IDEAL 33-855 Data Ethernet LCD Wire Mapper User Guide

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Contents

Introduction

The 33-855 LCD Wiretapper provides a simple way to map out 8 conductor twisted pair connections, verify wiring pinouts, and display detailed faults on RJ45 terminated cables. Installed cabling terminated with RJ45 jacks can also be tested when using patch cables (not supplied) to connect to the main unit and remote to the jacks. A built-in tone generator can be used for tracing and locating cables in wiring closets and patch panels. An analog amplifier probe (sold separately) is required to make the tone signal audible.

Safety Information

Risk of personal injury or risk of damage or destruction to equipment. Risk of electric shock. See manual for details. Read manual before using.

WARNING

This manual includes attention and safety rules that must be followed for the safety of the user and the instrument. Please read and understand the instructions before use.

- Do not place or use the instrument in dusty, high temperature, humid or wet environments.
- The main unit is powered by 2 x 1.5 AAA batteries. Do not use other batteries to power the instrument.
- Remove the battery when the instrument will not be used for a longer period of time.
- Do not use this instrument on known live circuits. Test circuits for voltage before connecting.
- Do not connect the tester to a live circuit. Exposure to voltage can damage the tester
- Visually inspect an RJ45 plug before inserting it into the tester. Poorly terminated plugs may damage the jacks on the tester.
  Do not plug a 6 position connector (RJ11/RJ12) into the tester. Damage to the test jacks may occur.
- Replace the batteries immediately when the low battery warning appears. Test results may not be accurate when the low battery warning is on.

Package Contents

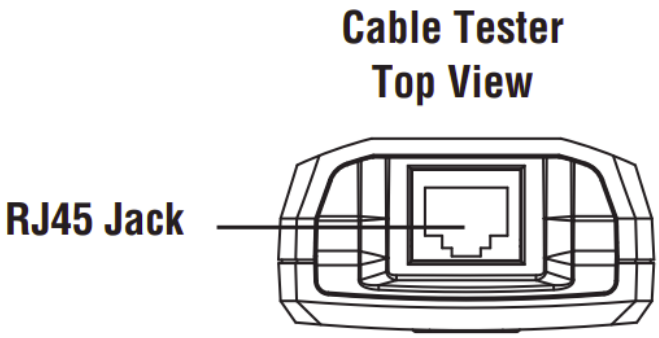
- (1) Main Test Unit
- (2) 1.5V AAA Batteries
- (1) Remote Unit
- (1) Instruction Manual

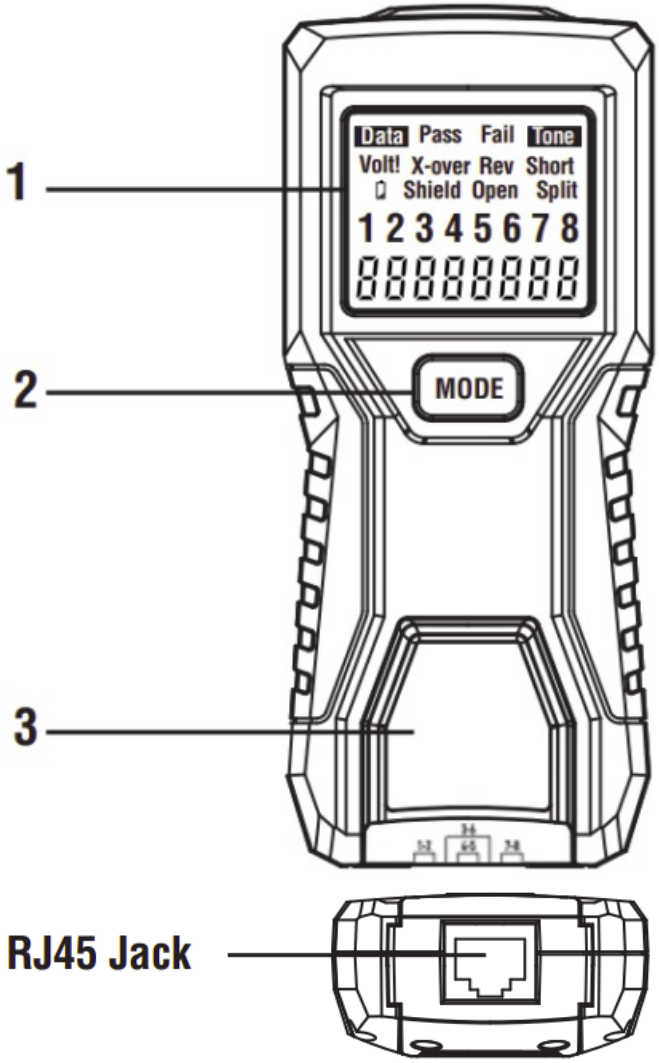
Features

Tester Description

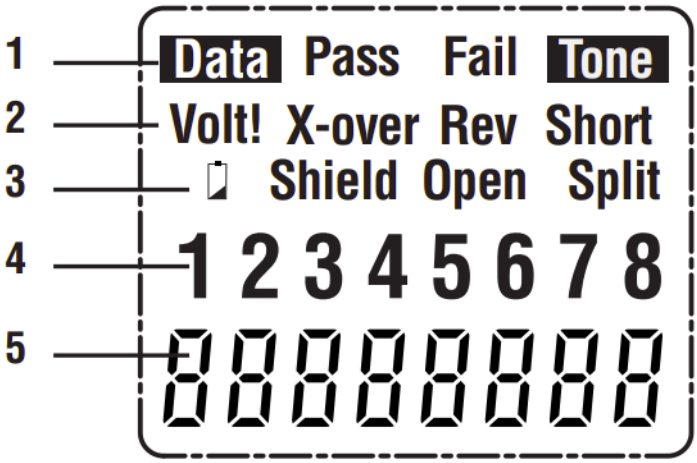
1. LCD Display
2. Mode Button
3. Detachable Remote

Product Overview





LCD Display



Row 1
Data: Appears when testing or toning a network cable.
Pass: Indicates proper wiring on cable being tested.
Fail: Indicates wiring error on cable being tested.
Tone: Appears when the tone generator is activated.

Row 2
Volt!: Flashes when the tester is connected to a cable with voltage on it. Exposure to voltage can damage the tester. If this warning appears, immediately disconnect the cable from the tester.

X-over: Appears when the tester detects a properly wired cross over cable.
Rev: Appears when the cable has reversed and crossed connections.
Short: Indicates that two or more wires are shorted to each other.

Row 3
Low battery Icon: When this symbol appears, the battery should be replaced immediately.
Shield: Appears when the cable being tested has a shield that is connected at both ends. The Shield indicator will flash if there is a short between the shield and any wire within the cable.
Open: Appears when one or more pairs are open.
Split: Appears when the tester detects the signal is split between two or more pairs.

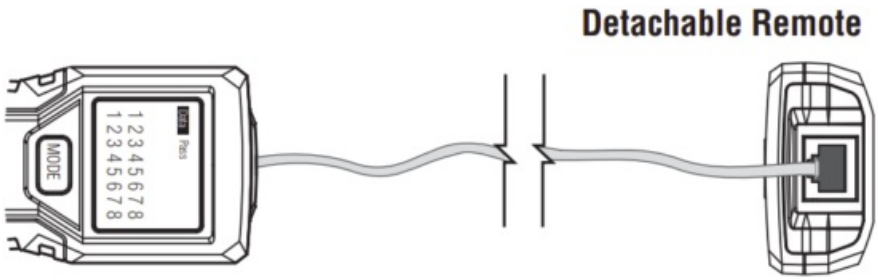
Row 4
Wire Map near end: Top row of numbers displays the connector pins on the tester end of the cable in numerical order. These will always show 1-8 and not change.

Row 5
Wire Map remote end: Bottom row of numbers displays the corresponding pin numbers on the remote end of the cable. These numbers will change. Dash lines indicate shorted pins. No pin numbers indicate an open pair.

Using the LCD Wiretapper

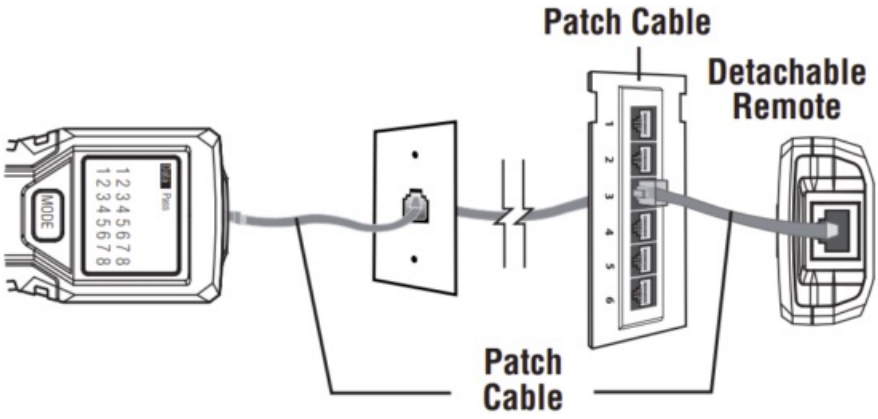
⚠ **WARNING:** Exposure to voltage can damage the tester. Immediately disconnect the cable under test if the Voltage warning appears on the display. Make sure the cable is not connected to any device that can supply voltage before retesting.

Testing a Cable Terminated with RJ45 Modular Plugs



1. Connect one end the cable under test to the RJ45 port on the tester.
2. Detach the remote from the bottom of the tester.
3. Connect the other end of the cable under test to the RJ45 port on the remote.
4. Momentarily press the MODE button.
5. Interpret the results using the Wiring and Display Examples below.
6. To turn the unit off, press and hold the MODE button until the screen displays OFF, then release the MODE button.

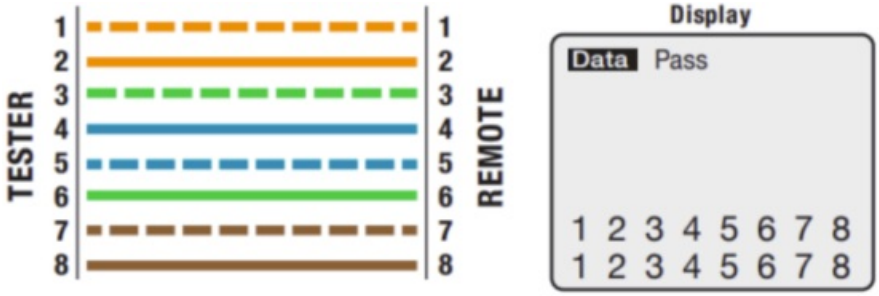
Testing an Installed Data Cable with RJ45 Jacks



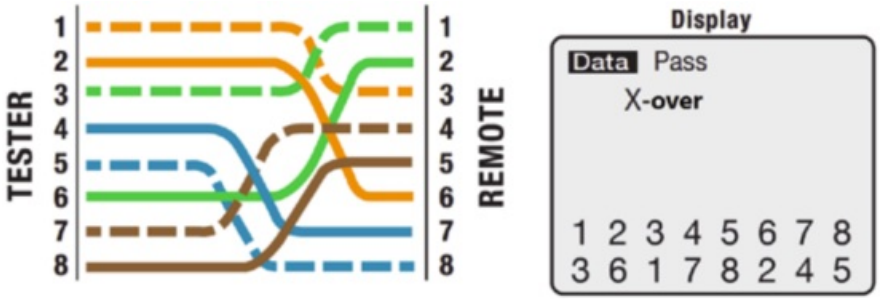
1. Connect a known good patch cable to the wall port or patch panel of the cable being tested.
2. Connect the other end of the patch cable to the RJ45 port on the tester.
3. Detach the remote from the bottom of the tester.
4. Connect another known good patch cable to the RJ45 port on the remote.
5. Connect the other end of the patch cable to the wall port or patch panel at the other end of the cable being tested.
6. Momentarily press the MODE button.
7. Interpret the test results using the wiring and display examples shown.

Wiring and Display Examples

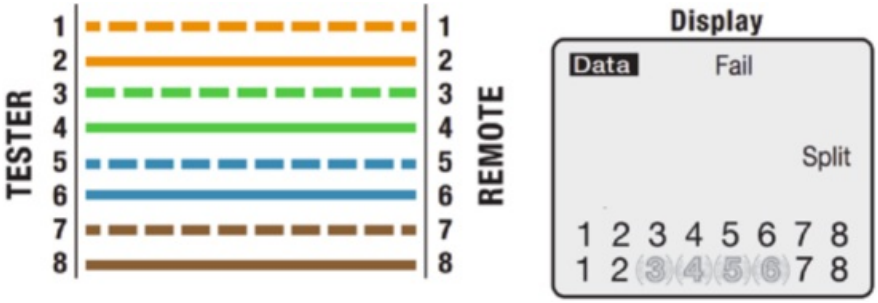
Correct Wiring of a Twisted Pair 8 Conductor Cable (PASS)
Pass appears on the display indicating a properly wired cable. The pin numbers on the top row and bottom row are the same, indicating proper continuity. T-568B wiring shown in examples.



Correct Wiring of a Crossover Cable (PASS)
The pairs cross over (transmit to receive and receive to transmit). Pass and X-over will appear on the display and the pin numbers on the bottom row indicate the corresponding cross over to the pin numbers on the top row.



Split Pair Error (FAIL)
There is a split between the pairs on pins 3, 4 and 5, 6. Fail and Split appear on the display and the pin numbers with the split will flash indicating which pairs are split.

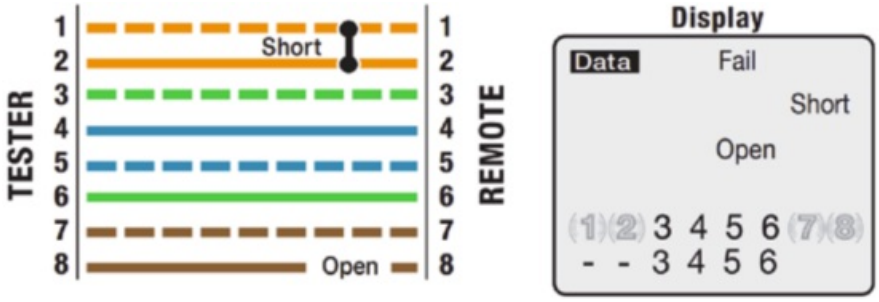


Reversed Wire Error (FAIL)

The pair on pins 1 and 2 is reversed and the wires on pins 5 and 6 are crossed at one end of the cable. Fail and Rev will appear on the display and the pins with wiring errors will flash. Pins 2 and 1 shown below pins 1 and 2 indicate a reversal on the Orange pair. Pins 6 and 5 shown below 5 and 6 indicate a crossed connection.

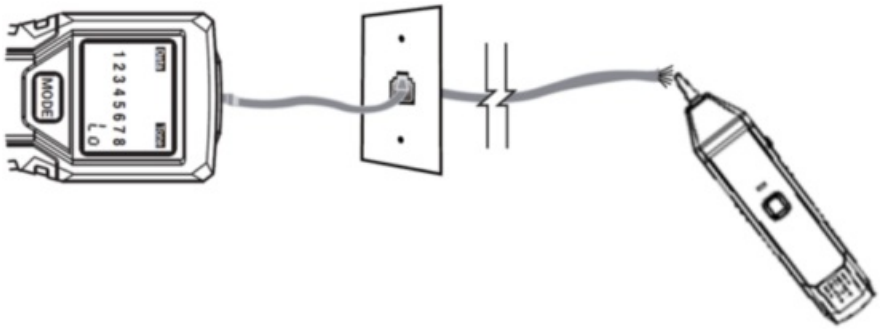
Open and Short Wire Error (FAIL)

Pins 1 and 2 are shorted and the pair on pins 7 and 8 is open. Fail, Short and Open appear on the display and the pins with wiring errors will flash. Dash lines will appear below the shorted pins and a blank space will appear below the open pair.



Using the Tone Generator Function

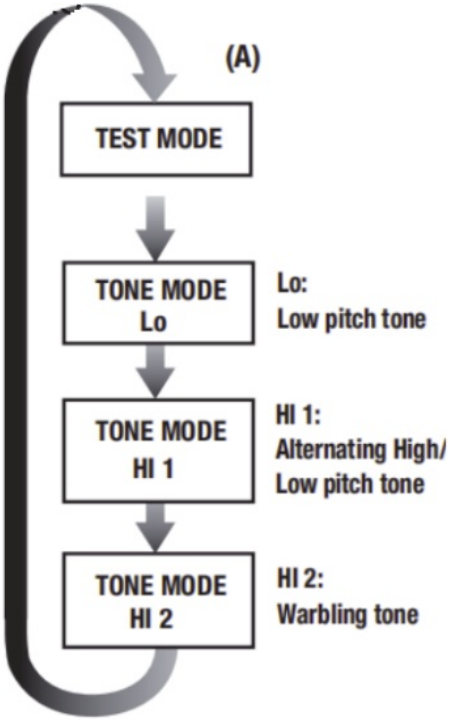
NOTE: It is necessary to use a separate (not included) analog amplifier probe to hear the tone.



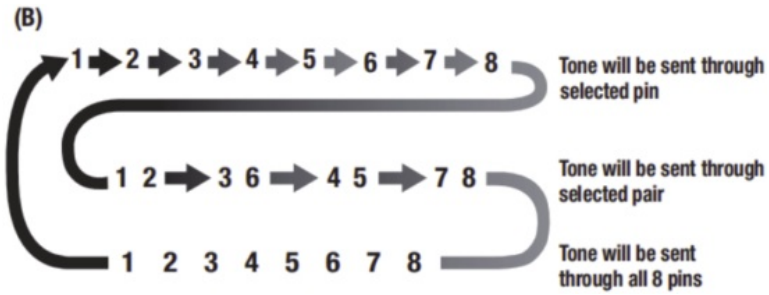
1. Connect the cable under test to the RJ45 port on the tester.
2. Press and hold the MODE button. Release the MODE button as soon as Tone appears on the LCD display.
3. To change tones, press the MODE button for approximately one second. Refer to sequence chart (A) for description of tone selection.
4. The pin that is sending the tone will be displayed at the bottom of the LCD display. Repeatedly press the MODE

button with short presses to select the desired pins. Refer to sequence chart (B)below for explanation of pin selection.

5. To turn off the tone generator, press and hold the MODE button.
   Release the button as soon as OFF appears on the display.



NOTE: When tracing a cable run from the tone generator to the end of the cable, applying the tone on a single pin will allow the tone to be detected at a greater distance from the cable. When trying to locate a cable in an equipment room or patch panel, sending the tone through all 8 pins or a single pair will limit the tone signal from spreading to other nearby cables. The tone will be loudest when the probe tip is placed directly on the wires the tone is being sent through at the end of the cable. when sending a tone through a single pair, verification can be made by shorting the suspected pair. The tone will be very faint when the pair the tone is being sent through is shorted.



General Specifications

Cable Types	Shielded or unshielded: CAT7; CAT 6A, CAT6, CAT 5e, CAT3 (8 conductor)
Maximum Cable Resistance	100 Ohms DC
Minimum Cable Length for Split Pair Detection	1.6 ft. (0.6m)
Maximum Cable Length	1000 ft. (305m)
Maximum Voltage Protection between any two pins	60V DC; 55V AC
Dimensions	5.1*2.2*1.1 in. (128*55*28mm)
Weight	5 oz (144g)
Humidity	10% to 90%, non-condensing
Operating Temperature	32°F~122°F (0°C~50°C)
Storage Temperature	-4°F~140°F (-20°C~60°C)
Battery	1.5V AAA x 2 (main unit)

Maintenance

- Keep the tester dry. If it gets wet, wipe it off. Do not use until the unit is completely dry.
- Clean with case with a dry cloth. Do not use chemicals, detergents or solvents.
- Use and store the tester in normal temperatures within the range noted above.
- Handle the tester with care. Dropping it can damage the electronic parts of the case.
- Remove the batter when the instrument will not be used for a longer period of time.
- There are no user serviceable parts inside the unit.

Battery Installation and Replacement

- Turn unit off.
- Remove the battery door with Phillips screwdriver.
- Open battery door.
- Install or replace the two AAA batteries.
- Replace battery door and screw.

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Documents / Resources

	IDEAL 33-855 Data Ethernet LCD Wire Mapper [pdf] User Guide 33-855 Data Ethernet LCD Wire Mapper, 33-855, Data Ethernet LCD Wire Mapper, LCD Wire Mapper, Wire Mapper, Mapper

References

- User Manual