# 5-in-1 Cable Tester

# User Manual

## Model 780094




INTELLINET®

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INT_780094_UM_0119_REV_5.01

# INTRODUCTION

The 5-in-1 Cable Tester performs tests on five common types of LAN and computer cables:

- RJ45
- RJ11
- FireWire/1394
- USB Type A to B
- BNC

The product consists of a Main unit (**A**) and a Remote unit (**B**). A plastic insert on the Remote unit fits a track at the bottom of the Main unit to keep the two units together and to test both ends of a cable that are within reach of the tester. The Remote unit slides off the Main unit to test cables installed in walls, ceilings, etc., where the two ends may be in separate locations. **The 5-in-1 Cable Tester can only test one cable at a time.**

# PRODUCT DIAGRAM

**A**: Main unit

**B**: Remote unit

**C**: Battery compartment; requires a 9V battery (not included)

**D**: RJ45 jacks; tests Cat5, Cat6 and ISDN connections

**E**: FJ11 jacks; tests most telephone cables

**F**: FireWire / 1394 jacks; tests FireWire cables

**G**: USB Type B to Type A ports; tests the standard USB Type-B to Type-A cable

**H**: BNC jack; tests BNC cables using the included coaxial adapter

**I**: Test button; performs cable tests & turns the unit on

**J**: Short LED

**K**: Connected LED

**L**: Crossover LED

**M**: No Connection LED

**N**: Low Battery LED

**O**: Power LED

**P**: Numbered LEDs

**Q**: Chart for Numbered LEDs (**P**) that should light based on cable type


H
D
E
F
G
RJ-45
RJ-11
1394
USB
BNC
Cable Tester Wire Condition
J
M
SHORT
NO CONNECTION
K
CONNECTED
LOW BATTERY
N
L
CROSSOVER
POWER
O
P
G 1 4 5 6 7 8
RJ-45
RJ-11
1394
USB
BNC
Q
I
C
A
INTELLINET
NETWORK SOLUTIONS
B
CE
Remote Cable Tester
PUSH
D
E
F
G

# OPERATION

The 5-in-1 Cable Tester provides information about the correct or incorrect wiring of in-wall and out-of-wall cables. Pressing the Test button (**I**) turns on the power to the unit and, once a cable is connected to the tester, tests the cable. Follow these detailed instructions below to perform a test:

**WARNING!** This tester in not intended for use on powered circuits. Attaching this tester to a powered circuit can damage the device and injure the user.

1. Ensure a sufficiently charged 9V battery (not included) is in the battery compartment (**C**).
2. Press the Test Button (**I**). The Power Led (**O**) should light for five seconds or for as long as the button is pressed. If it does not light, replace the battery.
3. With the two ends of the cable plugged into the corresponding jacks on the Main and Remote units (**D**, **E**, **F**, **G**), briefly press the Test button (**I**) on the Main unit. The LED and audio indicators are explained below.

   **NOTE**: To test a BNC cable, connect one end to the Main unit (**H**) and cap the other end with the included coaxial adapter before pressing the Test button.

# READINGS

- **Power LED (O)**: Confirms that the battery is supplying power to the unit.
- **Low Battery LED (N)**: Indicates that the battery needs to be replaced.
- **No Connection LED (M) & One Beep**: Indicates that the Remote and Main units are not connected or that the connected cable has no intact conductors.
- **Connected LED (K), Low-High Beeps & Numbered LEDs (P)**: If all the appropriate Numbered LEDs light, the cable is okay. If none of the designated LEDs light in accordance with the cable type as shown in the LED chart (**Q**), the cable has an open fault.
- **Connected LED (K), Two Beeps, Crossover LED (L) & Numbered LEDs (P)**: Indicates a crossover fault.
- **Connected LED (K), Three Beeps, Short LED & Numbered LEDs (P)**: Indicates that the cable has a short; numbered LEDs indicate location; there may be multiple shorts if more than three LEDs light.
- The "G" LED in the Numbered LEDs (**P**) should light when testing RJ45 STP cable, but it should not light when testing RJ45 UTP cable.

## Additional Notes

This tester is not designed to detect faults in intentionally incomplete cables. For example, a standard RJ45 terminated Ethernet cable normally has eight conductors, but if only four conductors are used between connectors, the tester may not properly identify any faults.

- RJ11 cables can have up to six connections:
  - For two-connection cables, LEDs 3-4 should light.
  - For four-connection cables, LEDs 2-5 should light.
  - For six-connection cables, LEDs 1-6 should light.
- The Numbered LEDs (1-8) only indicate that a connection does indeed exist; it's not an indication of a good connection. If either the Short or Crossover LEDs are lit, there is a fault in the cable.

# CABLE CONDITION

## Damage

When a cable test results in a negative reading, the wire, the connectors or both may be at fault. If the cable has been installed and has been shown to work, it's likely that the wire or connectors have been abused in some way. While this tester can identify a "bad" cable, it cannot determine if the wire or the connectors are at fault. Examine the different parts of the cable to determine the cause of failure and take the appropriate steps to correct the problem.

## Pinpointing a fail location

Like many others, this tester cannot find the exact location of a fault or even determine which connector is "bad." It simply indicates that a fault exists. It is the user's responsibility to locate the fault and take appropriate action.

## Molded-on ends

The ends of many cables are molded on and thus cannot be opened up for repair. If the cable reads as "bad," either the entire cable must be replaced or the molded-on end(s) must be removed and replaced with user-serviceable connectors. An "Open" or "Short" reading is a common type of failure for this cable type.

## Cables with crimped-on RJ connectors

Connectors that are crimped on to cables cannot be reused or repaired; new connectors must be installed. If the cable was recently installed and it tests as either open or crossed, the RJ connectors have likely been installed incorrectly. Shorts very seldom occur as the result of a badly crimped RJ connector, so it's likely there's a problem with the wire.

## Conflicting readings/results

At times, the test results may conflict with the cable performance. For example, it may test "bad" but work fine or vice versa. The following are specific situational explanations.

- *The tester indicates the cable is bad but works fine on the network*: Installed LAN cables with RJ45 connectors that have been in service may test as open, shorted or crossed because the EIA/TIA 568 standard for LAN cables only uses four of the wires in an eight-wire cable. This tester checks all of the wires in a LAN cable and identifies any faults, even on wires that aren't being used.
- *The tester indicates the cable is good but it doesn't work on my LAN*: This tester only performs continuity-style tests (open, short, crossed, etc.). Because the pairings and connections may be incorrect, excessive cross talk in the cable can prevent it from working even though it tests okay.
  **Note**: Cross talk increases with cable length. A cable that's less than 10 feet long may work fine if it's incorrectly paired, but a longer cable paired the same way won't work.

# CAUTIONS

**WARNING!** This tester in not intended for use on powered circuits. Attaching this tester to a powered circuit can damage the device and injure the user.

In addition, the following safety guidelines should be kept in mind while using this tester for the protection of both the user and the device itself.

- Do not modify this tester. Do not use it with its case open or with any parts removed.
- Do not open this tester for maintenance without first disconnecting it from all external circuitry.
- Do not touch the ends of the cables when conducting tests.
- Do not apply voltage or current to any of the tester's connectors.
- Keep this tester out of the reach of children.
- Do not use this tester under adverse conditions — such as rain, snow, fog — or in locations in which there is steam, dust or explosive gases.
- Do not use this tester in condensing atmospheres (that is, anywhere ambient temperature or humidity could cause condensation inside the device).
- Do not use this tester when it is wet, even from cleaning.
- Avoid using this tester near strong magnetic (loudspeakers, transformers, etc.), RF (transmitters, cellphones, etc.) or electrostatic (power lines, computer monitors, etc.) fields, as this can result in erroneous readings.
- Remove the battery if anticipating periods of non-use exceeding one month, as chemical leakage can damage the tester.

# NOTES




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