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## 1. Introduction

The network cable tester is a small hand-held cable tester, which enables network professionals to quickly and easily verify the integrity of Ethernet twisted pair cables.

## 2. Features

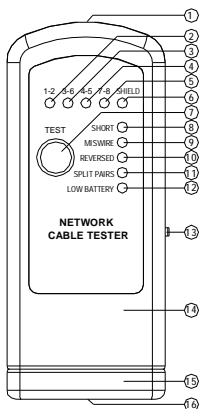
- ▶ Test device used with UTP (**U**nshield **T**wisted **P**air) and STP (**S**hield **T**wisted **P**air) wiring.
- ▶ Checks continuity and configuration of wiring with unshielded and

shielded modular plugs.

- ▮ Tests for open circuits, shorts, miswires, reversals, and split pairs.
- ▮ SHIELD detection tests a cable's shield integrity.
- ▮ Main unit and one remote allow one person to test T568A, T568B, 10Base-T, and Token Ring.
- ▮ DEBUG quickly identifies which cable pairs have a specific wiring fault.
- ▮ 6 volt battery is installed in the main tester unit (Remote unit is unpowered).
- ▮ Battery low indicator.

### 3. Panel

- ①. RJ45 Test Jack
- ②. Pair 1 Indicator (1-2)
- ③. Pair 2 Indicator (3-6)
- ④. Pair 3 Indicator (4-5)
- ⑤. Pair 4 Indicator (7-8)
- ⑥. Shield Indicator
- ⑦. Test or Debug Button
- ⑧. Short Faults LED
- ⑨. Miswire Faults LED
- ⑩. Reversed Faults LED
- ⑪. Split Pairs LED



- ⑫. Low Battery Indicator
- ⑬. Power Switch
- ⑭. Main Unit
- ⑮. Remote Unit
- ⑯. RJ45 Test Jack

#### **4. Fail Indicators**

A flashing pair LED indicates that this wire pair has a fault. A flashing LED in the FAIL section will indicate which fault was detected. Multiple flashing LEDs indicate multiple pairs and/or multiple faults. Best

practice is to correct cable faults until cable is verified as correct with appropriate green LEDs.

**Fault details**

Fig.1 SHORT



Fig.2 MISWIRE



Fig.3 REVERSED



Fig.4 SPLIT PAIRS



- ì . **OPEN** There is no "OPEN" LED indication. A typical cable may have 2, 3, or 4 pairs. OPENS are displayed as an unlit LED. The user will determine if a pair is present and continuous or OPEN by comparing the illuminated LEDs to the expected number of pairs that should be good.
- í . **SHORT** A short circuit condition exists (see Fig.1).
- î . **MISWIRE** Indicates the improper assignment of individual wire pairs to pins for the wiring schemes tested (see Fig.2).
- ï . **REVERSED** Reverse wiring means the pin for one wire in a pair is connected to the opposite pin for the pair in the remote jack (see Fig.3).
- õ . **SPLIT PAIRS** Split pairs occur when the tip (positive conductor)

and ring (negative conductor) of two twisted pairs are interchanged (see Fig.4).

**NOTE:**

- ì . The Network Cable Tester will check a fault condition in the above descending order before detecting other fault conditions. The detection and indication of the presence of a fault is handled on a “**one-per-test**” basis. Once a fault is corrected, it is recommended the cable be tested again for other faults.
- í . When the LOW BATTERY indicator illuminates, the battery does not have sufficient power to support an accurate test. At this time,



you must replace it with a new battery (6 volt L1325/4LR44).

## 5. Operation

### **CAUTION!**

Do NOT use on the circuits as it may damage the tester!

### **TEST Mode**

- 1 . Connect the main unit to one end of the cable to be tested.
- 2 . Connect the remote unit to jack at far end of cable.

- î . Push the power switch to ON.
- ï . Push TEST to perform test.
- ō. Tester will automatically sleep in 12 seconds.
- ñ. Pushing and quickly releasing the TEST button, tester will also sleep.

*TEST Example:* The Cable Fault is a SHORT on Pair 1-2 and Pair 3-6, the TEST mode LED status will be as follows:

- ▮ Pair 1-2 and Pair 3-6 will flash green on the pair LED with red on the SHORT LED at the same time.
- ▮ Pair 4-5 will light up green as a good pair.
- ▮ Pair 7-8 will light up green as a good pair.

## DEBUG Mode

The DEBUG mode identifies which cable pairs have a wiring fault. It cycles through pairs displaying a test result for one pair at a time. From the series of LED indications, the failed pair and fault can be identified. In Debug mode, a short flash on PAIR LED is the pair under test. A long flash on PAIR LEDs is destination of test.

- î . Press and hold TEST button until all LEDs light, then release.
- í . The pair identification LEDs and the FAIL LEDs work together in series to identify which pair is incorrect.
- î . If a series of two green LEDs light for a pair, that pair is wired correctly.

- i . A green pair LED, followed by a red LED in the FAIL section will identify which pair is incorrect and identify the fault.
  - ō. DEBUG cycles through the pairs twice before automatically sleeping.
  - ñ. Pushing and quickly releasing the TEST button, tester will also sleep.
- DEBUG Example:* The Cable Fault is a SHORT on Pair 1-2 and Pair 3-6, the DEBUG mode LED series will be as follows:
- ▮ Pair 1-2 will flash green on the pair LED followed by 3-6 pair LED and a red on the SHORT LED.
  - ▮ Pair 3-6 will flash green on the pair LED followed by 1-2 pair LED and a red on the SHORT LED.

- Ⓟ Pair 4-5 will flash green-green as a good pair.
- Ⓟ Pair 7-8 will flash green-green as a good pair.

## **6. Battery Replacement**

When Battery low LED lights, replace battery in the main unit.

- ì . Remove remote unit from main unit.
- í . Remove battery compartment cover (see Fig.5).
- î . Remove old battery.
- ï . Install new battery (6 volt).
- õ. Close battery compartment cover.

**Note:** When test is over, tester will be automatically in sleep mode (switch at ON position and test is over). Even though the sleep mode consumes very little power, it is suggested to turn off the power if do not use for a long time.

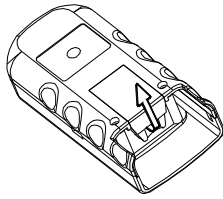


Fig.5 BATTERY REPLACEMENT

## 7. Specifications

### Cable Length

< **Minimum:** 0.4 m      < **Maximum:** Over 200 m

### Power

< **Main unit:** 6 volt      < **Remote unit:** no battery required

### Dimensions

< **L** 125 **W** 55 **H** 30 mm

### Weight

< Approx. 125g