



**TIS 880**  
**Network Cable Tester**  
Users Manual

Read this manual thoroughly before use



# **INTRODUCTION**

The TIS 880 tester is a small hand-held cable tester, which enables network professionals to quickly and easily verify the integrity of straight-through, twisted pair cables and coaxial cables. In addition, the TIS 880 can test the ID number of the ID test terminal connected to the remote end of the cable under test so that this cable can be verified.

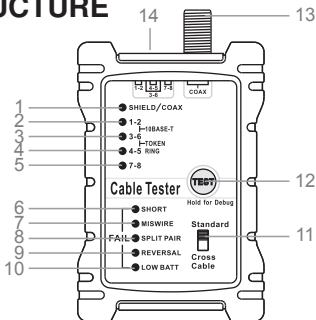
## **Features**

1. Tests UTP (Unshielded Twisted Pair), STP (Shielded Twisted Pair) cable and coaxial cable.

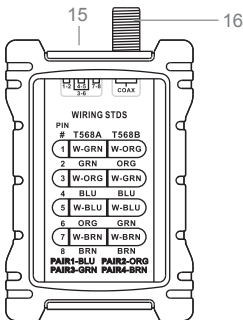
2. Checks continuity and configuration of wiring with RJ45 plugs.
3. Tests for open circuits, shorts, miswires, reversals, and split pairs.
4. Shield detection tests a cable's shield integrity.
5. Debug mode quickly identifies which cable pairs have a specific wiring fault.
6. Main unit and Remote unit allow one person to test T568A, T568B, 10Base-T, and Token Ring cables.
7. Main unit is powered by two 1.5V batteries and remote unit does not need battery.
8. Low battery indication

## STRUCTURE

## Main Unit



## Remote Unit



## **Pair and SHIELD LEDs:**

1. SHIELD/COAX LED
2. Pair 1-2 LED
3. Pair 3-6 LED
4. Pair 4-5 LED
5. Pair 7-8 LED

## **Fault Indicator LEDs:**

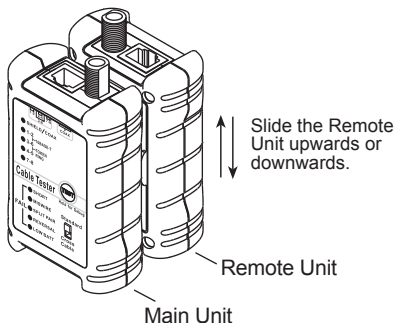
6. " SHORT " LED
7. " MISWIRE " LED
8. " SPLIT PAIR " LED
9. " REVERSAL " LED

## **Others:**

10. " LOW BATT " LED
11. Mode Selector Switch
12. TEST Key
13. BNC Socket of Main Unit
14. RJ45 Socket of Main Unit
15. RJ45 Socket of Remote Unit
16. BNC Socket of Remote Unit

## Removing the Remote Unit:

Before remote test, you must remove the Remote Unit from the Main Unit. To do it, hold the Main Unit with a hand, use another hand to hold the Remote Unit and slide it upwards or downwards.



# TYPICAL FAULTS

For straight-through cable or cross-over cable tests, the tester has two operating modes: Test mode and Debug mode.

In Test mode, a flashing pair LED indicates that this wire pair has a fault, meanwhile a fault indicator LED lights up to indicate which fault was detected. Multiple flashing pair LEDs indicate multiple pairs and/or multiple faults. In this situation, you should use Debug mode to diagnose the faults in more detail. Correct the faults until the cable is verified to be correct by using the tester.

## Fault Details

### Short



A short circuit condition exists.



## Reversal



The pin for one wire in a pair is connected to the opposite pin for this pair in the remote jack.

## Miswire



Improper assignment of individual wire pairs to pins for the wiring schemes tested.

## Split Pairs



Split pairs occur when the tip (positive

conductor) and ring (negative conductor) of two twisted pairs are interchanged.

### **Note:**

For some types of cables, so called " OPEN " is not an abnormal condition. Therefore the tester does not an " OPEN " indicator LED. Open is displayed as an unlit pair or shield LED when the tester shows the test result. The user should determine if a wire is present and continuous or OPEN by comparing the illuminated pair and/or shield LEDs with the expected number of wires (of the cable) that should be good.

During test, if the " LOW BATT " LED lights up, the batteries in the Main Unit are low. To avoid possible wrong test result, replace the batteries immediately.

## **NOTICE PRIOR TO USE**

1. Before using the tester, disconnect the

- cable to be tested from any device;  
otherwise the device may be damaged.
2. After test, the tester will turn off automatically.

## HOW TO TEST A STRAIGHT-THROUGH CABLE

### TEST Mode

1. Connect the Main Unit to one end of the cable to be tested and the Remote Unit to the other end of this cable.
2. For TIS 880, set the Mode Selector Switch to the "**Cable**" position.
3. Press the **TEST** key and then release it. The tester starts testing the cable. The five green LEDs flash one time sequentially from top to bottom, then the

tester shows the test result – flashing pair LED indicates this pair has fault, meanwhile fault indicator LED lights up to indicate the fault.

4. The test will last about 12 secs, then the tester will turn off automatically. At any time, you can stop the test manually by pressing the **TEST** key again, the tester will turn off.

### **Example for TEST mode:**

**The cable fault is a SHORT on pair 1-2 and pair 3-6.**

After the five green LEDs flash one time sequentially from top to bottom, the tester shows the following test results simultaneously:

Pair 1-2 LED and pair 3-6 LED flash green, meanwhile the " SHORT " LED lights red.

Pair 4-5 LED lights green indicating a good pair.

Pair 7-8 LED lights green indicating a good pair.

## DEBUG Mode

The DEBUG mode identifies which cable pairs have wiring fault. It cycles through pairs displaying a test result for one pair at a time. The fault is indicated by simultaneously lighting pair LED(s) and fault indicator LED(s). A short flash on pair LED indicates that the pair is under test, a long flash on pair LED is the destination of test.

1. For TIS 880 set the Mode Selector Switch to the "**Cable**" position. Then press and hold the **TEST** key until all LEDs light, then release the key.
2. The pair LEDs and the fault indicator LEDs work together to identify which pair is incorrect.
  - a. If a pair LED flashes two times in series (one short and one long), meanwhile no fault indicator LED lights, the pair is wired correctly.

- b. If a pair has fault(s), its pair LED will give a short flash, then this pair LED, other pair LEDs related to this pair's fault(s), and the fault indicator LED(s) will give a long flash simultaneously.
  - c. If a pair LED gives only a short flash without a succedent long flash, this pair has a OPEN fault.
3. After the DEBUG function cycles 4 times through the pairs, the tester will turn off automatically. At any time, you can stop the test manually by pressing the **TEST** key again, the tester will turn off.

### **Example for DEBUG mode:**

**The cable fault is a SHORT on Pair 1-2 and Pair 3-6.**

The DEBUG mode LED series will be as follows:

1. Pair 1-2 LED gives a short flash, then pair 1-2 LED, pair 3-6 LED and the

" SHORT " red LED give a long flash simultaneously.

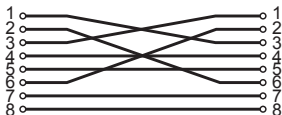
2. Pair 3-6 LED gives a short flash, then pair 3-6 LED, pair 1-2 LED and the " SHORT " red LED give a long flash simultaneously.
3. Pair 4-5 LED flashes two times in series, meanwhile no fault indicator LED lights. This indicates that this pair is wired correctly.
4. Pair 7-8 LED flashes two times in series, meanwhile no fault indicator LED lights. This indicates that this pair is wired correctly.
5. After the DEBUG function cycles through the pairs 4 times, the tester will turn off automatically.

# HOW TO TEST A CROSSOVER CABLE ( for EM2426 only )

The method of testing crossover cable is almost the same as that of testing straight-through cable, the only difference is:

**The Mode Selector Switch is in the " Standard " position when you test straight-through cable; if you want to test crossover cable, you must set the switch in the " Cross Cable " position.**

Refer to the " **HOW TO TEST A STRAIGHT-THROUGH CABLE** " section and remember to set the Mode Selector Switch to the " **Cross Cable** " position for testing crossover cable.



Crossover Cable Wiring



# HOW TO TEST COAXIAL CABLE

1. Connect one end of the coaxial cable to be tested to the BNC socket of the Main Unit and the other end of the coaxial cable to the BNC socket of the Remote Unit.

**Note:** The terminators on the cable to be tested should match the BNC sockets of the tester.

2. Press the **TEST** key and then release it, the five green LEDs of the Main Unit will flash one time sequentially from top to bottom, then the tester shows the test result:

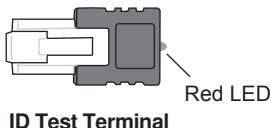
If the " SHIELD/COAX " LED lights green, the coaxial cable has no fault; if the " SHIELD/COAX " LED does not light, the cable is faulty.

**Note:**

For coaxial cable tests, the Mode Selector Switch can be in any function position.

## **HOW TO VERIFY A CABLE ( for TIS 880 only )**

1. Connect the Main Unit to one end of the cable to be verified and ID test terminals (optional) to other possible ends of this cable.
2. Set the Mode Selector Switch of the Main Unit to the " ID " position.
3. Press " **TEST** " key and then release it, the " ID " LED display of the Main Unit will show the ID number (1 - 8) of the ID test terminal connected to the cable under test, and the red LED on this ID test terminal will flash once; so this cable can be verified.



## BATTERY REPLACEMENT

When the " **LOW BATT** " LED lights continuously, the batteries are low and should be replaced immediately.

1. Remove the screws on the back cover of the Main Unit and remove the back cover.
2. Replace the exhausted batteries with new ones of the same type, make sure that the polarity connections are correct.
3. Reinstall the back cover and the screws.

## SPECIFICATIONS

**Cable Length:** Minimum: 1m

Maximum: 300m

**Battery:** 1.5V battery, AAA or equivalent,  
two pieces

**Size:** 98×64×58 mm (in storage state)

**Weight:** about 165g (including batteries)

## NOTE

1. This manual is subject to change without notice.
2. Our company will not take the other responsibilities for any loss.
3. The contents of this manual can not be used as the reason to use the tester for any special application.

### DISPOSAL OF THIS ARTICLE

Dear Customer,

If you at some point intend to dispose of this article, then please keep in mind that many of its components consist of valuable materials, which can be recycled.

Please do not discharge it in the garbage bin, but check with your local council for recycling facilities in your area.



