<table>
<thead>
<tr>
<th>Specifications:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Name</strong></td>
<td>LAN Cable Solution</td>
</tr>
<tr>
<td><strong>Display</strong></td>
<td>Special 4x16 character big screen LCD lattice</td>
</tr>
<tr>
<td></td>
<td>LCD Module: 70.6 x 60 mm (valid visual field 60 x 32.6mm) - Standard</td>
</tr>
<tr>
<td><strong>Connector type</strong></td>
<td>RJ45, RJ12 (RJ11) &amp; F connector</td>
</tr>
<tr>
<td><strong>Button</strong></td>
<td>(1) LAN, (2) TEL, (3) COAX, (4) TONE, (5) LENGTH, (6) TEST, (7) POWER</td>
</tr>
<tr>
<td><strong>Cable type</strong></td>
<td>Shielded or unshielded, CAT-6, CAT-5E, CAT-5, CAT-4, CAT-3 and Coax</td>
</tr>
<tr>
<td><strong>Error status</strong></td>
<td>Open circuit, short circuit, jumper wire, reverse, connection or cross-talk interference and split pairs</td>
</tr>
<tr>
<td><strong>Measure types</strong></td>
<td>Measures cable length via TDR</td>
</tr>
<tr>
<td></td>
<td>Checks and verifies wire map</td>
</tr>
<tr>
<td></td>
<td>Generates four different tracing tones to help identify users</td>
</tr>
<tr>
<td><strong>Cable length &amp; accuracy</strong></td>
<td>Accuracy of the length measurement is ± 5%</td>
</tr>
<tr>
<td></td>
<td>length: 1–350 meters (3–1200 feet)</td>
</tr>
<tr>
<td><strong>Minimum cable length for testing of split pairs</strong></td>
<td>1 meter (3 feet)</td>
</tr>
<tr>
<td><strong>Power source</strong></td>
<td>9 Volt alkaline battery</td>
</tr>
<tr>
<td></td>
<td>Detects a low battery condition.</td>
</tr>
<tr>
<td><strong>Turns off automatically</strong></td>
<td>Auto-off in any mode and low power consumption for long battery life</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Input protection</th>
<th>Protection against excess voltage, transients ringer signal</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Physical Dimension</strong></td>
<td>195 mm (L), 90 mm (W), 40 mm (H)</td>
</tr>
<tr>
<td><strong>Environmental</strong></td>
<td>Operating Temperature: 0° to 50° C (32° to 122° F)</td>
</tr>
<tr>
<td></td>
<td>Storage Temperature: -10° to 60° C (14° to 140° F)</td>
</tr>
<tr>
<td></td>
<td>Humidity: 10% to 90% non-condensing</td>
</tr>
<tr>
<td><strong>Accessories</strong></td>
<td>ToolBag * 1 pcs, F to BNC Adapter * 2 pcs</td>
</tr>
</tbody>
</table>
Instructions for Operation

* Power On • Beep one time • Starting picture as follow:
  For a moment display select mode as follow:

LAN CABLE SOLUTION

SELECT MODE...
1. LAN MODE
2. TEL MODE
3. COAX MODE
4. TONE MODE
5. LENGTH MODE

Press ▲▼ KEY Select what mode to test then press TEST KEY to start testing.

Testing LAN Mode:
Testing LAN MODE have 2 way of MAIN to LOOPBACK & MAIN to REMOTE TERMINATOR.
(1). Testing from MAIN connector to LOOPBACK connector:
  LAN cable connected from MAIN to LOOPBACK.

Test Function:
(a). PASS • OPEN • SHORT • CROSS • SPLIT etc.
  Display wrong cables.
(b). Test FTP or UTP LAN cable.
(c). When LAN cable OPEN FAIL, Can display
distance from MAIN connector to broken point.

* LAN MODE Test Initial picture as follow:
  Press LAN KEY or TEST KEY Start to Test

Test Result:
* If LAN cable is correct & FTP type Will display PASS as follow:

LAN MODE
12345678

LAN MODE
123456780 FTP
123456780

Press▲ KEY Back to Initial picture.

FTP • Shielded • UTP • Unshielded.
0 • Shielded.
LOOP • LAN cable connected from MAIN connector to LOOPBACK connector.
REMOTE • LAN cable connected from MAIN connector to remote terminator connector.

* If LAN cable is OPEN will display FAIL as follow:

LAN MODE
LOOP
12345678 80.4M
▼
PASS
12345678 OPEN

• Display the OPEN LAN cable pair’s distance from MAIN connector to broken point, and the open pair’s numbers will be blinking.

* If LAN cable is SHORT will display FAIL as follow:
* If LAN cable is CROSS will display FAIL as follow:

LAN MODE
LOOP
12345678 UTP
▼
FAIL
12345678 SHORT
21345678 CROSS

• The short pair’s numbers will be blinking.
• The CROSS cable’s numbers will be blinking & show different arrangement.

* If LAN cable is SPLIT will display FAIL as follow:

LAN MODE
LOOP
12345678 UTP
▼
FAIL
12345678 SPLIT

• The SPLIT cable’s numbers will be blinking.
(2). Testing from MAIN connector to REMOTE terminator connector:
LAN cable connected from MAIN to REMOTE terminator.

Test Function:
(a). PASS · OPEN · SHORT · CROSS etc. display wrong cables.
   (No available SPLIT)
(b). Test FTP or UTP LAN cable.
(c). When LAN cable OPEN FAIL, Can display distance from MAIN
    connector to broken point.

Press LAN KEY or TEST KEY Start to test

Test Result:
* If LAN cable is correct & FTP type will display PASS
  as follow:

```
LAN MODE
REMOTE ID-1
123456780 FTP

Display the remote terminator ID number
(For example: ID-1) and Buzzer beeping.
```

* If LAN cable is OPEN will display FAIL as follow:
* If LAN cable is SHORT will display FAIL as follow:

```
LAN MODE
REMOTE ID-1
123456780 FTP

Display the OPEN LAN cable pair’s distance from MAIN connector to
broken point, and the open pair’s numbers will be blinking,
Display ID-?
```

(3). MEMORY KEY. Can memorize the test result and show MR-1 one moment then disappear.

```
LAN MODE
REMOTE ID-?
12345678 UTP

MR-01: 1-st set memory · Total 8 sets memory.
   (LAN MODE & TEL MODE have 8 sets memory).
   (COAX MODE & LENGTH MODE have 4 sets memory).

Press MEMORY KEY over 3 seconds · into the picture of memorize test result:
Press ▲▼ KEY Display the data of different sets memory.
Press another MODE KEY departed from MEMORY MODE.

```
LAN MODE
REMOTE ID-?
12345678 UTP

Display the short pair’s numbers will be blinking.
```

• If the data of memory is FAIL, The wrong cable numbers will be blinking.
* Press TEST KEY will display as follow:

![Memory MR-1](image1)

- Press <KEY to clear memory. Press >KEY Not to clear memory & back to last picture.

(4). Battery low when voltage of battery is lower than 6.0V, will display as follow:

![Memory MR-1 Loop](image2)

- The picture will be blinking.

**Testing TEL Mode:**

TEL MODE only can be connected from MAIN connector to LOOPBACK connector.

**Test Function:**

(a). PASS - OPEN - SHORT - CROSS etc. Display wrong cables.

(b). When LAN cable OPEN FAIL, Can display distance from MAIN connector to broken point.

(Just for reference)

* TEL MODE test Initial picture as follow:

![TEL Mode FOR 6C](image3)

**TEL (6C - 4C - 2C) Cable connected from MAIN connector to LOOPBACK connector.**

**Press TEL KEY or TEST KEY start to test.**

**Test Result:**

* If TEL cable is correct will display PASS as follow:

![TEL Mode FOR 6C](image4)

* If TEL cable is OPEN will display FAIL as follow:

* If TEL cable is SHORT will display FAIL as follow:

- The OPEN cable’s numbers will be blinking.
- The SHORT cable’s numbers will be blinking.

* If TEL cable is CROSS will display FAIL as follow:

( CROSS FAIL : would not display FAIL )

- The CROSS cable’s numbers will be blinking & show different arrangement.
* TEL MODE Push ▲▼KEY can select 6C・4C・2C, will display as follow:

<table>
<thead>
<tr>
<th>Picture of 4C</th>
<th>Picture of 2C</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>TEL MODE</strong></td>
<td><strong>TEL MODE</strong></td>
</tr>
<tr>
<td>FOR 4C</td>
<td>FOR 2C</td>
</tr>
<tr>
<td>1234</td>
<td>12</td>
</tr>
<tr>
<td>▲</td>
<td>▲</td>
</tr>
<tr>
<td>●●●●●●</td>
<td>F A I L</td>
</tr>
<tr>
<td>▼</td>
<td>▼</td>
</tr>
<tr>
<td>1234</td>
<td>OPEN</td>
</tr>
</tbody>
</table>

- The wrong cable numbers will be blinking.

* Press MEMORY KEY, Can memorize the test result and show MR-1 one moment then disappear.
- MR-01 : 1-st set memory, Total 8 sets memory.

<table>
<thead>
<tr>
<th>TEL MODE</th>
<th>MR-1</th>
</tr>
</thead>
<tbody>
<tr>
<td>FOR 6C</td>
<td></td>
</tr>
<tr>
<td>123456</td>
<td></td>
</tr>
<tr>
<td>▲</td>
<td>F A I L</td>
</tr>
<tr>
<td>▼</td>
<td>123456 CROSS</td>
</tr>
</tbody>
</table>

* Press MEMORY KEY over 3 seconds, into the picture of memorize test result:
- Press ▲▼KEY display the data of different sets memory.
- Press another MODE KEY departed from MEMORY MODE.

* Press TEST KEY will display as follow:

<table>
<thead>
<tr>
<th>MEMORY</th>
<th>MR-2</th>
</tr>
</thead>
<tbody>
<tr>
<td>FOR 6C</td>
<td></td>
</tr>
<tr>
<td>123456</td>
<td></td>
</tr>
<tr>
<td>▲</td>
<td>F A I L</td>
</tr>
<tr>
<td>▼</td>
<td>123456 OPEN</td>
</tr>
</tbody>
</table>

- The wrong cable numbers will be blinking.
- Press ◄KEY clear memory・Press ►KEY Not to clear memory & back to last picture.

(5) Testing COAX Mode:
- COAX MODE only can connected from MAIN connector to REMOTE terminator connector.

Test Function:
(a). PASS・OPEN・SHORT etc. Display FAIL.
(b). When LAN cable OPEN FAIL, can display distance from MAIN connector to broken point.

(Just for reference)

* COAX MODE test initial picture as follow:

<table>
<thead>
<tr>
<th>COAX MODE</th>
</tr>
</thead>
<tbody>
<tr>
<td>12</td>
</tr>
<tr>
<td>▲</td>
</tr>
</tbody>
</table>

* Press TEL KEY or TEST KEY start to test
- Test Result:
* If COAX cable is correct will display PASS as follow:

<table>
<thead>
<tr>
<th>COAX MODE</th>
</tr>
</thead>
<tbody>
<tr>
<td>12</td>
</tr>
<tr>
<td>▲</td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

* If COAX cable is OPEN will display FAIL as follow:

* If COAX cable is SHORT will display FAIL as follow:

<table>
<thead>
<tr>
<th>COAX MODE</th>
</tr>
</thead>
<tbody>
<tr>
<td>12</td>
</tr>
<tr>
<td>▲</td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

12 OPEN

12 SHORT
* Press MEMORY KEY • Can memorize the test result and show MR-1 one moment then disappear.
  MR-01 : 1-st set memory • Total 4 sets memory.

<table>
<thead>
<tr>
<th>MEMORY</th>
<th>MR-1</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>12</td>
</tr>
<tr>
<td>▲</td>
<td>FAIL</td>
</tr>
<tr>
<td>▼</td>
<td>OPEN</td>
</tr>
</tbody>
</table>

* Press MEMORY KEY over 3 seconds • into the picture of memorize test result : 
  Press ▲▼ KEY display the data of different sets memory.
  Press another MODE KEY departed from MEMORY MODE.

<table>
<thead>
<tr>
<th>MEMORY</th>
<th>MR-1</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>12</td>
</tr>
<tr>
<td>▲</td>
<td>FAIL</td>
</tr>
<tr>
<td>▼</td>
<td>SHORT</td>
</tr>
</tbody>
</table>

* Press TEST KEY will display as follow :

<table>
<thead>
<tr>
<th>MEMORY</th>
<th>MR-1</th>
</tr>
</thead>
<tbody>
<tr>
<td>ALL CLEAR ?</td>
<td>YES NO</td>
</tr>
</tbody>
</table>

* Press ◄KEY clear memory • Press ►KEY Not to clear memory & back to last picture.

(6). To use TONE Mode :

Tone Mode :
  Transmit audio frequency from cable to detect the cable's broken point by probe.
  Push TONE KEY will display as follow :

<table>
<thead>
<tr>
<th>TONE MODE</th>
</tr>
</thead>
<tbody>
<tr>
<td>♫ 1</td>
</tr>
</tbody>
</table>

- Press ◄► KEY to select TONER output signal from difference pair.
- Press ▲▼ KEY to select difference audio frequency from TONER.
  (2 Audio Frequency ).

(7). Testing LENGTH Mode :
  LENGTH MODE may connected from MAIN connector to Open .€

Test Function :
  (a). Can measure the Length of LAN cable or COAX cable.
  (b). Can memorize the data of test result about LAN cable or COAX cable.
  (c). SET MODE to calibrate : If the test result of measure length is over error of specification.

* Can use the function of LAN Cable ADJ or COAX Cable ADJ to make the length calibration Or restore to the default value of initial.
  (The operational method refer to SETUP MODE ).
1. Testing LAN Cable: LAN cable connected from MAIN connector to open.
* LENGTH MODE initial picture as follow:

```
LENGTH MODE

LAN Cable
```

- Push LENGTH KEY or TEST KEY start to test.

* Test result will display as follow:

```
LENGTH MODE

LAN Cable
▲ Pair1: 23.8 M
▼
```

- Press ▲ KEY to return to the last picture.
- Press ◄► KEY to select the test result of the different pair's length.
- Press ▼ KEY to select the length measurement of COAX cable.

* If the LAN cable is connected from MAIN connector to REMOTE Terminator.
* Will display "Keep OPEN" as follow:

```
LENGTH MODE

LAN Cable
▲ Pair1: OVER
▼
```

2. Testing COAX cable: COAX cable connected from MAIN connector to open.
* Push ▼ KEY to select the length measurement of COAX cable.
* COAX cable initial picture as follow:

```
LENGTH MODE

COAX Cable
```

* Push LENGTH KEY or TEST KEY start to test.
* Test result will display as follow:
* If the COAX cable is connected from MAIN connector to REMOTE terminator.
* Will display "Keep OPEN" as follow:

```
LENGTH MODE

COAX Cable
▲ Length: 10.3 M
▼
```

- Press ▲ KEY to return to the last picture.

* Press MEMORY KEY. Can memorize the test result and show MR-01 one moment then disappear.

```
LENGTH MODE MR-1

LAN Cable
▲ Pair1: 23.8 M
▼
```
* Press MEMORY KEY over 3 seconds, into the picture of memorize test result:

- Press ▲▼ KEY Display the data of different sets memory.
- Press another MODE KEY departed from MEMORY MODE.
- Press TEST KEY will display as follow:

```
MEMORY  MR-2  MEMORY  MR-1
   COAX Cable                        ALL CLEAR ?
   ▲ Length: 10.3 M                   YES NO
   ▼
```

- Press ◀KEY clear memory • Press ▶KEY Not to clear memory & back to last picture.

(8) The function of the SETUP Mode:

- If change the value on SETUP MODE. You must push the MEMORY KEY to save the value.
- Otherwise the value you set would not save in the memory when power off.
- If you departed from SETUP MODE, must into the SETUP MODE again & push MEMORY KEY To save the set value.
- Otherwise the value you set would not save in the memory when power off.

* Press SETUP KEY will display as follow:

```
1. Unit Setting:

SETUP MODE

▲ 1.UNIT.

▼ M ▶ FT
```

- Press ◀►KEY to change setting.
- Press ▲▼KEY to jump to next picture setting.
  (Be selected value will be blinking)

2. LAN Length adj setting:

- Press ▶KEY to jump to LAN length adj setting. Will display as follow:

```
SETUP MODE

▲ 2.LAN Length Adj

▼ TEST KEY
```

( TEST KEY will be blinking)

- Connected the LAN Cable is known the length from MAIN connector to open.
  (For Example: 100m)
- Push TEST KEY to measure the length.
- Test result will display as follow:

```
SETUP MODE

▲ Pair1: 28.4 M

▼
```

- Press ◀►KEY to adjust the value is same as known length you measured.
- Press MEMORY KEY To save the calibration value.
- Press ▲▼KEY to jump to last or next picture setting.
3. COAX Length adj setting:
   Press ▼KEY to jump to COAX length adj setting.
Will display as follow:

SETUP MODE

▲3.COAX Length Adj
▼ TEST KEY

(TEST KEY will be blinking)

* Connected the COAX cable is known the length from MAIN connector
to Open. (For Example: 100m)
* Press TEST KEY to measure the length.
* Test result will display as follow:

SETUP MODE

▲ Length: 10.3 M
▼

-▲ KEY to adjust the value is same as known length you measured.
- Press MEMORY KEY To save the calibration value.
- Press ▲▼ KEY to jump to last or next picture setting.

4. Buzzer ON OFF setting:
Press ▼KEY to jump to buzzer setting. will display as follow:

SETUP MODE

▲ Buzzer..
▼ ON OFF

- Press ▲▼KEY to change the setting. (Be selected value will be blinking)
- Press MEMORY KEY To save the change setting.
- Press ▲▼KEY to jump to last or next picture setting.

5. Back Light ON OFF Setting:
Press ▼KEY to jump to Back Light Setting. Will display as follow:

SETUP MODE

▲5.Backlight..
▼ ON OFF

- Press ▲▼KEY to change the setting. (Be selected value will be blinking)
- Press MEMORY KEY To save the change setting.
- Press ▲▼KEY to jump to last or next picture setting.

6. Restore to default value setting:
- Press ▼KEY to jump to Restore to default value Setting. Will display
  as follow:

SETUP MODE

▲6.Restore Default
▼ TEST KEY

- Press ▲ KEY to jump to last picture setting.
- Press TEST KEY Will display as follow:
- Press ▲KEY YES Restore to initial default value.
- Press ▲KEY NO Back to last picture.

※ If do not touch any key over 5 minutes would be auto power off in all
  MODE, except TONE MODE.
※ If do not touch any key over 30 minutes would be auto power off in
  TONE MODE.

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