INTRODUCTION

NS-DX Series Digital Multi-function LCD digital cable the length of the test network tester is a special test tool with powerful functions, simple and practical features, which is technically designed for preventing and solving problem of cable installing. NS-DX Series network tester is the best ideal choose to verify any voice and cable installing process of data. It can test cat.5, cat.5e, cat.6, cat.7, COAXIAL, TELECOM, cable wiring diagram such as user jump line, problems like circuit break, open circuit, short circuit, jumper cable or series wound. The most important thing is that it can detect the distance of fault(open circuit) and discriminate which end of cable is opening. Moreover, practical digital audio hunting function can quickly find needed cable from complex line and locate wiring place quickly so that it save time and money of the installation.

1. Use AAA alkaline cell or rechargeable battery
2. Please don' t use it when network is on-l i ne, prohibit external power.
3. To ensure that the battery is not wasted, the machine has automatic shutdown function, such as instrument will turn off if it does not work for about 30 minutes.

MAIN FUNCTION CHARACTERISTIC

- ★cable connectivity test can be done by one person
- ★can detect the cat5, 5 E, 6 E, 7 E, coaxial cable , telephone line fault of the connection, including: open circuit, short circuit, jumper cable, reverse connection and series wound.
- ★wiring/connection error of orientation.
- ★measure the cable length, show line length on paging, and determine the fault (open) distance.
- ★with digital audio found line function (TONE SCAN) and can launch four audio signal.
- ★the dynamic calibration function of cable length can greatly improve the accuracy of measurement.
- ★easy to use, STN wide (LCD) large screen display make test results clear to read! With backlight function, suitable for using in dark environment.
- ★use normal AAA battery, with the function of low electricity indication.
- ★high efficiency of the DC-DC conversion and automatic delayed shutdown, saving electric energy.
- ★can measure the length and the pairing whether plug the far-end recognizer.
- ★cable positioning, the biggest can be expanded to eight far-end passive test socket (identification number 1 D1-1 D8) . Far-end recognizer has audio warning function.
- ★supporting portable digital audio line found machine(NS-DX -LR), convenient for searching and testing cable.
- ★pass the European CE and ROHS ,ensure that EMC on human is harmless and it accords with environmental protection.

QUALIFICATION

Configuration Dimension:

main engine:150*73*35mm receiver : 13.5*35.0*23.0mm

Power Supply:

AAA battery (alkalinity or rechargeable)

Display:

STN wide visual angle specially uses 4 * 16 character large screen LCD dot matrix, with backlight which can automatically close backlight and manually start and stop backlight.

Testing Cable Type:

UTP/S(F)TP twisted-pair, coaxial line, telephone line, etc

Test Ambient Temperature:

0℃ — +50℃

Tester Port:

RJ45 port of tester uses special patent general interface, can straightly insert 8P8C、6P6C、4P4C plug, do not need to shift.
Three RJ45 Interface:
tester MAIN RJ45 port (M) , tester LOOPBACK RJ45 port (L) 、far-end recognizer RJ45 port(R).
append RJ45-BNC(TNC) changer which can test coaxial cable, wired television cable.

Twisted-pair Length Measurement:

Scope: 1-35 meter (3-1200 feet)
Calibration accuracy: 3%(+/-1.5m or +/-1.5ft). (calibrate cable suggest>15m)
Factory accuracy: 5% (+/-0.5m or +/-1.5ft). (Standard cat.5e UTP cable)
Display: m or ft

Length Calibration:

Users could use cable with the known length, set calibration factor by oneself, the length of calibrating cable should be greater than 5 meters.

Line Order And Cable Fault:

Fault test, open , short , reseved, cross and series wound

Cable Location:

can extend 8 far-end passive test location socket(1D1-1D8)

Automaticlly Delay Turn Off Time:

About 30min without any operating

Audio Frequency Transmit:

about 4.5V VVP .800-1000HZ

Receive Frequency:

500HZ-1500HZ

Audio Output Power:

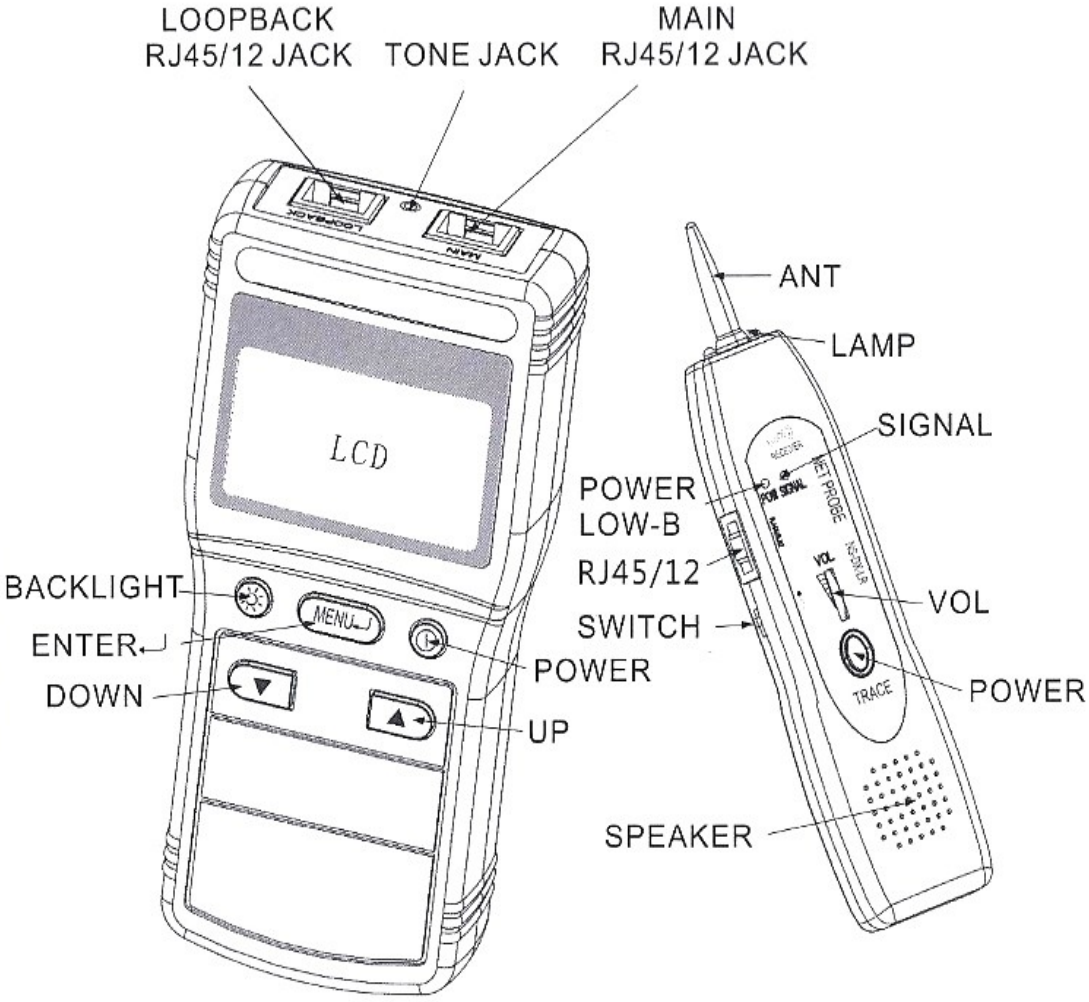
8Ω 0.25mw/1000HZ

INTRODUCTION OF PRODUCT INTERFACE AND BUTTONS

1. Power Supply

Use AAA battery. If not use for a long time, please take out the battery lest battery seepage corrode battery rack.

2. Instrument Panels and Socket

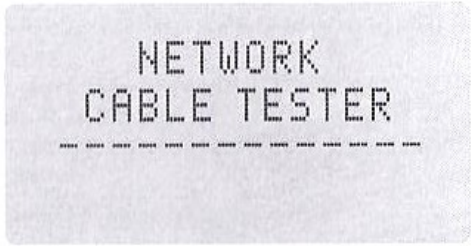


OPERATING APPROACH

1. Power ⏻: open in 2 seconds, "TO POWER OFF?" appear if press again, the tester will turn off when press again or hold the hand. Turn back to the main menu when press other button in 5 seconds, turn off if more than 5 seconds.
2. short press backlight button ☼ , then the backlight turn on, turn off automaticlly 10 seconds later, long press 3 seconds, backlight open for long time, at the same time LCD display ☼ .
3. (MENU↵): Function menu and confirm button.
4. ▲ ▼ Shift key

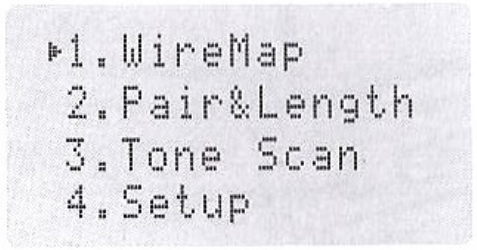
Display frame when turn on

Self-checking at the same time(– – – – – – – The dotted line dynamiclly show self-in spection process from left to right):



Display main menu after 3 seconds.

Main menu frame



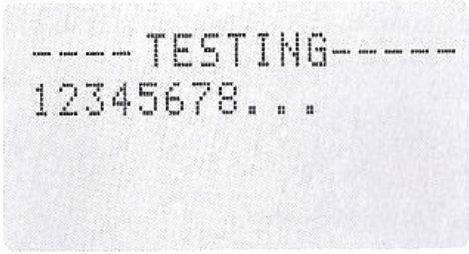
Four function choose on main menu

1. WireMap----Measure WireMap, can check M,L,R—cable connecting and failure location.
2. Pair&Length----pairing and length measurement, can verify cable length, open circuit distance &pairing, series wound and so on.
3. Tone Scan---Transmit digital audio signal, four audio A, B, C,D can be chosen
4. SETUP---Calibrat and install(refer to rear chapters).

Main menu display frame, press ▲ ▼ can shift to the relevant item, press (MENU↵) again to enter into relevant testing function.

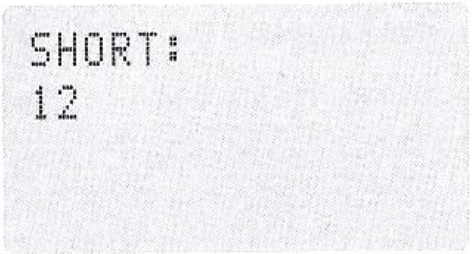
● WIREMAP

After entering WIREMAP testing function, the tester will test the WIREMAP, while display as below that mean the instrument is testing:



Test Result 1: short circuit

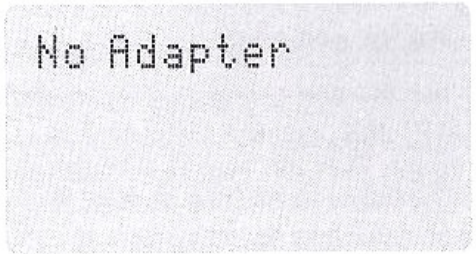
If the cable or terminal has short circuit, the tester will display the frame as below: (12 means short circuit)



For the time being, press ▲ ▼ to test again, or press (MENU↵) to get back to the main menu.Please test after eliminating short circuit.

Test Result 2:do not find the far-end matcher (ID) or cable doesn't insert into local port (L)

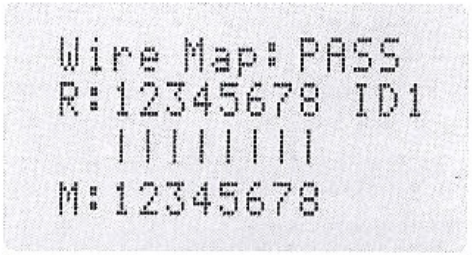
The instrument will automatically detect the far-end matcher (ID) or local port (L) cable. If the far end of cable doesn't insert far-end matcher (ID) or the cable doesn' t insert lacal port (L) when test locally ,it will show the following pictures:



For the time being, press ▲ ▼ to test again, or press (MENU↵) to get back to the main menu.

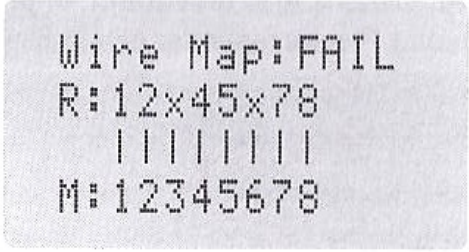
Test Result 3: Normal the wiring diagram (WIREMAP) display

The instruments will automatically detect the far-end matcher (ID) or local port (L) cable. If detect that testing cable has far-end matcher (ID) or local port (L) cable, it will show the (WIREMAP) pictures:



In picture, "R:" line means Rj45 socket number of far end, "ID1" is far-end matcher number.
"I:" line means ligature of far-end port and the cardinal extremity .
"M:" line means RJ45 socket of the cardinal extremity.
For the time being, press▲ ▼to test again, or press MENU to get back to the main menu.

Test Result 4: the wiring diagram (WIREMAP) display when the cable is open on the far end.

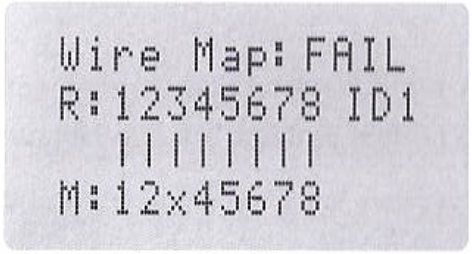


In picture, "3" "6" foot position in "R:" line show "", which mean the far-end plug "3" "6" feet has open circuit and open circuit position is close to the plug place. (open position should be less than 10% the cable length from the far-end plug)

Note: if you use the far-end matcher (ID) to measure the wiring diagram (WIREMAP), the opening of far-end plug always displays pairing for the reason that the test is through the pairing of two cable core. Like the show in picture above. It means that the far end "3" "6" has a foot in open or both open. If you need to identify, please take the host machine to the far end for measuring.

Test Result 5: the wiring diagram (WIREMAP) display when the cable open in near end.

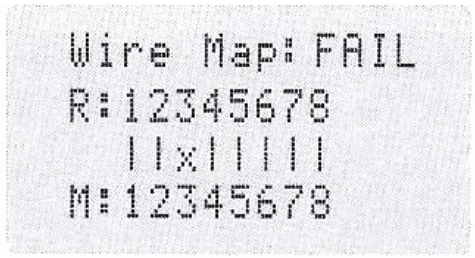
If the cable open in the near-end plug,display (WIREMAP) picture as below:



In picture, "3" foot position show "" in "M:" line, which means the "3" feet has open circuit and open position is close to the proximal plug . (The open position should be less than 10% of the cable length from near-end plug)

Test results 6: the wiring diagram (WIREMAP) display when cable is open in the middle.

If the cable open in the middle, it will display WIREMAP picture as below

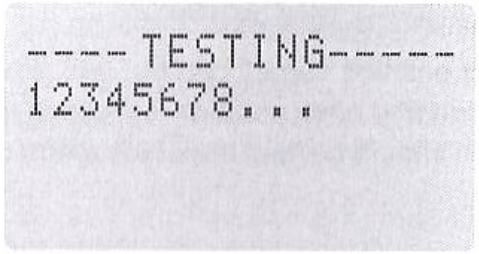


In picture, "3" foot position shows "X" in line "I" , which means the middle of "3" feet cable has open circuit. (open position should be less than 10%-90% of the cable length from near-end plug.) If want to further define the open position, please use RAIR&LENGTH measurement function, see the following relevant chapters .

● PAIR&LENGTH :

No matter whether the far-end plug of cable has connected the far -end identifier (ID), the instrument can PAIR&LENGTH measure. Therefore, identifier (ID) can connect all the time to avoid troubles of connecting again and again in the whole process of WIREMAP PAIR& LENGTH measuring.

After entering PAIR&LENGTH measuring function, the machine will do PAIR&LENGTH test and it will display picture as below which means testing:



Note: As the cable specification of each brand is different, please use the dynamic calibration function before the users test the length.(Please refer to relevant chapters)

Test Result 1: SHORT

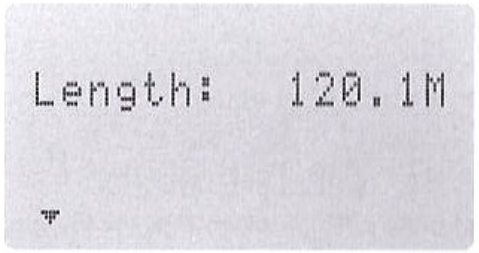
If the cable and port have short circuit, it will display picture as below: (short 12)

(can not test the short location)

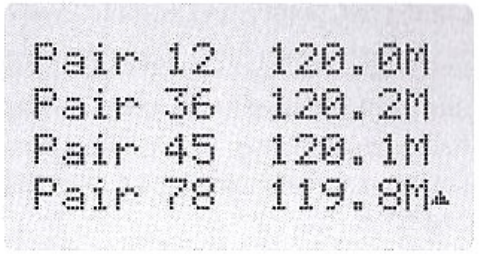
For the time being, press▲▼to test again, or press MENU to get back to the main menu. Test after confirming that there is no short failure.

Test Result 2: Normal RAIR&LENGTH display

Matching and the length, show the cable length first

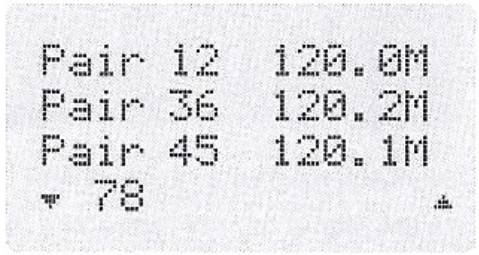


Then, pressing▼can check the length of every pair (basis) cable. If the Pair & Length test normal, it will display picture as below:



The number after "Pair" is the number of the pair line, the rear of line number is the length .At the time being, press▲▼to test again, or press MENU to get back to the main menu.

Test Result 3: it has line not paired when unnormal RAIR&LENGTH measures,it will show the cable paired first:



The last line, （ 78 ） means line 7,8 can not find the pair, at the time being, press▼, show the length of the cable not paired(see below):

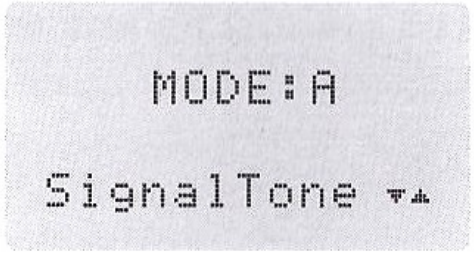
(or press MENU to get back to the back to the main menu)

If the length is less than 90% of other line, it will show "X" which means open circuit, open position is 88.2 m from the host machine. (use WIREMAP function to review open route number), at this time, press ▲ to get back to the last display, press ▼ to show more length of the cable not paired. (or press MENU to return to the main menu)

Coaxial cable and telephone lines measuring function:
Telephone lines measuring, can directly insert into RJ45, cantest connection, coaxial cable can use the random RJ45 -BNC(TNC) to test.

● TONE SCAN

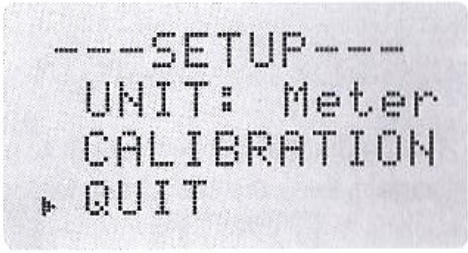
Enter tone SCAN, the tester will launch frequency signal, can choose 4 kinds of audio by press ▲▼



At this time, use the matched audio receiver NS-LX-LR,search line by audio. To ensure the signal quality ,generally insert output line of random audio signal into front hole and connect black crocodile clip with earth . (red crocodile clip is signal output which can be found other lines,please refer to found line principles and methods)

● Setup :

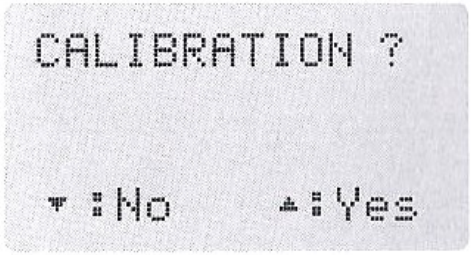
After entering Calibrate & Setup function, the tester will display picture as below:



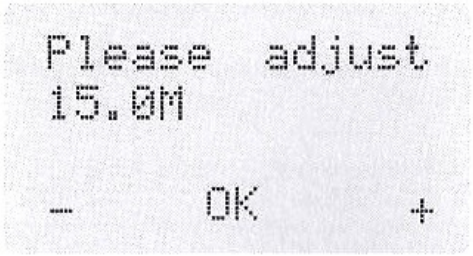
Pressing ▲ ▼ can shift the "▸" to the relevant item, press MENU again, then enter relevant setup function.UNIT: setup the length unit, shift between "meter" and "ft" . CALIBRATION is calibration function.(please refer to relevant chapters behind.)QUIT: return to the main menu.

● CALIBRATION:

If need to accurately measure the cable length, calibrate as below. After entering dynamic calibration function, the tester will display picture as below:

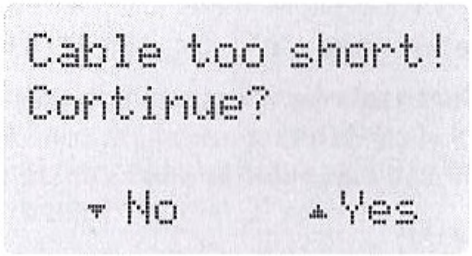


Press ▼ (NO) will exit calibration function.
Please insert the same model cable which length is know into "M" port, do not need to insert far-end recognizer. Press ▼ (YES), then test, while display the measuring length (picture as below).

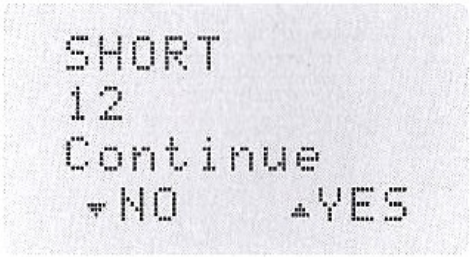


Now press ▼ and ▲, it will adjust displayed length to practical length that has known, press MENU again, keep the calibration factor and exit calibration function function.

If the measuring cable length is too short (< 5M), it will display picture as below, remind users to change a longer cable to calibrate.

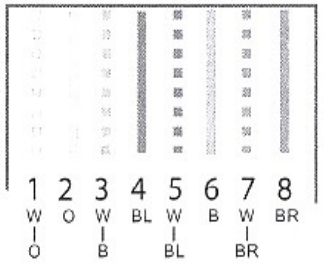


At this moment, pressing ▲ (No) will exit calibration function. Pressing ▼ (YES) will test again. If the measuring cable length has short circuit , it will display picture as below, remind users to change the normal cable to calibrate:

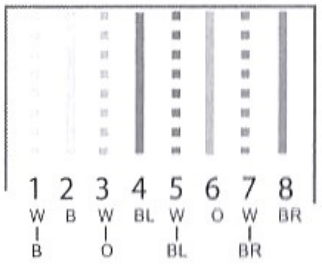


At the moment, pressing ▲ (NO) will exit calibrate function. Pressing ▼ (YES) will test again.

Note: restart the tester, the tester will recover calibration factor of standard UTP5 line which is factory factor.



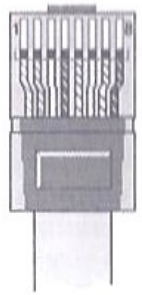
EIA/TIA568B



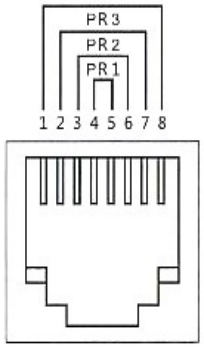
EIA/TIA568A

8P8C

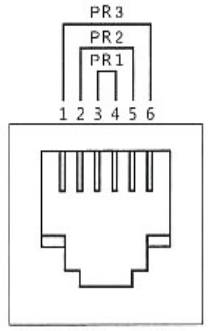
6P6C



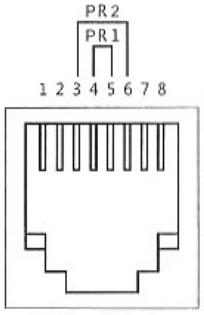
PLUG



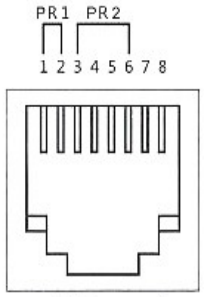
USOC8



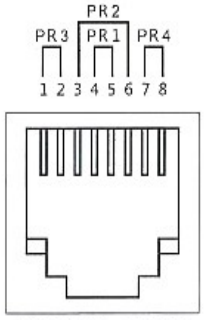
USOC4(Prs.1&2)
USOC6(Prs.1,2&3)



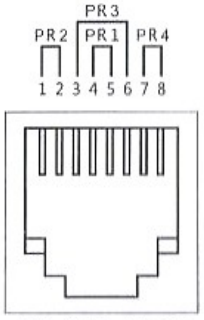
8-Position
Token Ring



Ethernet
10Base-T



EIA/TIA-568A



EIA/TIA-568B
AT&T258A