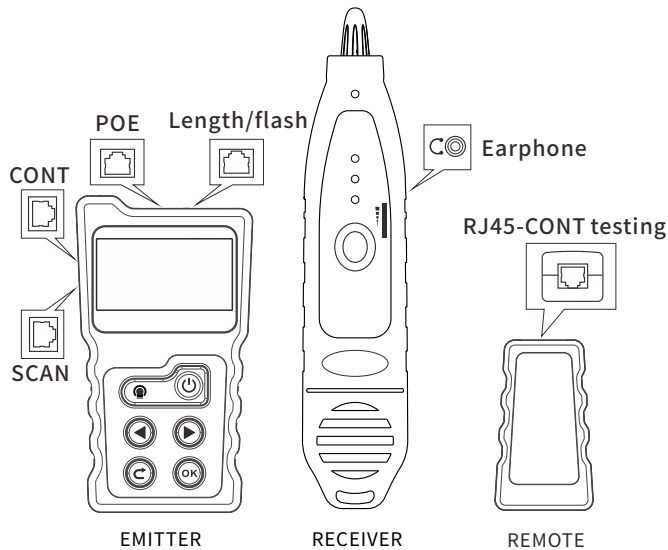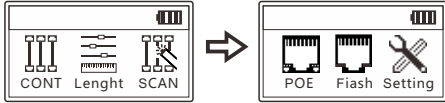
# Table of Contents

## Overview

NF-8209 is a new generation to offer digital and analog signaling all in one network toner and probe. It has three modes for options to track cable like digital mode, analog mode and PoE mode. That means it's equipped with the most powerful cable location technologies for any work environment. Also, it includes cable length measurement , cable faults testing, PoE testing, hub blink and NCV function, all these makes it a must-tool for cabling engineers.

## Keypard display and features

POE
Length/flash
CONT
Earphone
RJ45-CONT testing
SCAN

EMITTER          RECEIVER          REMOTE

Lamp
Lamp control
Power
Left/ Up
Right/Down
Back
Confirm

EMITTER

Lamp
NCV
Power
SEN
Analog
Lamp
Digtal
Power/Set

RECEIVER

## Product Operation

### Turn on the device and enter the below main Menu



CONT  Lenght  SCAN  ⟹  POE  Flash  Setting

1. CONT-- Test open, short, cross,ect for STP, UTP cable.
2. Length--measure length of lan cable, range is 2.5m~200m.
3. Scan--Analog/Digital/ PoE mode to locate lan cables.
4. PoE-- available for standard or non-standard PoE switch (5~60V), identify AT or AF standard of PSE type.
5. Flash--locate network port by the flashing port light on switch/ router.
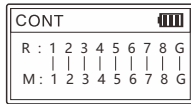6. Setting—Set Language, backlight time, auto-off time, contrast and version.

## 1. Continuity testing

Connect one end of cable to "CONT" port of tranmistter on the left side, the other end to the RJ45 port of remote, Press "OK" to start testing.
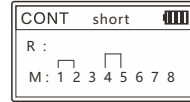
If the cable is a good one, the result will be as below.

CONT
R : 1 2 3 4 5 6 7 8
M : 1 2 3 4 5 6 7 8

(UTP lan cable)

CONT
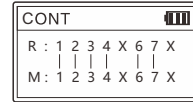R : 1 2 3 4 5 6 7 8 G
M : 1 2 3 4 5 6 7 8 G
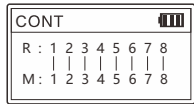
(STP lan cable)

## 1.1  Possible results

Only if a cable exsits short circuit, no matter it exsits cross, breakage or not,the testing result will only display "Short" information. If it doesn't exsit short circuit, then it would display what actually it is.

CONT    short
R :
M : 1 2 3 4 5 6 7 8

(Pin12, Pin45 are both shorted)

CONT
R : 1 2 3 4 X 6 7 X
M : 1 2 3 4 X 6 7 X

(Pin5 & Pin8 are broken)

CONT
R : 1 2 3 4 5 6 7 8
M : 1 2 3 4 5 6 7 8

(Pin56, Pin18 are cross)

CONT
R : 1 2 3 4 5 6 7 8
M : 1 2 3 4 5 6 7 8
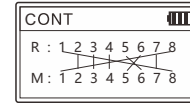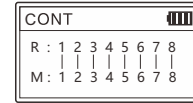
(Good condition)

## 1.2 Cable Open

If the LCD screen display "Cable Open!", there are several reasons for this.
1. all the pins are open indeed. 2. no cable is connected.
3. the remote is not connected.  4. Connect with wrong port.

CONT
Cable open!

## 2. Length measurement

Connect one end of cable to "Length/Port flash" port, disconnect the cable at far end, choose "Length" on the main menu, and select the preferred unit (meter/ yard/ feet ) before testing.
then press start to measure and the result will come out soon on the screen.

```
12: 80.8meter
36: 12.1meter
45: 80.8meter
78: 80.8meter
```

From the image, it means there exsits problem at 12.1m. To make sure it is short or broke there, you can test its continuity to know details.
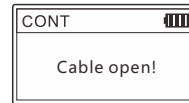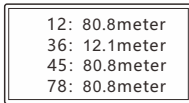
**Kind reminds when measuring cable length.**
1. the lan cable to be tested must be de-energized.
2. disconnect the cable at the far end, no remote, no other devices connected!
3. The range must be 2.5m~200m, otherwise, it would be display 0 meter.

## 3. Cable scan

Connect the cable to be tested to "SCAN" port of tranmistter on the left side, enter "SCAN" on the main menu, press ok to choose scan mode you prefer, the default is digital mode, the other modes is Analog & PoE. then set the corresponding

mode on receiver accordingly. After that, hold the receiver to locate cable at the other end, the loudest voice is the correct one.

| SCAN 📶 | SCAN 📶 | SCAN 📶 |
|---|---|---|
| Digital mode | Analog mode | PoE mode |
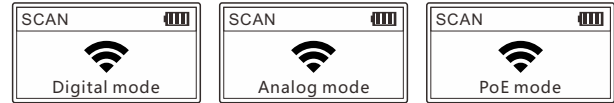
3.1. Attention: If the tranmistter is in PoE scan and digital scan mode, the receiver must be in digital mode. the analog scan in transmitter matches analog mode in receiver. If the modes are not matched correctly, even the receiver touch the correct cable, it won't generate tone, either.

3.2. Non-contact voltage detecting: press the "Power/Set" button on the receiver, if the "NCV" indicator is lit on, then you can use the receiver to detect AC voltage presence.

## 4. PoE Testing

### 4.1 Standard PoE device

It can test the information of standard PoE device, such as POE voltage, power supply polarity, power supply mode and also the type of PSE(af or at standard).

Connect the cable into "PoE" port, the testing result display as below image.

Pins providing power — 1 2 3 4 5 6 7 8
PoE          Endspan — Mode
type — IEEE  802.3at
Polarity — 53.6VDC — Voltage
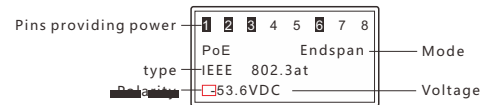
## 4.2 Non-standard PoE device

If the PoE device is non-standard, it can also test POE voltage, power supply polarity, power supply mode, but it can't tell the type of PSE, just display "Non standard". Connect the cable into "PoE" port, the testing result display as below image.

```
Pins providing power ──── 1 2 3 4 5 6 7 8
                          PoE          8pins ──── Mode
              Type ──── Non Standard
          Polarity ──── 53.6VDC ──────────── Voltage
```
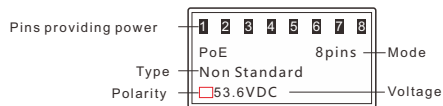
Attention: If all the 8 pins are providing power, it won't display polarity.

**4.3** If connected with PoE device, the result can be displayed after a few secs, it there is no result displayed after 30secs, then the device connected may not be PoE device.

## 5. Port Flash & Switch details testing

Connect a lan cable to "Length/Flash" port on the main unit, choose "Flash" on the main menu to start testing. The 2 indicators on the "Length / Flash" port will be lit and flash. Then observe the ports on switch, if there is a port whose flash frequency is 3 secs, and slower than all the other ports, it tells you the port is the target one you're looking for.

Also, the device can tell you the connected switch's information, such as its speed (10M/100M/1000M), transmitting modes (FDX: full duplex / HDX: half duplex) Protocol (Auto-Nego / Non-Auto-Nego). See the graph for ref. as below.

```
Flash              ▮▮▮▮
1000M   FDX
P: Auto-Nego
Testing......
```
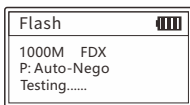
## 6. Setting

### 6.1. Backlight setting

Adjust the backlight time among 15s, 30s, 60s, on, and off.

```
Setting            ▮▮▮▮
 Lang:  English
-> BackLight:  30s
 AutoOFF:  15min
```
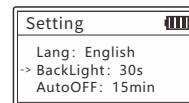
### 6.2. Auto-off time

adjust the backlight time among 15mins, 30mins, 1h, OFF.

```
Setting            ▮▮▮▮
 Lang:  English
 BackLight:  30s
-> AutoOFF:  15min
```
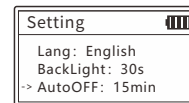
### 6.3. Contrast setting

Press the left and right keys to adjust the contrast to suit yourself.

```
Setting            ▮▮▮▮

     Contrast
        28
```

## 6.5. Version information

To check version information of software and hardware .

```
Setting                    ▮▮▮▮
  Hardware:V1.0
  Software: V1.0
```

## 7. Specification

| EMITTER | | | |
|---------|---------|-------------------|------------------------------|
| | Wiremap | Cable type | CAT5e, CAT6, CAT6a (STP & UTP) |
| | | Test with switch directly | Yes |
| | | Max range | 600m |
| | Length | Cable type | CAT5e, CAT6, CAT6a (STP & UTP) |
| | | Test range | 2.5~200m |
| | | Accuracy | ±1.6m |
| | | Breakage location | Yes |
| | Scan | Cable type | CAT5e, CAT6, CAT6a (STP & UTP) |
| | | Max. signal voltage | 9±1Vp-p |
| | | Frequency | 130KHz |
| | | Analog / Digital mode | Yes |
| | | Max range | 600m |
| | POE | Test range | DC 5~60V standard / non-standard PoE switch |
| | | Voltage display | Yes |
| | | PSE type | Standard : IEEE 802.3af/at ; Non standard |

| EMITTER | | |
|---------|-------------------|------------------------------|
| | LCD display | 128*64 Dot-matrix with backlight |
| | Power supply | AAA battary *3 |
| | Low battary warning | 2.7V |
| | Auto-off time | 15min／ 30min／ 60min／ OFF |
| | Voltage protection | DC48V 5mA |
| | Max working current | <150mA |
| | Size | 130*70*28mm |

| RECEIVER | | |
|----------|-------------------|------------------------------|
| | Sentivity adjustable | Yes |
| | AC Voltage detecting | Yes |
| | Lamp | Yes |
| | Battary type | 9V*1pc |
| | Low battary warning | 6± 0.5V |
| | Max working current | <100mA |
| | Size | 210*43*27mm |

| REMOTE | | |
|--------|-------------------|------------------------------|
| | Wiremap Port | RJ45 |
| | Voltage protection | DC48V 5mA |
| | Size | 65*37*23mm |

## 8. Accessories

| | | | |
|-------------|-----|-----------------|-------|
| Emitter | 1pc | Earphone | 1pc |
| Receiver | 1pc | Cable adaptors | 1 set |
| Remote | 1pc | Carry bag | 1pc |
| User manual | 1pc | Quality certificate | 1pc |

## 9.FAQ

| Result | Reason or solution |
|---|---|
| Different testing results for one same cable | Check whether the cable ends are connected well |
| | Keeps the ports clean |
| Length measured 0.0m | Connects to wrong port, "Length/Flash" is the correct one. |
| | Make sure the tested cable length is 2.5m~200m |
| No results display when test PoE | Connects to wrong port, "PoE" is the correct one |
| | Test the cable's continuity to make sure it is a good cable |
| | Check the PoE device is poweron |
| No flashing port when use port flash | Connects to wrong port, "Length/Flash" is the correct one |
| | Test the cable's continuity to make sure it is a good cable |
| | Check the router or switch is on |
| No tone when track cable | Connects to wrong port, "SCAN" is the correct one |
| | The mode of transmitter and receiver must keep the same |
| | Check whether the battary is low |
| | Turn up the sensitivity |
| The text on screen is blurry | Adjust the contrast to suit yourself |
| Turn on the device and auto-off soon | Replace a new battary |

## Diagram of Series Products



**NF-8601S**



**NF-309**



**NF-198**



**NF-511**



**NF-2030**



**NF-488**



**NF-858C**



**NF-911**



**NF-707**



**NF-711F**



**NF-5120**



**NF-272L**