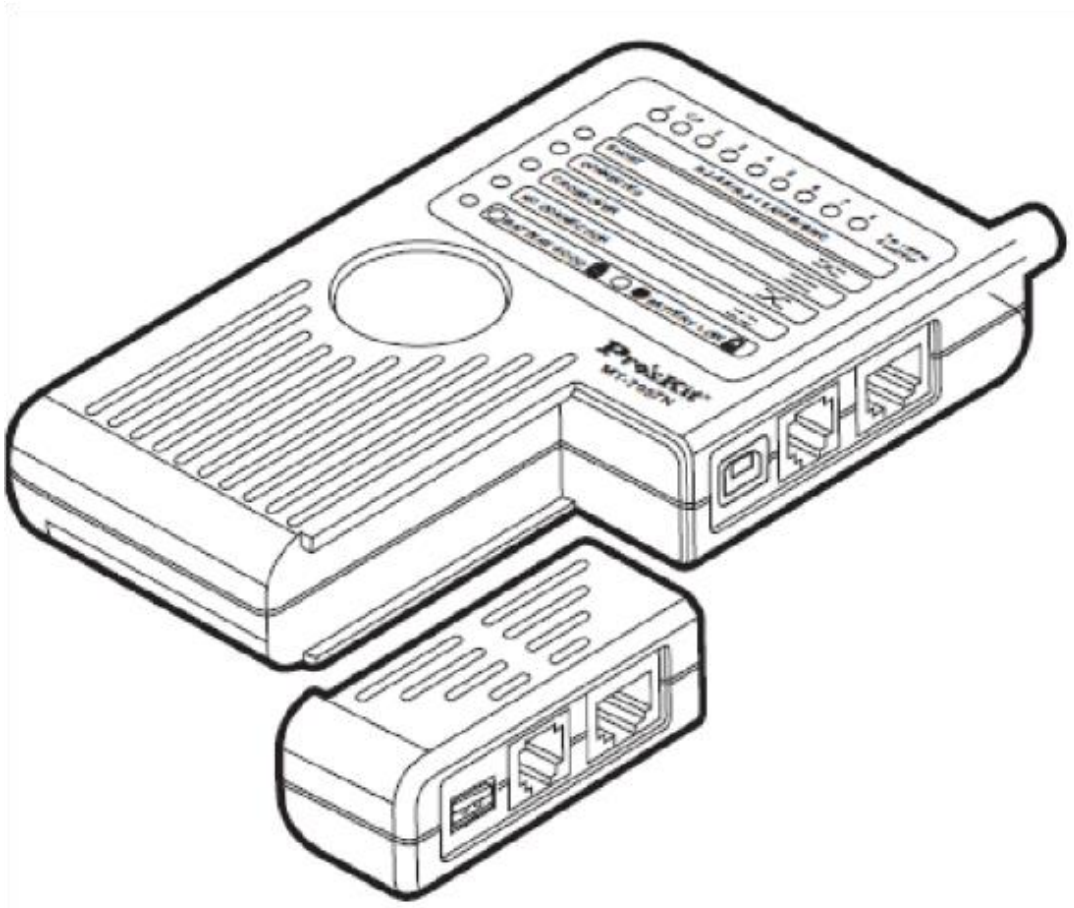
Pro'sKit®

CABLE SNIFFER-REMOTE

MT-7057N



User's Manual

1st Edition, 2016

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INTRODUCTION

The 4 in 1 CABLE SNIFFER-REMOTE provides 4 common LAN and computer cables test. 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 & 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 instructions carefully before using this tester. Failure operation may result in damage to the tester or injury to the users.
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 many damages 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 exposure to the weather, or after cleaning the case of the tester.
13. 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.
14. Do not modify this tester. Changing the design may make the tester unsafe and may result in injury to the user.
15. Do not use this tester if it has undergone long-term storage user unfavorable conditions.
16. Do not use the tester if it has been damaged in transport.
17. Avoid usage near strong magnetic fields (magnets, loudspeakers, transforms, motors, coils, relays, contactors, electromagnets, etc.) The tester may display readings that are in error.
18. Avoid usage near strong electrostatic fields (high voltage power lines, televisions,

computer monitors, etc.). The tester may display readings that are in error.

19. Avoid usage near strong RF fields (radio or television transmitters, walkie talkie, cellular phones etc.).The tester may display reading that is in error.
20. 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

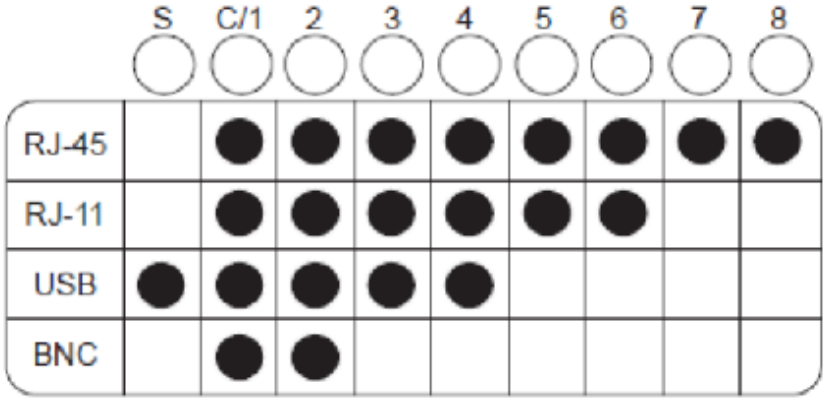
1. Test 4 types of cables
2. Simple one button test
3. Ergonomic portable handheld design
4. Tests installed wiring or patch cables
5. Remote unit stores in main unit
6. 500meter(1,640ft) test distance (RJ-45/RJ-11/BNC)
7. Convenient battery access
8. Built in battery test
9. LEDs indicate connections and faults
10. Beeper provides audible annunciation of test results
11. Tests shielded (STP)or unshielded(UTP) LAN cables
12. Test USB cables

13. PoE line voltage protective design

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, connected, crossover.
3. Low Battery Indicator: LED light up to indicate low battery
4. Case Dimensions:6.3x3.4x1.0 inches(LxWxH)
5. Weight:170 grams,0.375lbs (without battery)
6. Battery: 1 pc 9-volt alkaline battery.(Not include.)

FRONT PANEL & 4 in 1 DIAGRAM


S
C/1
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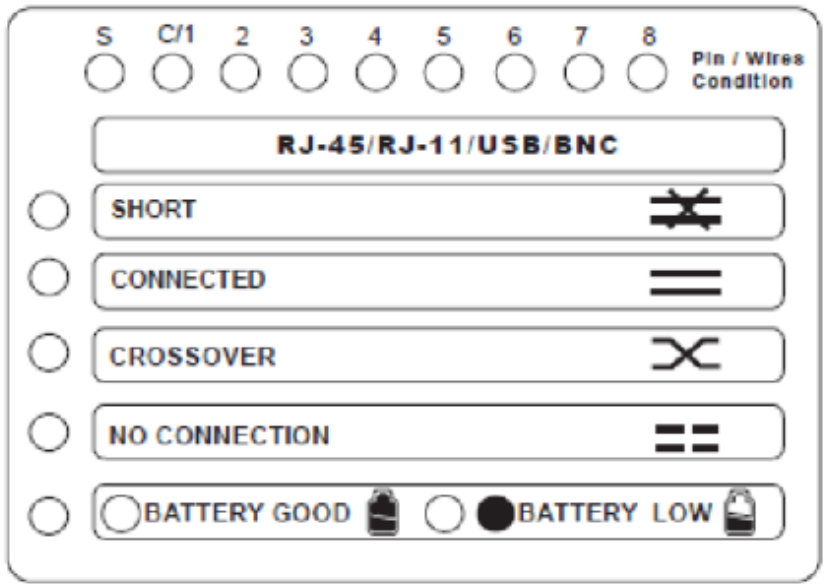
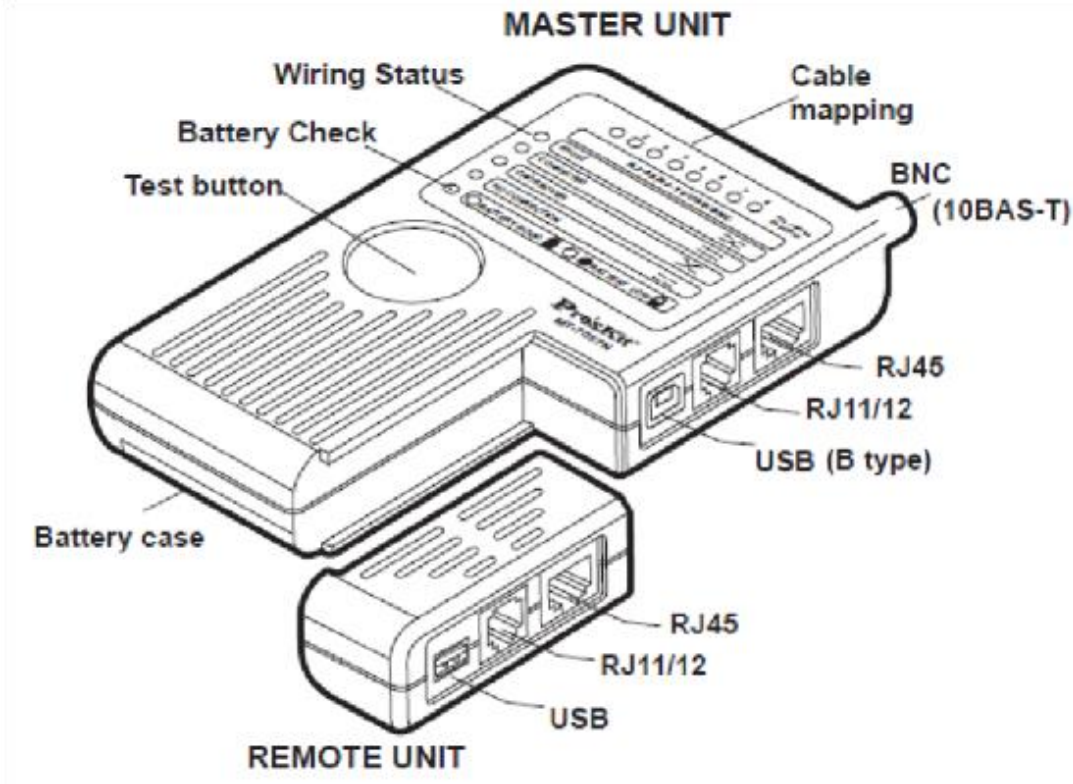
RJ-45
RJ-11
USB
BNC





ACCESSORIES:

1. RJ45 to BNC female connector

2. Instruction manual
3. Pouch bag

OPERATION

1. **General information:** the cable sniffer-remote 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 CABLE SNIFFER-REMOTE 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 Main unit, and another 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 Battery Good Indicator:

The “BATTERY GOOD” LED should light whenever the test button is pressed and released. It will stay in for a minimum of 10 seconds, or for however long the test button is pressed. If the “BATTERY GOOD” LED does not light, replace the battery.

6.2 Low Battery Indicator:

When the “BATTERY LOW” LED light on, 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 the 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 CABLE SNIFFER-REMOTE 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 CABLE SNIFFER-REMOTE 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 “CROSSOVER” LEDs are light, there is a fault in the cable.

6.5 Short LED/3 Beepers/Numbered LEDs

If the “SHORT” LED light, the beeper emits 3 beeps, 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 Numbered LEDs are dark. If more than 3 numbered LEDs light, there may be multiple shorts in the cable.

6.6 Crossover LED/2 Beepers/ Numbered LEDs

If the “CROSSOVER “ LED lights, the beeper emit 2 beeps, the Numbered LEDs lights will flashing and indicate the location of a cross.

Notes:

In the “CROSSOVER” mode, 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 then 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 of 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 leg of a desk), stretched (pulled sharply around a corner), punctured (by a nail or staple), over loaded (hit by lighting), 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 CABLE SNIFFER-REMOTE 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 CABLE SNIFFER-REMOTE 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. Shorts 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 mail 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. miswiring 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 Cable Sniffer-Remote 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 being used in the LAN system. Not all LAN cables are wired straight through Crossover cables used on LANs are purposely mis-wired,
with their Receive and Transmit wires cross over. The CABLE SNIFFER-REMOTE will test this as a bad cable, but it may work just fine as Crossover cable.

6.2. The CABLE SNIFFER-REMOTE says my cable is good, but it does not work on my LAN:

Many cable testers like the CABLE SNIFFER-REMOTE only perform continuity style tests (open, short, crossover, etc). Ethernet LAN cables are constructed in a special way. The 8 wires inside are grouped into 4 pairs of 2 way. 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 sophisticated 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** CABLE SNIFFER-REMOTE **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 may as 6 wires in it. The unused wires may have faults, which the 4 in 1 identifies, but these faults may have no effect on the working 2-wrie telephone circuit. Many telephone cables with RJ-11 plugs/jacks are wired inverse. The CABLE SNIFFER-REMOTE 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 CABLE SNIFFER-REMOTE 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.

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