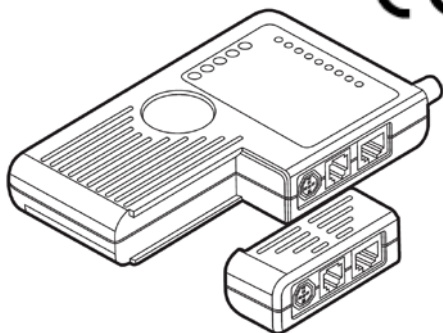


Pro'sKit[®]

CABLE SNIFFER-REMOTE MT-7057

CE



User's Manual

1st Edition' 2012

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INTRODUCTION

The 4 in 1 cable tester tests 4 common LAN and computer cables. It tests installed cables or patch cords with RJ-45, RJ-11, USB, and BNC connectors. It is intended to test cables with straight through connections not cables with reversed or transposed connections like some LAN crossover cables or reverse wired telephone cables.

SAFETY RULES& WARNINGS



WARNING

This tester is not intended for use on powered circuits. Attaching this tester to a powered circuit can result in damage to the tester or injury to the user.

1. Read all instruction in this manual before using this tester. Failure to do so may result in damage to the tester or injury to the user.
2. Do not use this tester with its case open, or with parts removed. Doing so may damage the tester and/or injure the user.
3. When using this tester in schools and workshops, responsible teachers or skilled personnel must control the usage of this tester. Failure to observe this precaution may result in damage to the tester or injury to the

user.

4. Follow the recommendations of any Trade Organizations or Regulatory Agencies whose scope encompasses the use of this tester failure to do so may result in damage to the tester or injury to the user.
5. Do not open this tester for maintenance without first disconnecting it from all external circuitry. Failure to observe this precaution may result in damage to the tester or injury to the user.
6. Repairs and maintenance must only be carried out by qualified service personnel or qualified electricians/technicians who know the dangers of, and the safety rules applicable to this type of equipment. Failure to observe this precaution may result in damage to the tester or injury to the user.
7. Do not touch the ends of the cables when making tests. An Unexpected dangerous potential may be present. Failure to observe this precaution may result in damage to the tester or injury to the user.
8. Do not apply voltage or current to any of the tester's connectors. Doing so may damage the tester and /or injury the user.
9. This tester is not for use by children. Failure to observe this precaution may result in damage to the tester or injury to the user.
10. Do not use this tester to make measurements in adverse environments

such as rain, snow, fog, or locations with steam, explosive gases or dusts.

11. Do not use tester in condensing atmospheres. That is, do not use tester in conditions where ambient temperature and humidity could cause condensation of water inside of the tester.
12. Do not use this tester if it is wet, either from
13. exposure to the weather, or after cleaning the
14. case of the tester.
15. Do not attempt immediate use of the tester when bringing it from a cold environment to a warm environment. Condensation of water, inside and outside of the tester, may produce dangerous conditions. Allow the tester to warm to room temperature before using.
16. Do not modify this tester. Changing the design may make the tester unsafe and may result in injury to the user.
17. Do not use this tester if it has undergone long-term storage under unfavorable conditions.
18. Do not use the tester if it has been damaged in transport.
19. Avoid usage near strong magnetic fields (magnets, loudspeakers, transformers, motors, coils, relays, contactors, electromagnets, etc.) The tester may display readings that are in error.
20. Avoid usage near strong electrostatic fields

(high voltage power lines, televisions, computer monitors, etc.). The tester may display readings that are in error.

21. Avoid usage near strong RF fields (radio or television transmitters, walkie talkie, cellular phones etc.).The tester may display reading that is in error.
22. Remove the battery when the tester may be left unused for longer than month. Chemical leakage from the battery could damage the tester.

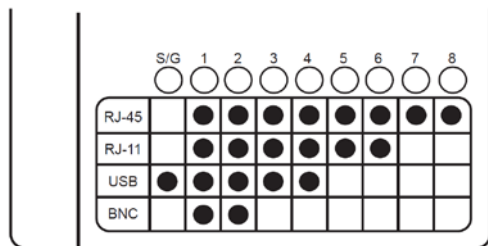
PRODUCT FEATURES

1. Test 4 types of cables
2. Simple one button test
3. Ergonomic portable handheld design
4. Tests installed wiring or patch cables
5. Remote unit stores in main unit
6. 600ft test distance(RJ-45/RJ-11/BNC)
7. Convenient battery access
8. Built in battery test
9. LEDs indicate connections and faults
10. Beeper provides audible annunciation of test results
11. Tests shielded (STP)or unshielded(UTP) LAN cables
12. Test USB cables

SPECIFICATIONS

1. Cables Tested: UTP and STP LAN cables
Terminated in RJ-45 male connectors. (EIA/ TIA 568) RJ-11 cables with male connectors, 2 to 6 connectors installed. USB cables with Type A flat plug on one end and type B square Plug on other end. BNC cables with male connectors.
2. Faults Indicated: No Connection, Short, Open, crosses.
3. Low Battery Indicator: LED lights to indicate low battery
4. Case Dimensions: 6.3x3.4x1.0 inches (LxWxH)
5. Weight: 170grams, 0.375lbs (without battery)
6. Battery: 1 standard 9-volt alkaline battery.

FRONT PANEL & 4 in 1 DIAGRAM



S G 1 2 3 4 5 6 7 8 Pin / Wire s Condition

RJ-45/RJ-11/USB

COAXIAL CABLE

SHORT



SHORT



CONNECTED



25 Ω



CROSSOVER



50 Ω



NO CONNECTION

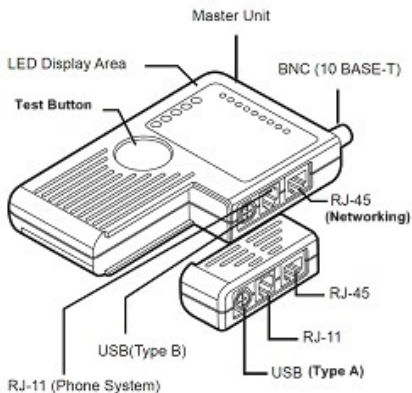
NO TERMINATOR



BATTERY GOOD



BATTERY LOW



OPERATION

1. General Information: The 4 in 1 Cable Tester performs its tests when the single button on its front panel is pressed and released.6 Status LEDs indicate the condition of the cable being tested, as well as informing the user that Power is turned on, and that the battery is good (or bad).8 additional connection LEDs light to indicate that specific wires in a cable are connected.

Note: Only one cable can be tested at a time. i.e. A BNC cable and an RJ-45 cable cannot be tested simultaneously.

2. The MAIN and REMOTE unit: The 4 in 1 Cable Tester consists of a Main unit and a Remote unit .The Remote unit stores conveniently on the bottom of the Main unit. It can be removed or replaced by sliding it from left to right or right to left respectively. Use care when removing or replacing the Remote. Some of the plastic edges are a little sharp. The Remote is often attached to the Main unit when storing, when transporting, or when patch cables are being tested. The Remote is removed from the Main unit when an installed (in wall, ceiling, etc.) cable is being tested.

3. Testing Patch cables:

“Patch” cables have both ends accessible at the same location. Usually, but not always,

these cables are less than 25ft in length, and are not installed in a wall or ceiling. Since both ends are accessible, one end can be plugged into the 4 in 1 Main unit, and one end into the Remote unit. It is not necessary to remove the Remote unit from its docked position on the Main unit.

4. Testing Installed cables:

To test cables installed in ceilings or walls, or in applications that prevent the ends from being in the same location, the Remote can be detached from the Main unit. Once detached, the Remote can be attached to one end a cable, and the Main unit attached to the other to the other end of the cable. These ends are often in different rooms and on different floors of a building.

5. Performing the Test:

Once the Remote and Main unit are attached to the ends of the subject cable, as described in 6.3 and 6.4 ,testing may begin, simply press and release the test button on the Main unit, observe the LED indicators, and note the beeping sound that comes from the Main unit.

6. Interpreting the Results:

6.1 Power LED:

The Power LED should light whenever the Test Button is pressed and released. It will stay in for a minimum of 5 seconds, or for however long the Test Button is pressed. If the power LED does not light, replace the battery.

6.2 Low Battery LED:

The power LED should be shimmering. If it does, replace the battery.

6.3 No connection LED/Single Beep

If the Remote is not connected to the main unit with a cable, or the cable has no intake conductors, the No Connection LED with light and the Beeper will sound once.

6.4 Connected LED/lo-Hi Beep /Numbered LEDs

If the Connected LED lights and the Beeper emit a Lo-Hi beep, examine the numbered LEDs (i.e. LEDs numbered to 8 and the S LED). Corresponding to the type of cable being tested must light. Examine the table below the Numbered LEDs, noting what LEDs should light. If all of These LEDs do not light; the cable has an OPEN fault. If all of the appropriate Numbered LEDs light, the cable is OK.

Note:

When testing an RJ-45 UTP cable, the S LED must not light.

The 4 in 1 is intended to test complete cables. It may not find faults in cables that are intentionally incomplete. For example, the standard EIA/TIA 568 RJ-45 terminated Ethernet cables is expected to contain 8 conductors. If only 4 conductors are used between the RJ-45 connectors. The 4 in 1 may not properly identify

the faults.

RJ-11 cables may have 2 connections, 4 connections, or as many as 6 connections. For 2 connection cables, LED 3 and 4 must light .For 4 connection cables, LED 2,3,4, and 5 must light. For 6 connection cables, LED 1, 2,3,4,5, and 6 must light. The numbered LEDs DO NOT indicate that a GOOD connection exists, only that a connection exists. If the Short or Cross LEDs are lit, there is a fault in the cable.

6.5 Connected LED/3 Beepers/Short LED/ Numbered LEDs

If the connected LED light, the Beeper emits 3 beeps, and the Short LED lights, the cable has a fault. The Numbered LEDs indicate the location of a short.

Note:

In the Short mode, the Numbered LEDs only indicate the location of the shorts. The other connections in the cable are not indicated. If more than 3 numbered LEDs light, there may be multiple shorts in the cable.

6.6 Connected LED/2 Beepers/Cross LED / Numbered LEDs

If the Connected LED lights, the Beeper emit 2 beeps, and the Cross LED lights, the cable has a fault.

Notes:

In the Cross-mode, the Numbered LEDs indicate connections but do not indicate the location of the cross. RJ-11 cables used for telephone connections are often crossed. Even new cables are often crossed. This seldom affects the performance of standard analog telephone lines (POTS). Digital telephone lines and old touch-tone phones may be polarity sensitive, so a crossed cable may prevent them from working properly.

CABLE REPAIR

- 1. General Information:** The following section provides information to the user about common cable types, common failures and repairs. It is not meant to be an exhaustive study of the topic, just some basic information that the uninitiated may find helpful.
- 2. Cable damage:** When a cable tests badly, either the wire or the connectors or both may be at fault. If the cable has been installed and working, then it's likely that the wire or connectors have been abused in some way. The wire portion of the cable can be damaged by being crushed (under the left of a desk), stretched (pulled sharply around a corner), punctured (by a nail or staple), overloaded (hit by lightning), etc. Similar abuses will damage the Connectors on the ends of the cable. The connectors can also be

damaged by excessive insertion and removal or flexing of the cable close to connector body. While the 4 in _ can identify a bad cable, it cannot determine if the wire or the connectors are at fault. The user must examine the different parts of the cable to determine the cause of failure and take the appropriate steps to correct the problem.

3. Which end is bad? The 4 in 1 like many cable testers, cannot find the location of the fault, or even determine which end or connector is bad. It simply knows that a fault exists. The user must locate the fault and take the appropriate action.

4. Cables with Molded on ends:

Many cables have molded on ends that cannot be opened up for repair. The entire cable must be replaced, or the molded on end removed and replaced with a user serviceable connector. These types of cables usually fail from Opens or Shorts. They seldom fail from a Crossed connection.

5. Cables with Crimped on RJ connectors:

Crimped on RJ connectors cannot be reused or repaired. New connectors must be installed on the cable. If the cable being tested has just been made up or put in service, and it tests as Open or Crossed, the RJ connectors have probably been installed incorrectly. Short very seldom occur as the result of a badly crimped RJ connector, so the user should suspect a

problem with the wire (possibly a staple or nail through the wire, or a crushed or pinched wire) if the 4 in 1 indicates a short. A visual examination of the RJ connectors may reveal the fault---but keep in mind that whatever the cause of a connector problem (i.e. mis-wiring improper stripping of the wire, bad crimp, etc.) The only solution is to replace the connector. Consequently, it is not necessary for the user to know the exact cause of the problem, simply to make sure that he installs the new connector correctly!

- 6. Conflicting Results:** Sometimes, the test results of the 4 in 1 seem to conflict with the performance of the cable---i.e., the cable tests badly but works OK, or vice versa. The following items list some of the reasons why.

6.1 The 4 in 1 indicates the cable is not working, but my LAN works OK:

Installed LAN cables with RJ-45 connectors that have been in service and working OK may test as Open, Shorted, or Crossed. Here's why---The EIA/TIA 568 standard for LAN cable only uses 4 of the wires in the eight-wire cable. The other 4 wires in the cable may have faults, but these will not affect the operation of the LAN. The 4 in 1 tests all of the wires in the LAN cable, and identifies the faults, even though these wires may not be used in the LAN system. Not all LAN cables are wired straight through

Crossover cables used on LANs are purposely mis-wiring, with their Receive and Transmit wires cross over. The 4 in 1 will test this as a bad cable, but it may work just fine as Crossover cable.

6.2 The 4 in 1 says my cable is good, but it does not work on my LAN:

Many cable testers like the 4 in 1 only perform continuity style tests (open, short, crossed, etc). Ethernet LAN cables are constructed in a special way. The 8 wires inside are grouped into 4 pairs of 2 way. The 8 wires inside are grouped into 4 pairs of 2 wires each. Not only must the 8 wires connect from end to end of the cable, the pairs in the cable must connect to specific pins of RJ-45 plugs on to the ends of cable ignoring the pairing (as described in EIA/TIA 568), and the cable will test ok. But when the cable is tried on the LAN, it does not work. This is because the lack of the proper pairing causes excessive cross talk in the cable, preventing the LAN from working. This type of cable fault is sometimes call a split pair or double split pair to detect this type of fault, a more sophisticate tester capable of performing a NEXT test(Near End Cross Talk) must be used. Both the Pair Master and LAN TDR can perform NEXT tests.

Notes:

Cross talk increases with the length of the cable. A LAN system will tolerate a certain amount of cross talk. A short cable (10ft or less) that is improperly paired may work just fine. However, longer cables paired in exactly the same way, may not work. This explains why an installer can make short jumper cables that work (although they are improperly paired), but when he installs RJ-45's in exactly the same way on a longer cable, the cable does not work.

6.3 The 4 in 1 says my phone cable is bad, but my phone works ok.

Most single line telephones only use 2 wires in a modular cable the modular cable, which terminates in RJ-11 connectors could have as many as 6 wires in it. The unused wires may have faults, which the 5 in 1 identifies, but these faults may have no effect on the working 2-wire telephone circuit. Many telephone cables with RJ-11 plugs/jacks are wired inverse. The 4 in 1 will show that a cable like this is crossed. A cable like this reverses the polarity of the telephone line. Most regular telephones made in the last 10 years are not polarity sensitive. So, even though the cable is wired in reverse (crossed), it may work OK. Early touch-tone telephones and answering machines were polarity sensitive. If connected in reverse polarity, the touch-tone phone may

not dial out (no touch), and the answering machine may not answer when the line rings.

MAINTENANCE

Your 4 in 1 cable tester is a precision test instrument and, when used as described in this manual, should not require maintenance .there are no internal adjustments. Calibration is not required. To clean the outside of the tester, use a cloth dampened with a mild detergent solution. Do not use any abrasive cleansers or chemical solvents that may damage the case of the tester.

ACCESSORIES

The 4 in 1 cable tester includes the following items:

- Main unit
- Remote
- Female BNC Terminator
- Instruction Manual
- Carrying Case

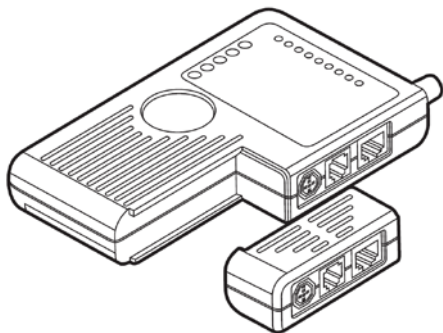
The group of products may be discontinued, models specifications, price or design changed at any time without notice and without incurring any obligation.

Pro'sKit®

4合一網路測試器 □

MT-7057

CE



一、產品介紹：

MT-7057 是一款集 4 種測試功能於一體的多功能纜線測試器，可測試的線材種類 RJ-45、RJ-11、USB 及 BNC，只需一按開關，所測試線材狀況一目了然。線材的斷路、短路、交錯都一一顯示在主機面板上。

適用電源：9V 電池 (不含)

二、安全注意事項：

注意：此測試器不能用於測試帶有電壓之活線，若將活線接於此測試器，可能會造成測試器損壞。

** 使用前請細詳閱讀使用說明書，錯誤使用可能造成測試器損壞。

** 使用時請勿將機殼打開使用或自行更換內部零件，如此可能造成測試器損壞。

三、產品特色：

1. 可測試 4 種線材
2. 單鍵操作，簡單方便
3. 黑色噴膠外殼，握感舒適
4. 具有自動掃描檢測網絡線，檢視跳接正確性、短路、斷路及芯線排列順序等功能
5. 具有電源狀態指示
6. 明亮清楚的 LED 燈顯示

四、產品規格：

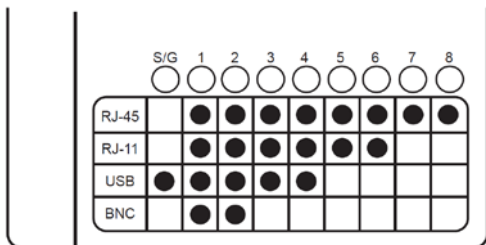
1. 測試線材：UTP / STP / RJ-11 / USB / BNC
2. 尺寸：6.3x3.4x1.0 inches (LxWxH)
3. 重量：170 克 (不含電池)
4. 適用電源：9V 電池 (不含)

五、配件：

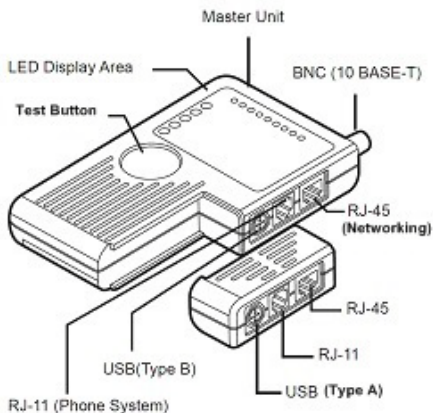
1. 測試器
2. BNC 母端接頭
3. 使用說明書
4. 收納袋

六、顯示面板及 LED 燈功能介紹：

- (1) " S " 燈號：表示屏蔽線 / 接地線。
- (2) " 1 - 8 " 燈號：表示對應的線路。
- (3) " SHORT " 燈號：表示線材有短路。
- (4) " CONNECTED " 燈號：表示受測試的線材連接是正確的。
- (5) " CROSSORER " 燈號：表示受測試的線材連接有交錯的問題。
- (6) " NO CONNECTION " 燈號：表示沒有相通的線，或是接頭沒有插好，有可能是接觸不良。
- (7) " BATTERY GOOD " 燈號：表示本測試器的電源正常，可正常使用。
- (8) " BATTERY LOW " 燈號：表示本測試器的電源不足，應及時更換電池，以免對測試結果產生影響。



S	G	1	2	3	4	5	6	7	8	Pin / Wire s Condition
RJ-45/RJ-11/USB					COAXIAL CABLE					
SHORT 					SHORT 					
CONNECTED 					25 Ω 					
CROSSOVER 					50 Ω 					
NO CONNECTION					NO TERMINATOR 					
☐ BATTERY GOOD 					☐ BATTERY LOW 					



七、4種線材的測試方法

1. 測試雙絞線方法：

把所需測試線插入主測試器和遠端測試器，按一下開關主機” CONNECTED” 燈亮，而上方對應的 8 顆小燈也同時亮（如果是 STP 線則” S” 燈也應該同時亮），表示這條線正確。

如果” SHORT” 燈亮，表示有短路，同時短路的路線與所對應的小紅燈也同時亮。

如果” CONNECTED” 燈亮，而小紅燈有幾顆不亮，表示對應的路線有断路。

如果” CROSSOVER” 燈亮，就表示有交錯或順序相反。

2. 測試電話線：

如果 6 芯電話線則小紅燈亮” 1-6” ，4 芯電話線亮” 2-5” ，2 芯電話線” 3-4” ，同時” CONNECTED” 燈也亮。

3. 測試 USB 線材：

” CONNECTED” 燈和” S-4” 小紅燈同時亮，表示線材正確；反之和測試雙絞線的原理一樣。

4. 測試 BNC 同軸電纜：

” CONNECTED” 燈和” 1-2” 小紅燈同時亮，表示線材正確。

Pro'sKit®

寶工實業股份有限公司

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