

Test Result Indicators

PASS - Pass indicates that the cable tested is correctly “pinned” and electrically continuous without open or short circuit conditions. The PASS status also indicates straight through wiring, meaning that the wire on Pin 1 in the main unit jack is connected to Pin 1 in the remote jack.

REVERSAL - Reverse wiring or Telco wiring means that the wire in Pin 1 in the main unit jack is connected to Pin 8 in the remote jack, thus the reverse of straight through wiring.

OPEN - OPEN indicates a break in the electrical path, usually the result of a cut in the conductor or a defective termination (poor crimp). Note: OPEN can also indicate the absence of a REMOTE MODULE (or BNC terminator for coaxial cable testing).

FLASH BATT LOW - A flashing LED at this position indicates a low battery condition. See Battery Test Procedure.

SHORT - A short circuit condition exists.

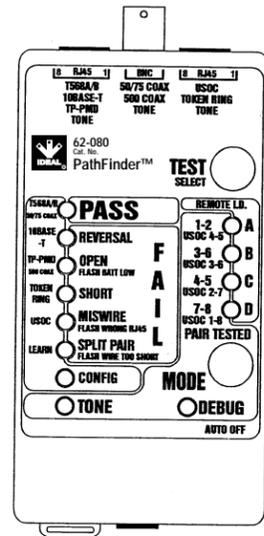
MISWIRE - Indicates the improper assignment of individual wire pairs to pins for the wiring scheme tested.

FLASH WRONG RJ45 - A flashing LED indicates that the wrong jack in the remote module has been used. The proper jack matching the cable configuration being tested must be used.

SPLIT PAIR - Split pairs occur when the tip (positive conductor) or ring (negative conductor) of two twisted pairs are interchanged.

NOTE: TO INSURE THAT THE CABLE SYSTEM DOES NOT CONTAIN A SPLIT PAIR CONDITION, TEST EACH SEGMENT (TERMINATION TO TERMINATION) INDIVIDUALLY. DO NOT TEST INTERCONNECTED SEGMENTS AS A LINK. MULTI-SEGMENT LINKS MAY DISGUISE THE PRESENCE OF SPLIT PAIR CONDITIONS AND AFFECT THE ACCURACY OF TEST RESULTS.

FLASH WIRE TOO SHORT - A flashing LED indicates that the cable being tested is less than six feet in length. Use the IDEAL Wiring Verifier 62-050 for patch cable testing or for cables less than six feet in length.



MAIN UNIT



REMOTE UNITS

Battery Test Procedure

1. Remove all cables from test jacks.
2. Place tester in TEST Pass/Fail mode.
3. Press TEST button.
4. Flashing LED at OPEN (FLASH BATT LOW) position indicates a low battery condition. Replace battery with new 9 volt unit as instructed by this document and case label. If LED does not flash, battery is still good.

Battery Replacement (Main Unit)

Remove the four housing screws using a #1 Phillips screwdriver. Carefully open the main unit case and remove the 9 volt battery. Press both TEST and MODE buttons for 15 seconds to reset unit. Replace battery, close housing and replace screws. DO NOT OVERTIGHTEN SCREWS.

Physical Dimension

Tester Size:	5.6 x 2.8 x 1.2 inches (142 x 70 x 30 mm)
Weight:	7 oz. (200 grams) with battery
Remote Size:	1.75 x 1 x 1 inches (45 x 25 x 25 mm)
Weight:	1 oz. (28 grams)
Minimum Twisted Pair Cable Length for Testing:	6 feet or 1.8 meters (26 AWG solid cable)
Maximum Test Cable Length:	656 feet or 200 meters (26 AWG solid paired cable) 300 feet or 91.4 meters for coaxial cable
Automatic Power OFF:	12 seconds after PASS/FAIL results 1 minute in the DEBUG mode 30 minutes in the TONE mode

Warranty limited solely to repair or replacement; no warranty of merchantability, fitness for a particular purpose or consequential damages.



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IDEAL PathFinder™ Wiring Tester Instruction Sheet

CAUTION: DO NOT USE ON LIVE CIRCUITS!

TEST BATTERY CONDITION BEFORE EACH USE.

The IDEAL PathFinder™ consists of a main unit and up to four remote modules. A main unit and at least one remote is required to perform all paired wiring tests. A main unit and a BNC terminator is required to perform coaxial cable testing. A 9 volt general purpose battery is installed in the main unit. Remote units are unpowered.

Product Features

The IDEAL PathFinder™ Wiring Tester is a versatile diagnostic device that allows the fast verification of twisted pair and coaxial cable runs. Mapping, continuity, and proper configuration can be determined quickly by one operator. The unit has a LEARN mode to learn and test modifications of either the T568A/B or USOC wiring configurations. A DEBUG mode can be used to debug installed cables. A TONE feature can be used on either coax or twisted pair for individual wire tracing. Consisting of a main transmit/receive unit and one or more remote modules, the PathFinder™ provides both visual and audible indications of test activities and results. Visual indication is provided by high intensity LEDs. Audible indication consists of an adjustable “beep” tone.

NOTE: Although the IDEAL PathFinder main unit and remote modules are equipped with 8 position modular plug jacks, cables with smaller 6 position and 4 position connectors may also be tested. The user should be aware that PathFinder life in terms of maximum number of jack insertions before component failure is reduced by this practice.

Test Modes

The PathFinder can be operated in several MODES, including TEST(select), CONFIG, TONE, DEBUG, and LEARN. After activating the PathFinder by pressing the TEST(select) button, the unit can be advanced to the various MODE settings by pressing the MODE button.

TEST - Indicated by alternating LED flashes in the PASS and REVERSAL positions. Testing is performed in this mode by pressing the TEST(select) button. Test results indicating the status of the cable as well as remote module identification (REMOTE I.D.) are provided.

The audible test indication (beep) can be toggled between a higher volume tone, lower volume tone, and no tone (short initial beep) by pressing and holding the TEST(select) button for two seconds.

CONFIG - Allows the selection of various wiring configurations including T568A/B, 10Base-T, TP-PMD, Token Ring, USOC, and nonstandard configurations using the LEARN function.

TONE - A tone signal can be applied to the cable by pressing the TEST(select) button. The signal can be received and traced with the IDEAL 62-102 Amplifier Probe.

DEBUG - Cable pairs may be individually inspected in this mode by pressing the TEST button. The DEBUG sequence is indicated by two flashes (1 short, 1 long) at each PAIR TESTED LED position found on the right side of the tester.

LEARN - The unit will LEARN custom wiring configurations consisting of modifications to either the T568A/B or USOC wiring standards. The custom configuration can be a reversal, crossed pairs, and an open or short within a pair. The PathFinder™ can not learn shorts between pairs or split pairs.

Operating Instructions

1. Determine the wire configuration you are testing.
2. Push TEST(select) button to activate PathFinder.
3. Push MODE button until CONFIG LED is illuminated.
4. Push TEST(select) button to choose the standard (T568A/B, 10Base-T, TP-PMD, Token Ring, USOC or LEARN) you wish to test.
5. Push MODE button to proceed to PASS/FAIL (alternating LEDs) for testing.
6. Plug cable into tester choosing the main unit test

Operating Instructions (cont.)

jack with the corresponding wire standard to be tested.

7. Plug remote A, B, C, or D into far end cable jack (wall outlet, patch panel port, etc.) choosing the remote module jack with the corresponding wire standard to be tested. Use a short straight wired cable assembly (IDEAL catalog number 62-078) to connect remote module to the far end cable jack.
8. Push TEST(select) button. The unit will perform a test. CONFIG LED and selected wiring cable standard LED will illuminate first, followed by test result LED illumination.

NOTE: Configuration memory is not affected by AUTO-OFF. NOTE: When testing USOC wiring configuration, pair 1 (pin 4-5) will be the default pair ready to test. If you want to test other USOC pairs, press TEST after a slight pause to select USOC 2 pairs (pins 3-6), 3 pair (pin 2-7) or 4 pairs (pair 1-8). After selecting the USOC pairing to be tested, push MODE to go to PASS/FAIL (alternating LEDs) for testing.

LEARN Mode

1. Insert cable to be LEARNed into the appropriate main and remote test jacks based on wiring style (either modified T568A/B or USOC).
2. Push TEST(select) button to activate PathFinder.
3. Push MODE button until CONFIG LED is illuminated.
4. Push TEST(select) button to choose LEARN
5. Push and hold TEST(select) button until beeper sounds.
 - A PASS LED will be displayed for approximately one second if the cable has been successfully LEARNed.
 - The PAIR TESTED LED indicates the active pairs under test at the main unit
 - A flashing PAIR TESTED LED indicates the pair was LEARNed as a reversal.
6. Push MODE button to proceed to PASS/FAIL (alternating LEDs) for testing additional cables to the LEARNed standard.
7. The LEARNed cable parameters remain in memory until a new cable is learned or the battery is replaced.

DEBUG Mode

1. Push TEST(select) button to activate tester.

DEBUG Mode (cont.)

2. Push MODE button until DEBUG LED is illuminated.
3. Push TEST(select) button to begin DEBUG, testing pair continuity and configuration from main unit jack to remote unit jack. The DEBUG sequence is indicated by two flashes. The first flash for each pair will occur at the PAIR TESTED position found on the right side of the tester. The second flash will occur at either the:
 - 1.) same PAIR TESTED position if cable is continuous and configured properly.
 - 2.) at appropriate TEST RESULT position on the left side of the tester if there is a wiring fault.
4. Pressing TEST(select) during DEBUG will cause tester to hold on current pair tested and retest the pair continuously. Press TEST(select) again to continue testing all pairs.
5. Push MODE to stop test.

NOTE: The PathFinder™ will detect a SHORT circuit condition first before detecting other fault conditions. Once a SHORT is corrected, it is recommended the cable be tested again for other faults.

TONE Mode

1. Push TEST(select) button to turn tester on.
2. Push MODE button until TONE LED is illuminated.
3. Push TEST(select) to transmit tone on four of eight conductors to trace cable.
4. Push TEST(select) again to transmit tone on an individual conductor. (An illuminated LED indicates tone on the first pin of the pair and a flashing LED indicates tone on the second pin of the pair.)
5. Push TEST(select) to advance to additional pairs.
6. Push MODE to stop tone.

NOTE: Tone will not affect Remote units. Tone can be put on a line with a Remote connected. Remove BNC terminator from coax when toning coax cable. It is recommended that the tester is moved out of the TONE mode after TONE application is complete. This will prevent unnecessary battery drain.

Coaxial Cable Testing

The IDEAL PathFinder™ checks coaxial cable circuits less than 100 feet in length using a 75 or 50 ohm terminator. Lengths over 100 feet or cables with above aver-

age resistance values require the use of the 500 ohm terminator supplied with the unit.

1. Remove any cables from the main unit modular test jacks.
2. To test a coaxial cable, install the appropriate BNC terminator on the remote end of the cable (cable plug, wall jack, patch panel jack, etc.) to be tested. Connect the near end BNC plug to the PathFinder™ main unit BNC jack.
3. Move to the CONFIG mode and press the TEST(select) button to choose the 50-75 ohm configuration setting (same position as T568A/B on main unit legend). Move from the CONFIG mode to TEST mode (alternating PASS/FAIL LEDs are displayed). Press TEST(select) button to perform test. Test results will be either PASS, OPEN, or SHORT.
4. To test high resistance coax or cables over 100 feet, use the high impedance terminator (500 ohms) and choose the TP-PMD/500 ohm coax MODE, then push TEST(select).

NOTE: OPEN can indicate the absence of a required terminator.

Troubleshooting for the IDEAL PathFinder

Condition	Solution
1. Flashing BATT LOW indicator (See Battery Test Procedure)	Replace 9 volt battery. (NEDA 1604 9V) (See Battery Replacement Section)
2. Flashing WRONG RJ45 indicator	Check jacks selected on main and remote to match cable/plug and jack configurations.
3. Rapid flashing and beeping of main unit	Indicates the presence of power. DISCONNECT IMMEDIATELY TO PREVENT DAMAGE TO TESTER. Disconnect power from circuit to be tested. Push TEST button to reset tester before rechecking cable.
4. Sharp impact to main unit results in rapidly flashing LEDS not affected by pressing buttons.	Disconnect main unit battery, press TEST(select) and MODE buttons simultaneously for 15 seconds to "power-down" unit. Reconnect battery to continue testing.