

MT-7071 LCD Cable Length Toner & Probe Kit

Getting Started Guide

INSTRUCTION

MT-7071 Transmitter/Remote Unit :

1. **RJ45 (8 pin) connectors:** Used for cable mapping and verifying cable status of RJ45 (8 pin) LAN cable with remote unit; with tone generator for wire tracing; for measuring cable length to open without remote unit.



Caution! Do not plug in live wire that over 5mA, AC 60V /DC 48V to RJ45 (8 pin) jack.

2. **RJ11(6 pin) Connectors :** Used for cable mapping and verifying cable status of RJ11 (6P/6C/4C/2C) phone cable with remote unit; with tone generator for wire tracing; for measuring cable length to open without remote unit. Use alligator clip patch cord for cable mapping, cable length measuring and verifying cable status of single conductor cable or two conductor cable.



Caution! Do not plug in live wire having over 5mA, AC 125V/DC 100V to RJ11 (6 pin) jack.

3. **BNC Connectors :** Used for cable mapping and verifying cable status of BNC Coax cable with remote unite; with tone generator for wire tracing; for measuring cable length to open without remote unit. Use adaptor for testing RF cable (such as F · RCA · TNC · M connectors).



Caution! Do not plug in live wire having over 5mA, AC 125V/DC 100V to BNC (2pin) connector.

4. **LCD Display :** For indicating function and display test result.
5. **Battery low indicator:** When the battery is lower than DC 7.0V, LCD will show flash icon. Please replace battery.
6. **Function enter push button :** Press this button to enter the function.
7. **Function up push button :** Press this button to move up arrow cursor on LCD to choose function or increase 0.1 meters / feet / yards of calibration parameters.
8. **Power ON/OFF push button :** Press this button to power on, push again for power off.
9. **Function return push button :** Press this button to return to previous menu.
10. **Function down push button :** Press this button to move down arrow cursor on LCD to choose function or reduce 0.1 meters / feet / yards of calibration parameters.
11. **Battery cover.**

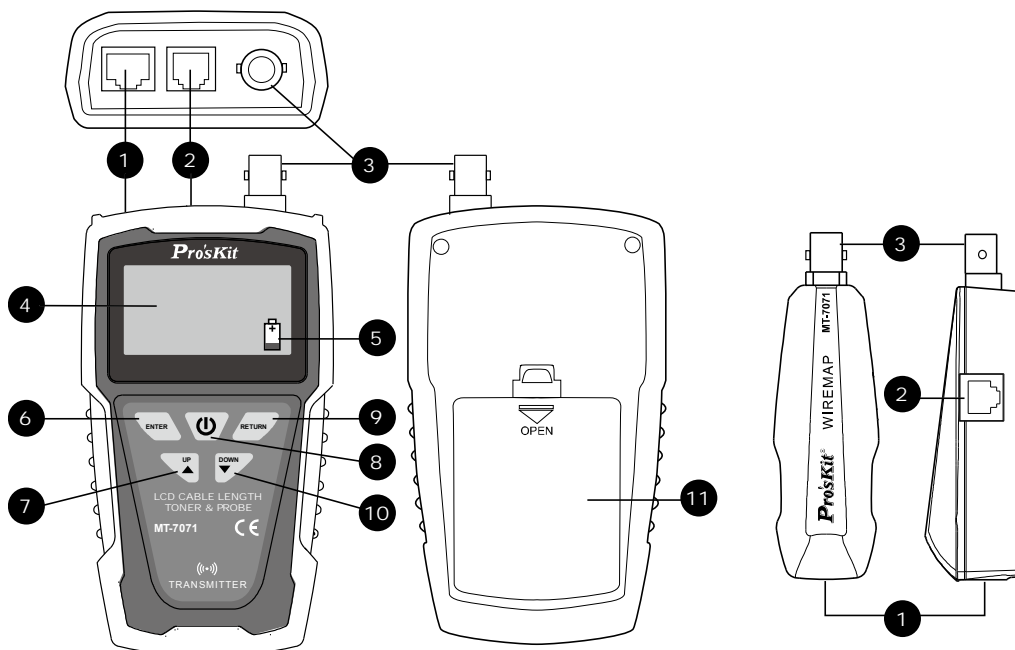


Figure 1 MT-7071 Transmitter / Remote Unit

MT-7071 Receiver :

1. **Probe** : Used for wire tracing and NCV detection.
2. **LED illumination** : Used for dark working environment.
3. **Power ON/OFF indicator** : The indicator will be lit up when the switch is at LED or NCV position and the receiver has started its functions. When the switch is at OFF position, the indicator will be lit up when pushing “SCAN” button for wire tracing.
4. **NCV indicator** : When the probe is close to the tested object to detect the voltage, the indicator will light up if the object carried AC90~1000V. If the indicator did not light up, there is no voltage detected from the object or the AC voltage is less than 90V.
5. **Signal status indicator** : When doing cable mapping by probe, if the indication LEDs (1~8) more light up, the signal is stronger.
6. **Volume control** : By adjusting the volume from high to low to adjust the sensitivity of probe, move the position of receiver from 30 to 10cm to find out which cable you are tracing.
7. **Earphone jack $\Phi 3.5\text{mm}$** : Earphone can be used when the working area is noisy.
8. **Function selection : 3 Position mode switch (NCV 、 OFF 、 LED)**
9. **Speaker** : When “SCAN” feature is working, if the speaker is louder, the signal is stronger.
10. 「SCAN」 **Locating and Isolating cables function push button** : When pushing the “SCAN” button, the feature starts and the battery indicator light will be on.
11. **RJ45(8 pin) connectors** : Used Only for RJ45 (8 pin) Lan cable mapping. When used for RJ45 (8 pin) LAN cable mapping and wire troubleshooting, please connect the cable terminal to RJ45 (8 pin) jack of MT-7071 Transmitter, then start the function. (only for 1 to 1 test)



Caution! Do not plug in any live wire to the RJ45 (8 pin) jack.

12. **Battery cover.**

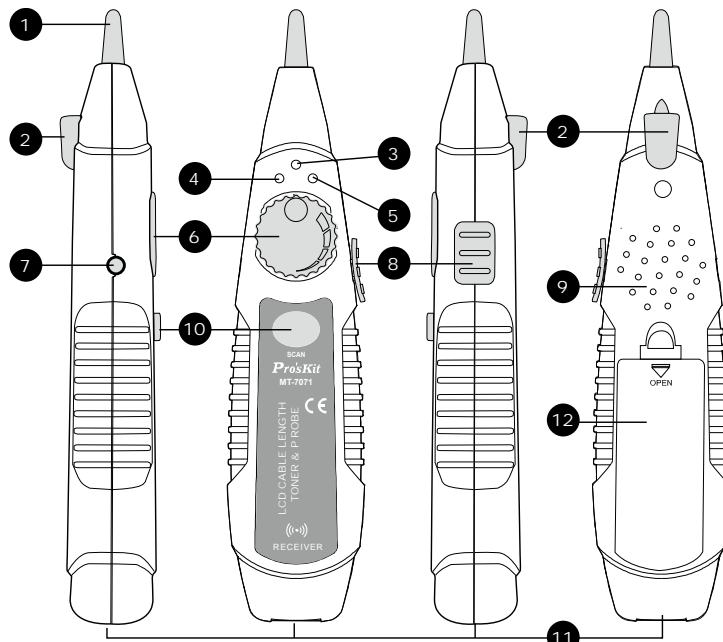


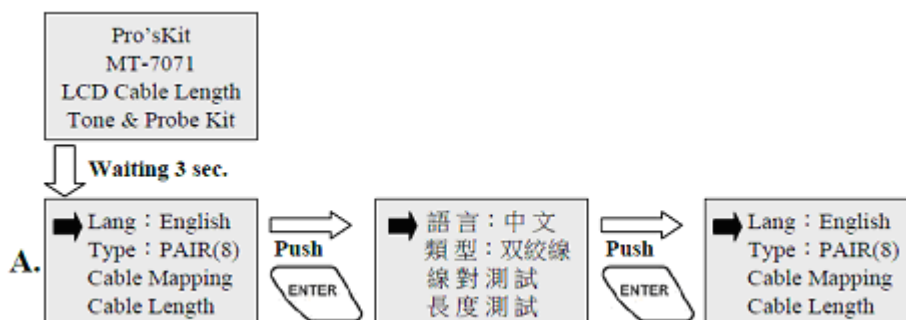
Figure 2 MT-7071 Receiver Diagram

OPERATION

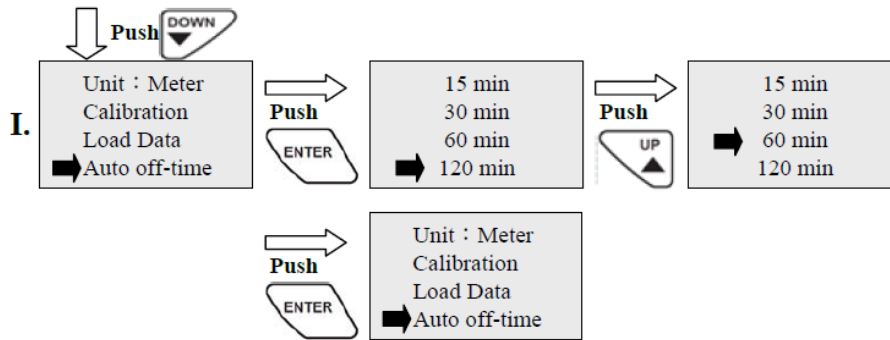
FIRST USE GUIDE

If this is your first operation, please follow the instruction to set Language, Auto power off time and Unit as below

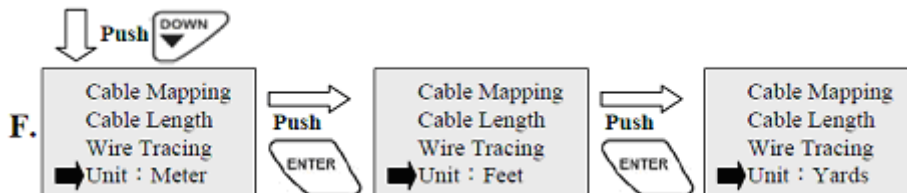
1. Select Language :



2. Auto Power Off time setting :



3. Select Unit :



CABLE MAPPING

1. Connect cable to transmitter and remote unit :

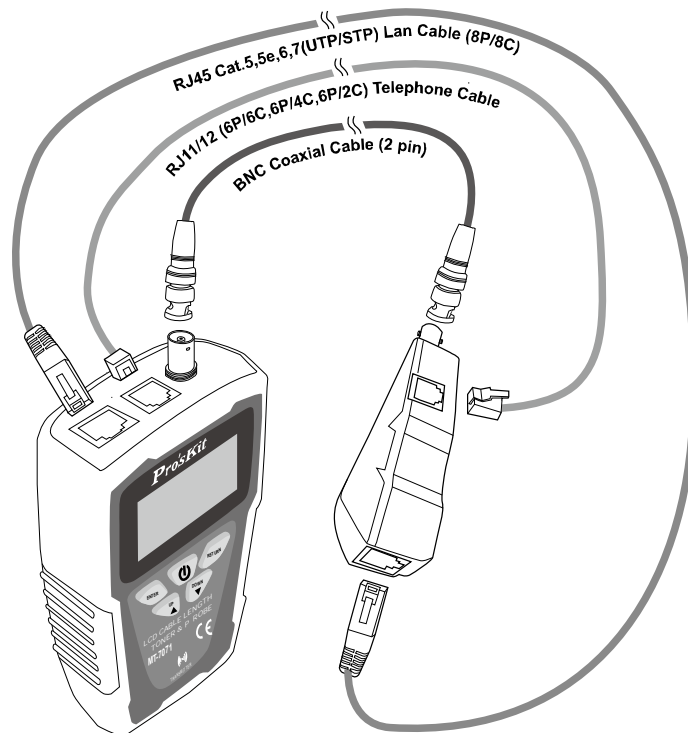
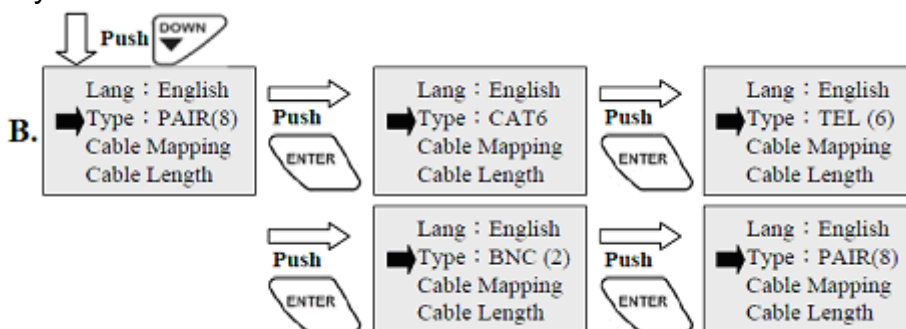
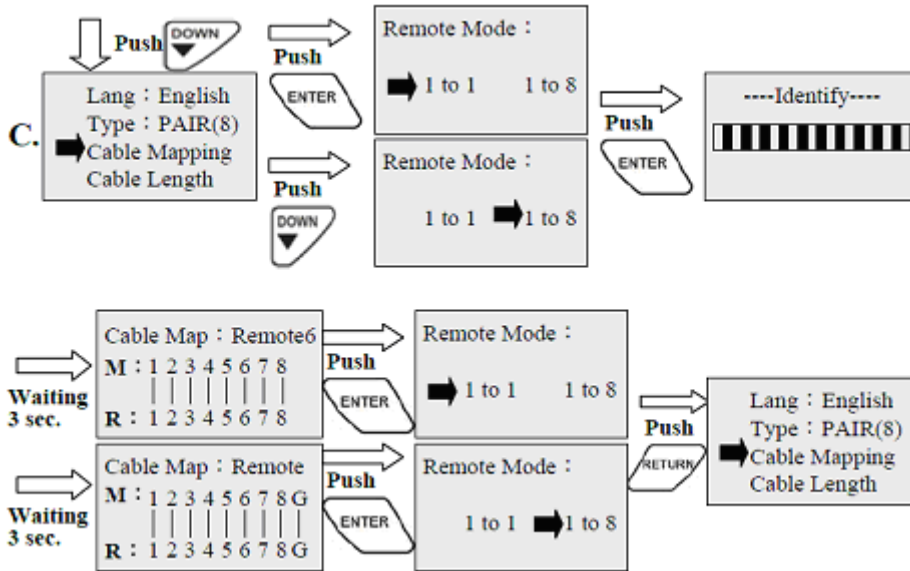


Figure 3 Validating Cable Maps

2. Select cable type you want to test :



3. Cable Mapping Test :



4. Test Result

4-1. Test result for cable mapping with standard remote unit :

	Telephone Cable (6P/6C)	Telephone Cable (6P/4C)	Telephone Cable (6P/2C)
Good	Cable Map : Remote M: 1 2 3 4 5 6 R: 1 2 3 4 5 6	Cable Map : Remote M: X 2 3 4 5 X R: X 2 3 4 5 X	Cable Map : Remote M: X X 3 4 X X R: X X 3 4 X X

**Figure 4-1 Telephone Cable 6P/6C、6P/4C、6P/2C
Cable Mapping with standard remote unit**

	RJ45 Lan Cable (8+1 pin) 1~8、G	Cat. 6 Lan Cable (8+1 pin) 1~8、G	Telephone Cable (6P/6C) 1~6	BNC Coaxial Cable (2 pin) 1、G
Good	Cable Map : Remote M: 1 2 3 4 5 6 7 8 G R: 1 2 3 4 5 6 7 8 G	Cable Map : Remote M: 1 2 3 4 5 6 7 8 G R: 1 2 3 4 5 6 7 8 G	Cable Map : Remote M: 1 2 3 4 5 6 R: 1 2 3 4 5 6	Good Cable Map : Remote M: 1 G R: 1 G
3 Opens	Cable Map : Remote M: 1 2 X 4 5 6 7 8 G R: 1 2 X 4 5 6 7 8 G	Cable Map : Remote M: 1 2 X 4 5 6 7 8 G R: 1 2 X 4 5 6 7 8 G	Cable Map : Remote M: 1 2 X 4 5 6 R: 1 2 X 4 5 6	1 or G Opens Cable open or too short!
3、4 Crossed pairs	Cable Map : Remote M: 1 2 3 4 5 6 7 8 G X R: 1 2 3 4 5 6 7 8 G	Cable Map : Remote M: 1 2 3 4 5 6 7 8 G X R: 1 2 3 4 5 6 7 8 G	Cable Map : Remote M: 1 2 3 4 5 6 X R: 1 2 3 4 5 6	
3、4 Crossed pairs & 5、6 Opens	Cable Map : Remote M: 1 2 3 4 X X 7 8 G X R: 1 2 3 4 X X 7 8 G	Cable Map : Remote M: 1 2 3 4 X X 7 8 G X R: 1 2 3 4 X X 7 8 G	Cable Map : Remote M: 1 2 3 4 X X X R: 1 2 3 4 X X	
3、4 Shorts	Short mapping: 1 2 3 4 5 6 7 8 G □	Short mapping: 1 2 3 4 5 6 7 8 G □	Short mapping: 1 2 3 4 5 6 □	Short Short mapping: 1 G □

Figure 4-2 the test result instruction for cable mapping with standard remote unit

4-2. The Test Result Instruction For Cable Mapping With Multi Remote Unit (ID#1~#8) :

	Telephone Cable (6P/6C)	Telephone Cable (6P/4C)	Telephone Cable (6P/2C)
Good	Cable Map : Remote 6 M: 1 2 3 4 5 6 R: 1 2 3 4 5 6	Cable Map : Remote 6 M: X 2 3 4 5 X R: X 2 3 4 5 X	Cable Map : Remote 6 M: X X 3 4 X X R: X X 3 4 X X

Figure 5-1 Telephone Cable 6P/6C、6P/4C、6P/2C Cable Mapping with multi remote units

	RJ45 Lan Cable (8 pin) 1~8	Cat. 6 Lan Cable (8 pin) 1~8	Telephone Cable (6P/6C) 1~6	BNC Coaxial Cable (2 pin) 1、G
Good	Cable Map : Remot 6 M: 1 2 3 4 5 6 7 8 R: 1 2 3 4 5 6 7 8	Cable Map : Remot 6 M: 1 2 3 4 5 6 7 8 R: 1 2 3 4 5 6 7 8	Cable Map : Remot 6 M: 1 2 3 4 5 6 R: 1 2 3 4 5 6	Cable Map : Remot 6 M: 1 G R: 1 G
3 Opens	Cable Map : Remot 6 M: 1 2 X 4 5 X 7 8 R: 1 2 X 4 5 X 7 8	Cable Map : Remot 6 M: 1 2 X 4 5 X 7 8 R: 1 2 X 4 5 X 7 8	Cable Map : Remot 6 M: 1 2 X X 5 6 R: 1 2 X X 5 6	1 or G Opens ! Cable open or too short!
3、4 Crossed pairs	Cable Map : Remot 6 M: 1 2 3 4 5 6 7 8 X R: 1 2 3 4 5 6 7 8	Cable Map : Remot 6 M: 1 2 3 4 5 6 7 8 X R: 1 2 3 4 5 6 7 8	Cable Map : Remot 6 M: 1 2 3 4 5 6 X R: 1 2 3 4 5 6	
3、4 Crossed pairs & 5、6 Opens	Cable Map : Remot 6 M: 1 2 X X X X 7 8 R: 1 2 X X X X 7 8	Cable Map : Remot 6 M: 1 2 X X X X 7 8 R: 1 2 X X X X 7 8	Cable Map : Remot 6 M: X X 3 4 X X X R: X X 3 4 X X	
3、4 Shorts	Short mapping: 1 2 3 4 5 6 7 8 Short	Short mapping: 1 2 3 4 5 6 7 8 Short	Short mapping: 1 2 3 4 5 6 Short	Short mapping: 1 G Short

Figure 5-2 the test result instruction for cable mapping with multi remote unit (ID#1~#8)

MEASURE LENGTH, LENGTH CALIBRATION AND RECALL PARAMETER

1. Connect cable to transmitter :

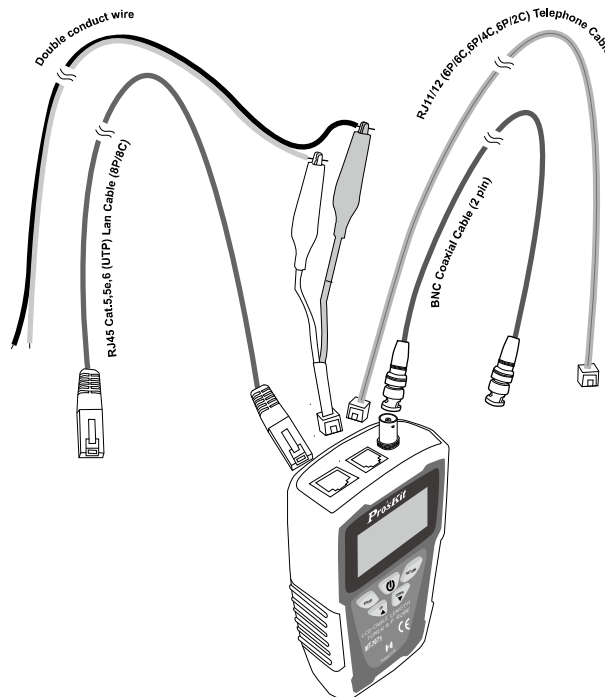
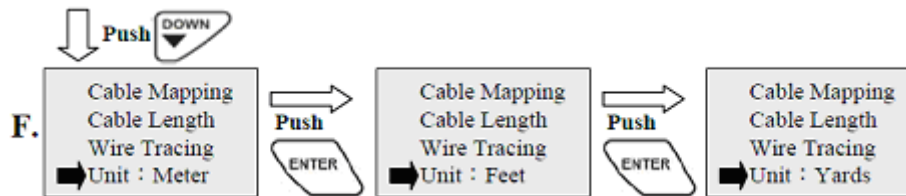
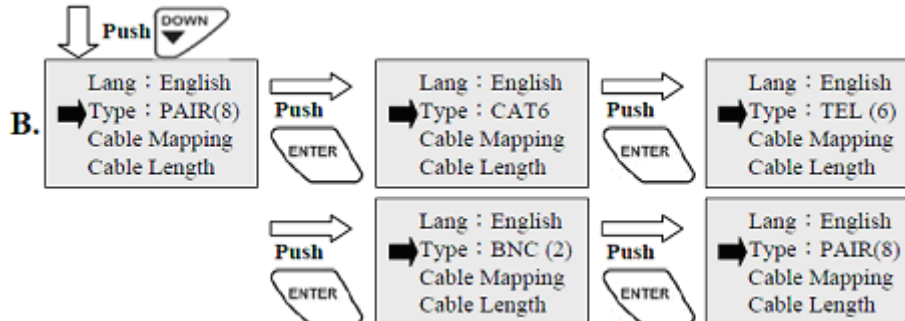


Figure 6 Cable Length Calibrations and Measurement

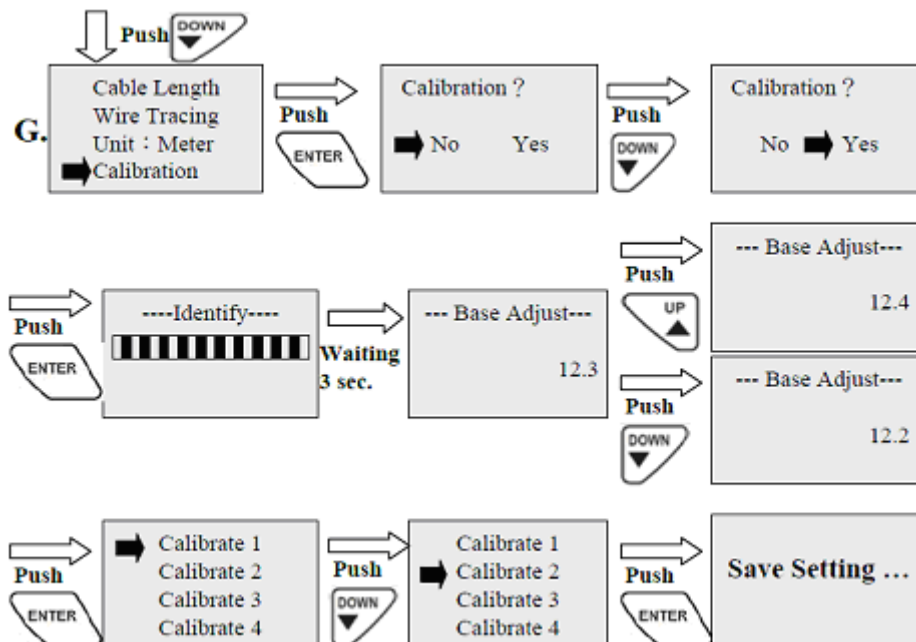
2. Select Unit :



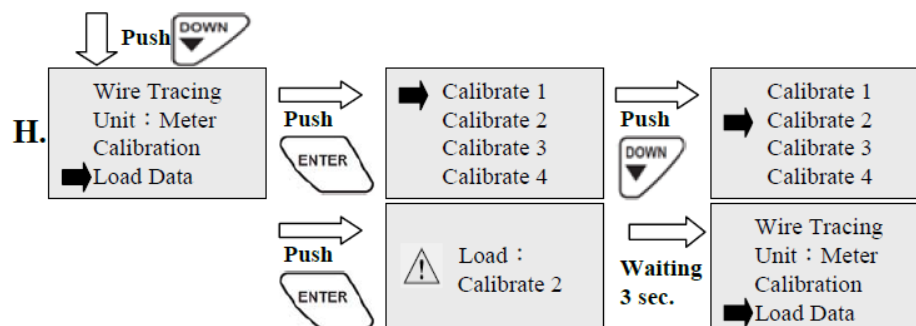
3. Select cable type you want to test :



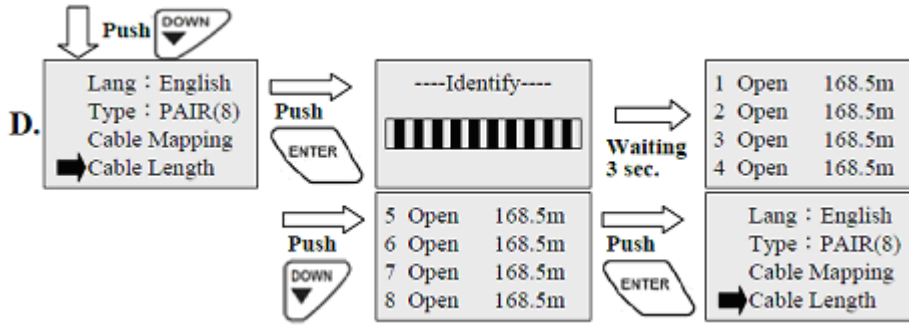
4. Calibration parameters setting :



5. Calibration parameters Recall :



6. Measure Length :



7. Test result for measuring cable length :

<p>RJ45 Lan Cable (8 pin) 8 pin same distances to open</p> <table border="1"> <tr><td>1</td><td>Open</td><td>168.5m</td></tr> <tr><td>2</td><td>Open</td><td>168.5m</td></tr> <tr><td>3</td><td>Open</td><td>168.5m</td></tr> <tr><td>4</td><td>Open</td><td>168.5m</td></tr> <tr><td>5</td><td>Open</td><td>168.5m</td></tr> <tr><td>6</td><td>Open</td><td>168.5m</td></tr> <tr><td>7</td><td>Open</td><td>168.5m</td></tr> <tr><td>8</td><td>Open</td><td>168.5m</td></tr> </table>	1	Open	168.5m	2	Open	168.5m	3	Open	168.5m	4	Open	168.5m	5	Open	168.5m	6	Open	168.5m	7	Open	168.5m	8	Open	168.5m	<p>Cat.6 Lan Cable (8 pin) 8 pin same distances to open</p> <table border="1"> <tr><td>1</td><td>Open</td><td>168.5m</td></tr> <tr><td>2</td><td>Open</td><td>168.5m</td></tr> <tr><td>3</td><td>Open</td><td>168.5m</td></tr> <tr><td>4</td><td>Open</td><td>168.5m</td></tr> <tr><td>5</td><td>Open</td><td>168.5m</td></tr> <tr><td>6</td><td>Open</td><td>168.5m</td></tr> <tr><td>7</td><td>Open</td><td>168.5m</td></tr> <tr><td>8</td><td>Open</td><td>168.5m</td></tr> </table>	1	Open	168.5m	2	Open	168.5m	3	Open	168.5m	4	Open	168.5m	5	Open	168.5m	6	Open	168.5m	7	Open	168.5m	8	Open	168.5m	<p>Telephone Cable (6 pin) 6 pin same distances to open</p> <table border="1"> <tr><td>1</td><td>Open</td><td>168.5m</td></tr> <tr><td>2</td><td>Open</td><td>168.5m</td></tr> <tr><td>3</td><td>Open</td><td>168.5m</td></tr> <tr><td>4</td><td>Open</td><td>168.5m</td></tr> <tr><td>5</td><td>Open</td><td>168.5m</td></tr> <tr><td>6</td><td>Open</td><td>168.5m</td></tr> </table>	1	Open	168.5m	2	Open	168.5m	3	Open	168.5m	4	Open	168.5m	5	Open	168.5m	6	Open	168.5m
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<p>BNC Coaxial Cable (2 pin) 2 pin same distances to open</p> <table border="1"> <tr><td>1</td><td>Open</td><td>168.5m</td></tr> <tr><td>2</td><td>Open</td><td>168.5m</td></tr> </table>	1	Open	168.5m	2	Open	168.5m	<p>Double conductor wire(2 pin) 2 pin same distances to open</p> <table border="1"> <tr><td>1</td><td>Open</td><td>168.5m</td></tr> <tr><td>2</td><td>Open</td><td>168.5m</td></tr> </table>	1	Open	168.5m	2	Open	168.5m																																																							
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Figure 7 Test result for measuring Cable length to opens are the same

LOCATING AND ISOLATING CABLES

1. Connect cable to transmitter and receiver

1-1. Locating Individual wire pairs with the MT-7071 analog function :

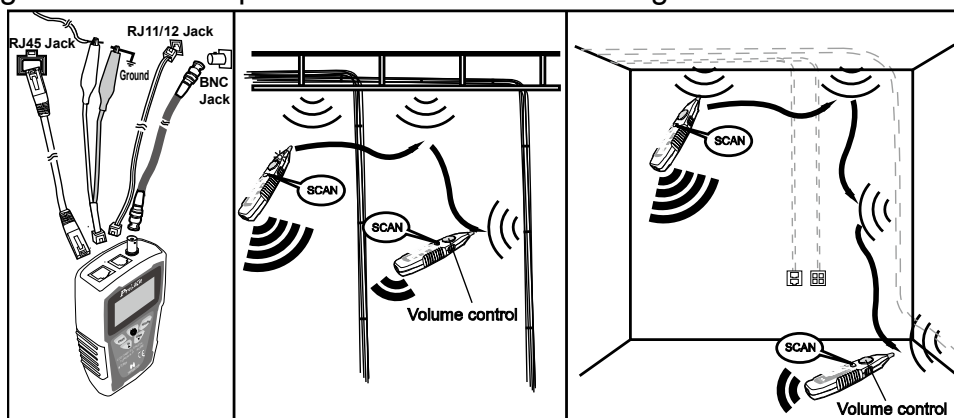


Figure 8 Locating cables

1-2. Isolating cables :

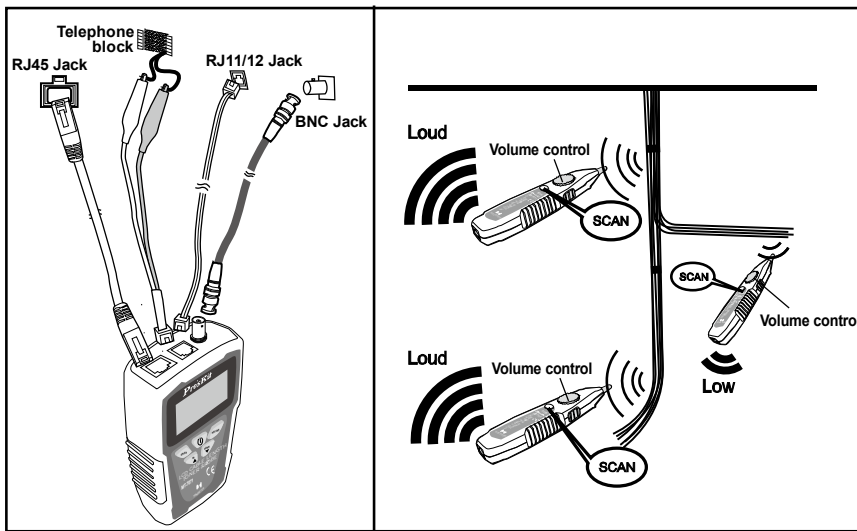
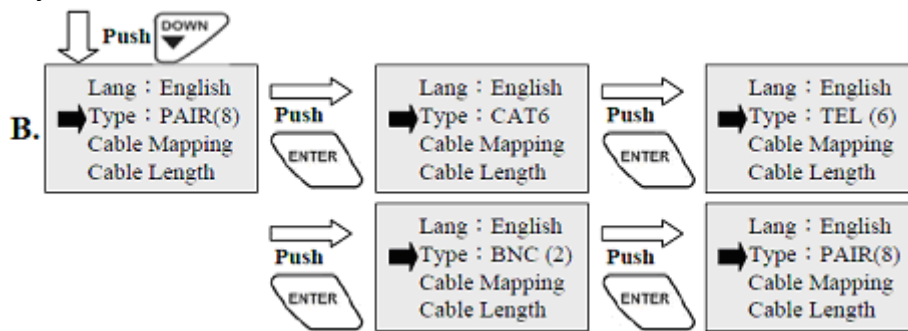


Figure 9 Isolating Cable

2. Select cable type you want to test :



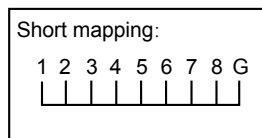
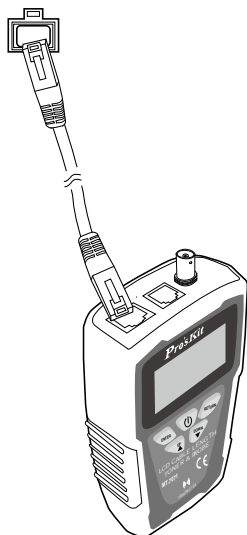
3. perform the wire tracing function to find out the target cable :



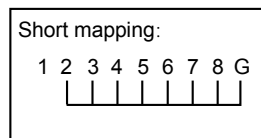
LIVE TELECOMMUNICATION EQUIPMENT AND ROUTER TEST

1. Connect RJ-45 (8P/8C) cable to transmitter and working router :

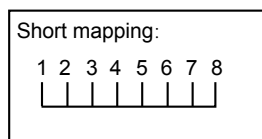
RJ45 Jack



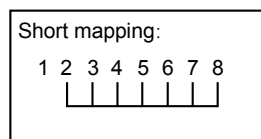
RJ45 shielded Lan cable :
Continuity



RJ45 shielded Lan cable :
Faule



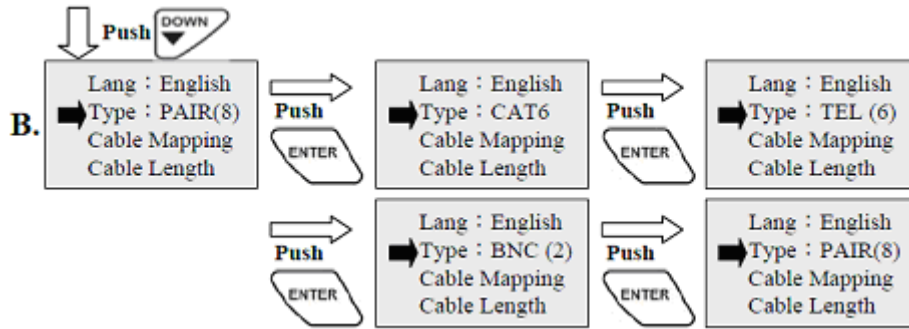
RJ45 unshielded Lan cable :
Continuity



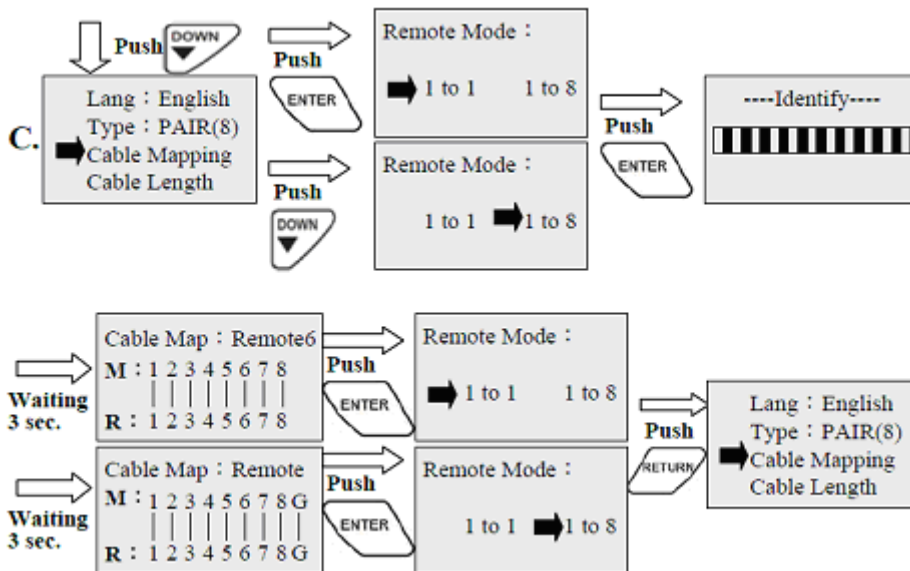
RJ45 unshielded Lan cable :
Faule

Figure 10 Cable testing on working line

2. Select cable type you want to test :



3. Cable Mapping test :



SHIELDED LAN CABLE & CONTINUITY TEST

1. Plug alligator clip patch cord into RJ11 Jack, and another terminal connect with tested Cable :

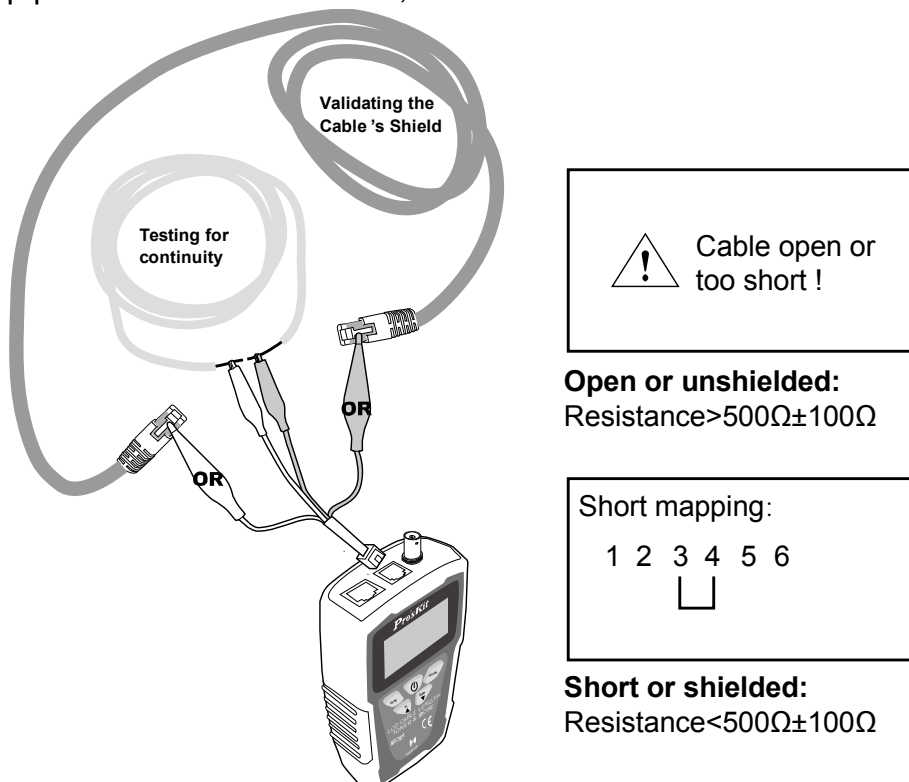
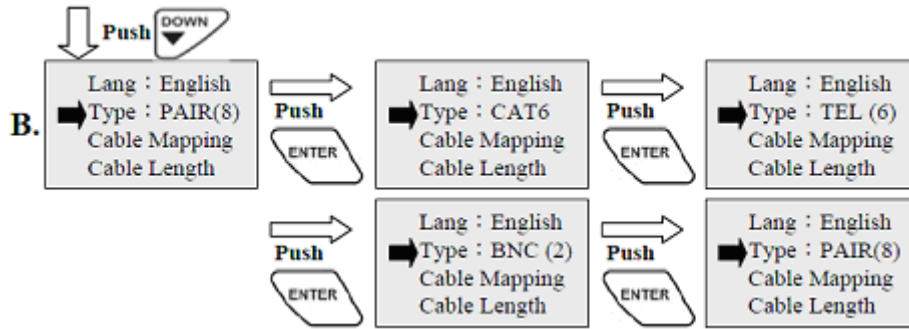
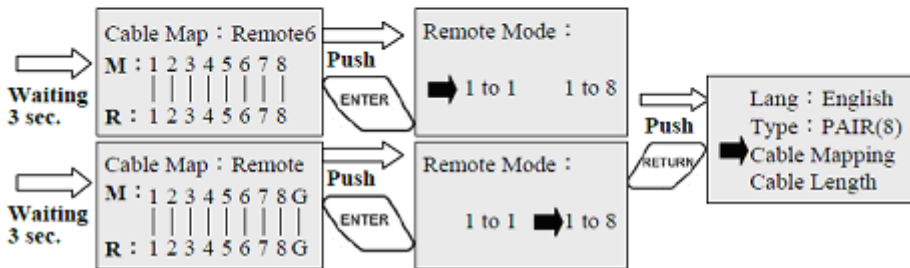
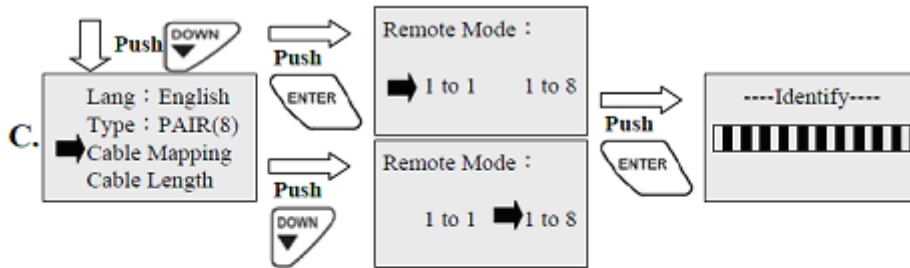


Figure 11 Shielded LAN Cable & Continuity Test

2. Select cable type you want to test :



3. Cable Mapping test :



NCV (Non-Contact Voltage) TEST

1. Turn the switch to "NCV" position, NCV tested function has been started when Power on :

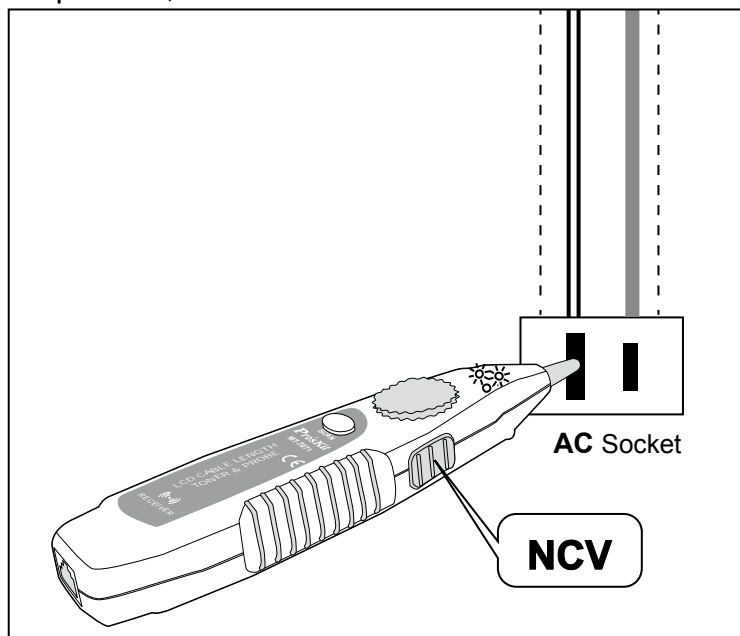


Figure 12 Non-Contact Voltage Testing