Warnings

1. The tester uses a stacked battery 9V power.
2. The tester will shut off automatically if it does not work for 15 minutes.
3. LCD display low battery when this battery with too low voltage and influence its operation , this series inspectors are developed for testing different cable terminals, they cannot be misused, otherwise they will be damaged permanently.

CONTENTS

Technical Specification

1. **Display**
   Dot 128x64 Sequence LCD lattice (valid visual field 48x32mm)

2. **Power Supply**
   A stacked Battery of 9V with power consumption 15 mA

3. **Low battery display**
   The 9 V battery voltage is low 6.5 V, LCD display low battery.

3. **Dimension**
   149x 66x23 mm

4. **Type of Test Cable**
   STP/UTP twisted cable, Coaxial cable, telephone line, USB line.

5. **Tester Port**
   Tester RJ45 master port(M), tester LOOPBACK RJ45 port(S);BNC,USB (A),RJ11,far-end recognizer RJ45 port(R);The extra BNC , USB(B) and RJ11 converters are used to measure and check the continuity of coaxial cable , telephone line and USB line

6. **Working Ambient Temperature**
   -10°C-----+60°C.

8. **Length Measurement of Twin Twisted Cable**
   Scope: 1---350 M 1200M
   Calibration accuracy: 2 %(+/-0.5M or +/- 1.5ft)
   (Calibration cable>5M)
   Shipment accuracy: 3 %(+/-0.5M or +/- 1.5ft) (AMP, AT&T Class 5 cable)
   Display: Meter, Feet or Yards.

9. **Length Calibration:**
   User can set calibration factor by himself with a given length cable, the length of calibrating cable is more than 15Meter.

10. **Wire Sequence and Locating Cable Error:**
    Check errors such as open circuit, short circuit, reverse connection, crossover or cross-talk Interference

11. **Locating cable**
    8 far-end passive test jacks (ID 1 > ID8)

12. **Automatic time-delay Shut off Time:**
    The tester does not operate for 5 minutes.

13. **Scanning and Locating Wiring 5E, 6E, Coaxial cable, USB line and telephone line**

14. **The sensitivity is changed by adjust the volume switch**

Function and Features
1.SM-8818

1. Check wiring error in 5E, 6E, Coaxial cable, USB line and telephone line.
2. Such as open Circuit, short circuit jumper wire, reverse connection or cross-talk interference.
3. Locate the wiring or connection error.
4. Low Battery display
5. Automatically time-delay shut off.
6. Far-end recognizer with prompting voice.
7. Self-checking function and automatically compensate any change in battery capacity or Ambient temperature.

2. SM-8828

*1. Scanning and Locating Wiring 5E, 6E, Coaxial cable, USB line and telephone line
*2. The sensitivity is changed by adjust the volume switch.
3. Check wiring error in 5E, 6E, Coaxial cable, USB line and telephone line.
4. Such as open Circuit, short circuit jumper wire, reverses connection or cross-talk interference.
5. Locate the wiring or connection error.
6. Low Battery display
7. Automatically time-delay shut off.
8. Far-end recognizer with prompting voice.
9. Self-checking function and automatically compensate any change in battery capacity or Ambient temperature.

(3) SM-8838

(4) SM-8868

1. Check wiring error in 5E, 6E, Coaxial cable, USB line and telephone line.
2. Such as open Circuit, short circuit jumper wire, reverse connection or cross-talk interference.
3. Locate the wiring or connection error.
4. Low Battery display.
5. Automatically time-delay shut off.
6. Far-end recognizer with prompting voice.
7. Self-checking function and automatically compensate any change in battery capacity or ambient temperature.
* 8. Measure cable length and determine the distance of open circuit and short circuit.
* 9. Dynamically calibrate cable length and makes length measurement as accurate as 98%.

Operation Procedures
SM-8818 & SM-8828

Push "ON/OFF" key, carry out self-checking at the same time, the LCD display

Network Cable Tester

* 1. Scanning and Locating Wiring 5E, 6E, Coaxial cable, USB line and telephone line.
* 2. The sensitivity is changed by adjust the volume switch.
3. Check wiring error in 5E, 6E, Coaxial cable, USB line and telephone line.
4. Such as open Circuit, short circuit jumper wire, reverse connection or cross-talk interference.
5. Locate the wiring or connection error.
6. Low Battery display.
7. Automatically time-delay shut off.
8. Far-end recognizer with prompting voice.
9. Self-checking function and automatically compensate any change in battery capacity or ambient temperature.
* 10. Measure cable length and determine the distance of open circuit and short circuit.
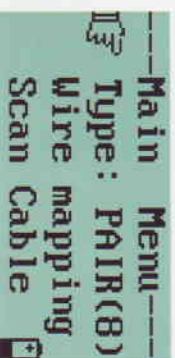* 11. Dynamically calibrate cable length and make length measurement as accurate as 98%.

3 seconds or push any arbitrary key to display main menu.

```
——Main  Menu——
Type: PAIR(8)
Wire mapping
Scan Cable
```

There are three functions to be chosen on main menu.

SM-8838 & SM-8868

Push "ON/OFF" key, carry out self-checking at the same time, the LCD display 3 second.

Network Cable Tester

```
Wire mapping
Cable Length
Scan Cable
Configure
```

or push any arbitrary key to display main menu.

There are four functions to be chosen on main menu.

1. Wire Mapping

```
Wire mapping
Cable Length
Scan Cable
Configure
```

Wiring diagram measurement to check end to end continuity of cables M, S, R and locate error. Coaxial cable, USB line and telephone line measurement to check continuity and indicate open circuit and short circuit.

2. Cable Length

```
Wire mapping
Cable Length
Scan Cable
Configure
```

Pair and measure length to verify cable length, open circuit distance, pairing and cross-talk interference, And measurement Length for Coaxial cable, USB line and telephone line.

3. Scanning and locating Cable

```
Wire mapping
Cable Length
Scan Cable
Configure
```
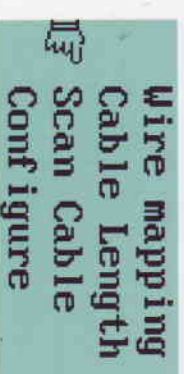
Select "scan cable" of menu, and push "Enter" key, then LCD display

```
Scanning . . .
```

The port of BNC, USB,RJ11,& RJ45(M),will send a single, Plug one port of the cable(such as the port of extension line or the port extension line or the port of computer network cable) into the RJ11,or(BNC, USB,RJ45(M)) jack on the emitter.
Power on the receiver and the "Power" LED lights then detect the sound "toot" from the speaker on the receiver around an other port of cable testing (such as cable layout shelf of telephone system, junction box, and Hub port of computer).
Then compare the volume of the "toot" sound, the twin cables which makes the highest sound of "toot" are the one to be found.

Configure Calibrate and set up the tester

Select "Configure" of menu, and push "Enter" key ;

Then LCD Display:

```
Type: PAIR(8)
Unit: Meter
Calibration
Return
```

```
Wire mapping
Cable Length
Scan Cable
Configure
```

A. Type: PAIR (8),
Configure 5E, 6E: select Type: PAIR (8), then select Return, push "ENTER" key.
Configure TEL (6): select Type: TEL (6), then select Return, push "ENTER" key.
Configure USB (4) select Type: USB (4), then select Return,push "ENTER" key.
Configure BNC (2) select Type: BNC (2), then select Return,push "ENTER" key.
Select main menu: Configure, push "enter" key.
B.Configure Unit:
Select "Configure" of menu, and push "Enter" key.

```
Type: PAIR(8)
Unit: Meter
Calibration
Return
```

Select Unit: Meter
Select Return, push "ENTER" key, and display main menu.
Select Unit: Feet
Select Return, push "ENTER" key, and display main menu.
Select Yards, then push Return, and display main menu.
B.Calibration,
For an accurate measurement of cable length, the calibration operation.
Should be done as follow. The length of cable for calibrate is more 15M.
After entering into dynamic calibration function, Inserts ame type cable of given length into "M" port, do not need insert far-end.
Select main menu
Push "ENTER" key,
Then LCD display:

```
Calibration ?

 □ᶦⁿ No   Yes          ▮+
```

And select Yes, Push "ENTER" key, Then LCD display:

```
---Base Adjust---

    6.3m              ▮+
```

At the moment, hold up and down to display the length to be adjusted to actual.
Given length and then push "ENTER" key to resave calibration factor and exit.
Calibration factor and exit calibration function.

D. Return
Select Return, push "ENTER" key, to main menu.

Wiring mapping test function:

After entering the wiring test function, the tester first configure the 5E, 6E, Coaxial and USB cable in main menu, and display as follows while checking is being undertaken:
The Result 1:there is a USB line is tested the LCD will display as follows:

```
Wire Map: Remote
M:  1  2  3  4
    |  |  |  |
R:  1  2  3  4          ▮+
```

At the moment, push "ENTER" key to return main menu.
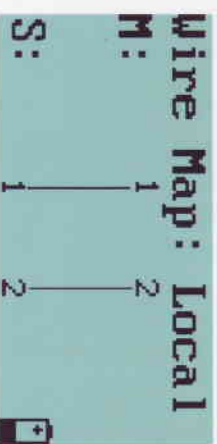The Result 2: there is a TEL line is tested the LCD will display as follows:

```
Wire Map: Local
M: 1 2 3 4 5 6
   | | | | | |
S: 1 2 3 4 5 6         ▮+
```
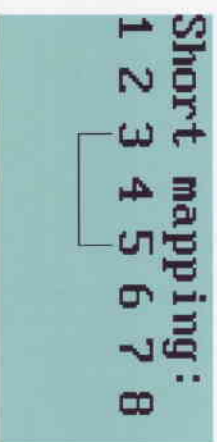
At the moment, push "enter" key to return main menu.
The Result 3: there is a coaxial is tested the LCD will
display as follows:

```
Wire Map: Local
M:
        1
        2
S:
        1
        2
```

At the moment, push "enter" key to return main menu.

The Result 4: Short circuit
It display as follows if there is any short circuit in cable
or terminal :(e.g. 3 5 short circuit in the sample)

```
Short mapping:
1 2 3 4 5 6 7 8
```

At the moment, push up or down key to restart testing
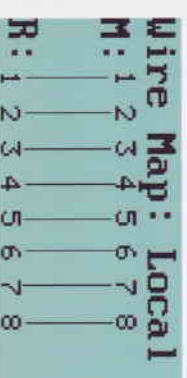or push "enter" key to return main menu.
Test Result 5: Neither far-end matcher is found nor
cable insert local port (S).
The tester will automatically detect far-end matcher
or local port (S) cable and it will display as follows if
the far-end of cable to be checked does not insert into
the far-end matcher or if the cable does not insert into
the local port (S) in local test:

⚠ Cable open or
too short!

At the moment, push ENTER key restart testing,
Or push up or down return main menu.
The Result 6: Normal wiring diagram display
The tester will automatically detect far-end matcher
or local port (s) cable and it will display wiring diagram
as follows if it is found the far-end matcher or the local
port (S) on the far-end of cable to be checked:

```
Wire Map: Local
M: 1 2 3 4 5 6 7 8
R: 1 2 3 4 5 6 7 8
```

"R" line shows RJ45 jack pin number of far-end port
and the far-end matcher number.
"M" line shows the RJ45 jack pin number of master port,

At the moment, push up or down key to restart testing
or push enter key to return main menu.
The Result 7: Wiring diagram display when there is an
open circuit at the far-end of cable.

```
Wire Map: Local
M: 1 2 3 4 5 6 7 8
R: x x 3 4 5 6 7 8
```

R :line 1 and 2 pins location display "x", it indicates open circuit in far-end plug "1" and "2" pins and open circuit is located nearby the far-end plug.

The Result 8: Wiring diagram display when there is an open circuit at the far-end of cable.

It will display wiring diagram (wiremap) as follows if there is an open circuit at the near-end plug of the cable:

Wire Map: Local
M: x x 3 4 5 6 7 8
R: 1 2 3 4 5 6 7 8
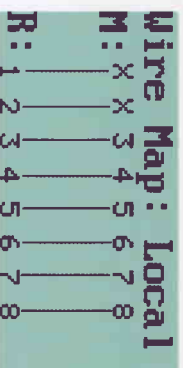
M: line "1" and "2" pins location display "x", it indicates open circuit in far-end plug "1" and "2" pins and open circuit is located nearby the near-end plug.

The Result 9: Wiring diagram display when there is an open circuit in the middle of the cable.

It will display wiring diagram (wiremap) as follows. There is an open circuit in the middle of the cable:

Wire Map: Local
M: x 2 3 4 5 6 7 8
R: x 2 3 4 5 6 7 8

Line 1 pin location display "x", it indicates open circuit in the middle of "1" pin cable. For further locating open circuit, the pair and length function(pair &length)of the tester could used as detailed hereinafter.

Pair and length measurement (pair & length) function:

No matter whether there is a far-end recognizer at the far-end of the cable, the tester is capable to have pair and Length (pair &length) measurement, therefore, the far-end recognizer can keep connected in the course of wiring diagram (wiremap) and pair and length (pair &length) measurement to avoid repeated insertion and pulling out.After entering into pair and length me asurement function, the tester shall have pair and length test and it will display as follows to indicate the measur-ement is being undertaken.

Test Result 1: short circuit (short)

It will display as follows if there is any short circuit in cable or terminal:

Short circuit in the sample

Short mapping:
1 2 3 4 5 6 7 8
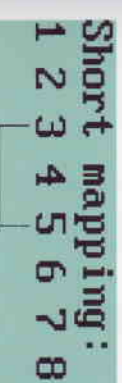
At moment, push enter key to return main menu, Test Result 2:one of the pair are open, the other plug "M" jack, it will display.

12 Open 103.9m
36 Open 103.1m
45 Open 103.9m
78 Open 102.4m

In which, after the pair is the pair line number and it is the length after the line number.

At the moment push pu down and enter key to return to main menu.

Test Result 3: One of the pair be plug "M" jack, the other port plug the "S" jack, it will display as follows

12	M-S	104.5m
36	M-S	104.5m
45	M-S	104.5m
78	M-S	104.5m

At the moment push pu down and enter key to return to main menu.

Test Result 4: One of the pair be plug "M" jack, the other port plug the "R" jack, it will display as follows

12	M-R	104.5m
36	M-R	104.5m
45	M-R	104.5m
78	M-R	104.5m

At the moment push up,down and enter key to return to main menu.

Test Result 5: Abnormal pair and length (PAIR& LENGTH), it will display as follows.

n which, the last line (8) indicates there is no pair is found in lines 8:at the moment it will display the length of unpaired line number, if you push the up key it will display:

12	M-R	104.5m
36	M-R	104.5m
45	M-R	104.5m
7		74.7m

Test Result 6:One of the pair be plug "USB" jack of main, the other port plug USB of the "R" jack, it will display as follows

8	M-R	104.3m

At the moment push up,down and enter key to return to main menu

1	M-R	2.6m
2	M-R	2.6m
3	M-R	2.6m
4	M-R	2.6m

Test Result 7: One of the pair be plug "BNC" jack of main, the other port is open, it will display as follows

1	Open	5.1m
2	Open	5.1m
3	Open	5.1m
4	Open	5.1m

(Note: only just "open" can test the length for coaxial, other way can not test the length for coaxial)

At the moment push up and down enter key to return to main menu.

Test Result 8: One of the pair be plug "TEL" jack of main, the other port plug of the "R" jack, it will display as follows

1	Open	30.0m
2	Open	30.0m

At the moment push up, down and enter key to return to main menu.