

MODEL: NF-8209S

*Your excellent helper in cable test!*

# Network Cable Tester INSTRUCTION MANUAL



*Your excellent helper in cable test!*



VER: V1



## Read the precautions before your operation

- This device is powered by a lithium polymer battery.
- Do not expose this product to direct sunlight for long periods of time.
- Please do not disassemble this product, repair, maintenance matters should be professional personnel.
- The transmitter of this equipment has automatic shutdown function, and the automatic shutdown time can be set according to the user's needs (the receiver has no automatic shutdown function).
- If you do not use this device for a long time, it is recommended to charge the device once every other time.
- The device cannot be connected to a live line that exceeds the protection voltage (such as a 220V power supply line).
- Do not operate communication lines during a thunderstorm to prevent personal safety from being affected by lightning.

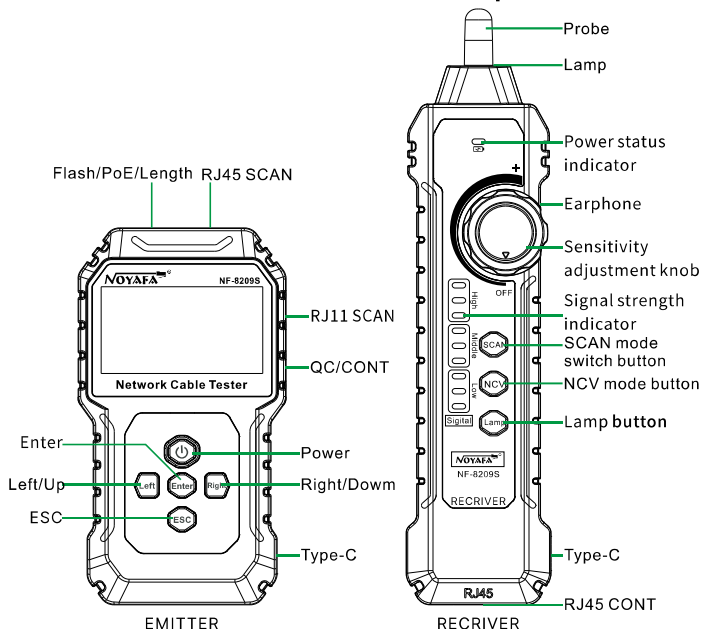
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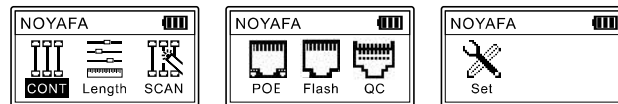
## Overview

NF-8209s network cable tester, new anti-interference line finding scheme using digital signal receiving and decoding technology, anti-interference degree is higher, more accurate, eliminate false positives. At the same time, it has the functions of common line finding, anti-interference line finding, continuity testing, length testing, PoE testing, port flashing, QC testing, NCV function, etc, which can meet users' needs to a greater extent and improve work efficiency.

## Part of the function description



## Main interface of transmitter



## Product Features Overview

- **CONT Test:** Cross, short circuit, open circuit, normal.
- **Length test:** Test the network cable length breakpoint without calibration.
- **SCAN Mode:** Normal mode/anti-interference mode.
- **PoE Test:** The power supply voltage of the power supply wire core is monitored. Both standard and non-standard PoE can be measured.
- **Port Flash:** Quickly locate the network cable on the switch or router.
- **QC Test:** Test whether the crystal head is properly pressed.

## Operating Instructions

### 1. Switch machine

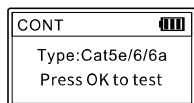
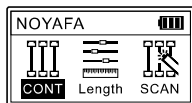
**Emitter:** Long press the power button to turn on; long press the power button to power off in the power-on state.

**Receiver:** Turn the sensitivity knob clockwise until you hear a "click" sound to turn on; in the power-on state, turn the sensitivity knob counterclockwise until you hear a "click" sound to turn off.

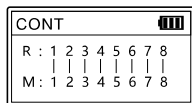
## 2.Continuity testing

Test the short circuit, open circuit and cross of the network cable.

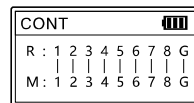
Connect one end of cable to "QC/CONT" port of transmitter on the right side, the other end to the RJ45 port of reote, Press "Enter" to start testing.



If the cable is a good one, the result will be as below.

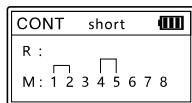


(UTP lan cable)

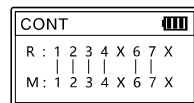


(STP lan cable)

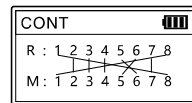
### Other test results



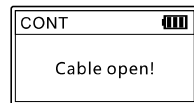
Pin12, Pin45 are both shorted



Pin5, Pin8 are broken



Pin56, Pin18 are cross

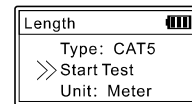
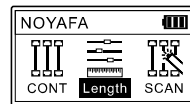


The network line is not connected or all connections are disconnected

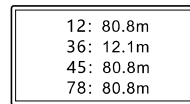
## 3.Length measurement

The length test can test the length of each twisted pair of the network cable separately and display it on the screen. When measuring the length, the network cable cannot be powered on, and cannot be connected to equipment and instruments. The length must be between 2.5 meters and 200 meters, otherwise the measurement data will be inaccurate.

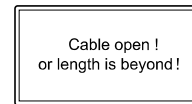
There are three options in the length test interface: type, start test and unit selection. When "Type" is selected, press the OK key to switch between Category 5 and Category 6 cables cyclically. When "Start Test" is selected, press the OK button to test the length of the network cable. , select the "unit" option, press the enter key to switch the length unit, and you can switch between "meter", "yard" and "feet" cyclically.



Insert one end of the network cable that needs to be measured into the end flash/PoE/length measurement socket of the transmitter. The test results are displayed in four groups, corresponding to the 12, 36, 45, and 78 pairs of the twisted pair, and the length unit displayed is the previously set unit.



Display result 1



Display result 2

36 Twisted pair 12.1 m Short circuit/open circuit (Check whether it is short circuit or open circuit through the CONT Test)

If the measured length is not between 2.5 and 200 meters, the test result of the twisted pair is shown as 2.

If the test fails after multiple tests, the length test hardware is damaged.

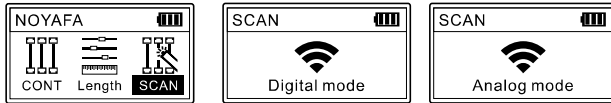
## 4. Cable scan

Insert one end of the network cable that needs to be found into the RJ45 of the transmitter (the telephone line is connected to the RJ11 interface) and select the SCAN mode, turn it on and use the receiver to find the network cable.

The closer the receiver probe is to the target line, the stronger the signal and the louder the sound.

The adjuster on the receiver is used to adjust the sensitivity when scanning.

SCAN can be divided into two modes: "Digital" and "Analog". In the two modes, all 8 cores of the network cable connected to the SCAN port have signal transmission.

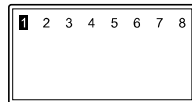
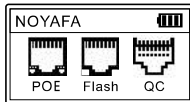


Press the confirm key ← Press the confirm key ← Press the confirm key

**Note:** The SCAN mode of the receiver should be the same as the SCAN mode of the transmitter (short press the receiver function key to switch), otherwise the signal will not be received

## 5. PoE testing

The POE test is performed automatically. You only need to connect the device to the flashing/POE/length test port on the transmitter to display the test result.

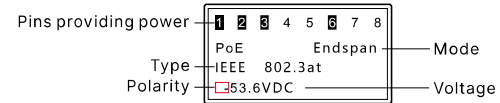


Not connected to POE switch display status

### 5.1. Standard PoE device:

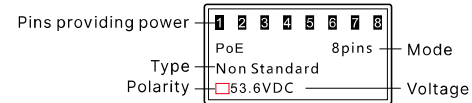
It can test the information of standard PoE device, such as POE voltage, power supply polarity, power supply mode and also the type of PSE (af or at standard).

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



### 5.2. 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.



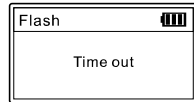
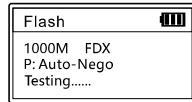
**Attention:** If all the 8 pins are providing power, it won't display polarity.

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

## 6. 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.

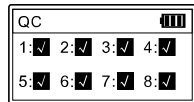
Also, the device can tell you the connected switch's information, such as its speed (10M/100M/1000M), transmitting modes (FDX: full duplex / HDX: half duplex) Protocol (Auto-Nego / Non-Auto-Nego). See the graph for ref. as below.



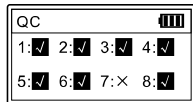
## 7. QC Testing

QC test: It is used to test whether the cable core is connected to the copper sheet of the RJ45 connector.

Insert the end of the network cable to be tested into the "QC/CONT" port of the transmitter. The QC test is an automatic test, and the result will be displayed after connecting. "✓" means the QC is normal, and "X" means the QC is abnormal.



Normal

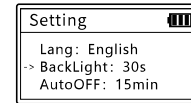


Example: No. 7 wire core is not connected

## 8. Setting

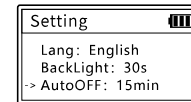
### 8.1.Backlight setting

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



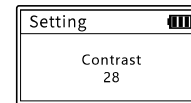
### 8.2.Auto-off time

Adjust the backlight time among 1 5mins, 30mins, 1h, OFF.



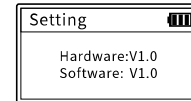
### 8.3.Contrast setting

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



### 8.4. Version information

To check version information of software and hardware .



## 9. NCV function (Receiver)

The NCV function is used to detect the presence of strong electrical cables in the working environment to ensure construction safety.

Press the receiver NCV key to enter NCV mode, and the receiver emits a "beep" sound when greater than 70V AC is detected

## 10. Lighting function (Receiver)

In any interface, you can use the lighting button to control the lighting switch state. Press once to turn on the light and once to turn off the light.

## 11. Low battery warning

Both the transmitter and receiver use 3.7V 1400mAh polymer battery, which can be charged through the Type-C interface.

The power indicator on the screen flashes when the transmitter is low power.

The power status indicator flashes when the receiver is low power.

## Packing list

Emitter	1pc	Earphone	1pc
Receiver	1pc	Cable adaptors	1set
Charging line	1pc	Carry bag	1pc
Quality certificate	1pc	User manual	1pc

## Technical parameters

EMITTER	Wiremap	Cable type	CAT5/CAT6
		Cable sequence and fault testing	Normal, open circuit, short circuit, cross
		STP/UTP	Distinguishable by test
		MAX range	600M
	QC Test	Test type	8P
		Response speed	≤1S
		Minimum recognition	10cm
	Length	Test line	CAT5, CAT6
		Test range	2.5-200m
		Accuracy	≤20m±1.6m 20~100m±2.4m >100m±3.2m
		Unit	m/ft/yd
	SCAN	Cable type	CAT5/CAT6
		Max. signal voltage	5V±1.0VP-P
		Frequency	455KHz
		Dual mode	Analog/Digital mode
	POE	MAX range	600M
		Voltage test range	DC5~60V
		Power supply core/jumper mode	end jumper/middle jumper / 8-core power supply / unknown
	Flash	PSE type	non-standard, IEEE802.3at/af
Full-duplex and half-duplex identification		Yes	
Auto-Nego/Non-Auto-Negot		Yes	
	Switch type	10M/100M/1000M	

EMITTER	LCD display	128*64 Dot-matrix with backlight
	Language display	Chinese / English
	Keys	4 functions +1 power button
	Ports	Three RJ45+one RJ11
	Power supply	3.7V 1400mAh polymer lithium battery
	Battery low indication	yes
	Auto-off time	15min/30min/60min/OFF
	Voltage protection	DC60V
	Maximum working current	≤200mA
	Size	125x70x32mm
RECEIVER	Digital mode	Yes
	Analog mode	Yes
	Sensitivity adjustable	Yes
	NVC function	AC70V~1000V50/60Hz
	Voltage protection	DC60V
	Battery low indication	yes(3.5V±0.1V)
	Maximum working current	≤200mA
	Ports	CONT RJ45
	Voice prompt	Yes
	Headphone function	Yes
	LED lighting	Power indicator LED
	Power supply	3.7V 1400mAh polymer lithium battery
	Size	198x50x30mm

## 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 power on
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 battery 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 battery