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WANLUTECH LT-300S

Rechargeable Digital Tone Cable Tester

Model: LT-300S | Brand: WANLUTECH

1. Introduction

The WANLUTECH LT-300S is a versatile and rechargeable digital tone cable tester designed for network professionals and enthusiasts. It integrates multiple functions including an Optical Power Meter (OPM), Visual Fault Locator (VFL), PoE testing, cable continuity testing, port flashing, and Non-Contact Voltage (NCV) detection. This manual provides detailed instructions for the proper use, setup, and maintenance of your LT-300S device.



Image: The WANLUTECH LT-300S Digital Tone Cable Tester, showing both the main unit and the probe, along with included accessories.

2. What's in the Box

Please check the package contents to ensure all items are present:

- LT-300S Cable Tester (Main Unit and Probe)
- Packing box
- Tool bag
- Small screwdriver
- RJ45 to BNC converter
- Type-C charging cable
- RJ11 cable
- RJ45 cable

- BNC alligator clip cable

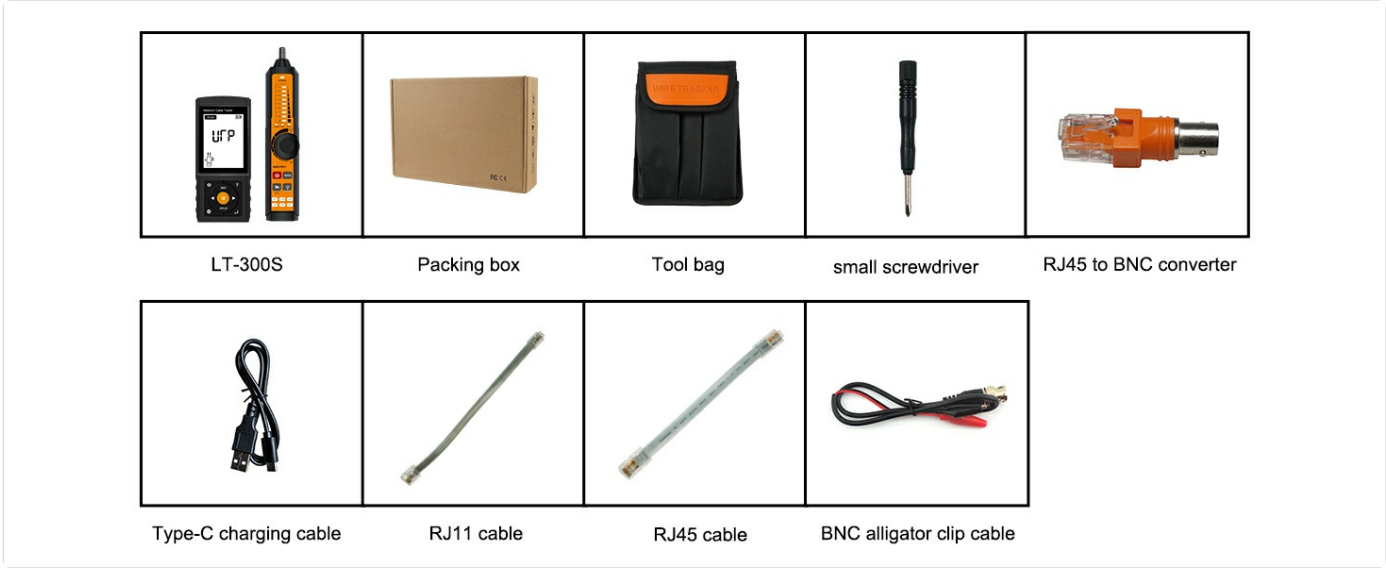


Image: A visual representation of all items included in the product package, laid out clearly.

3. Product Overview

3.1 Tone Generator (Probe) Port Introductions



Image: Detailed diagram illustrating the various ports, indicators, and buttons on the tone generator (probe) unit.

- **Light:** Illuminates the work area.
- **Power Indicator:** Shows power status.
- **Wire Mapping/Continuity Testing / Signal Strength Indicator:** LEDs indicating wire status and signal strength.
- **Shield Continuity LED:** Indicates shield continuity.
- **SCAN:** Cable trace mode.
- **NCV:** Non-contact voltage detection mode.
- **RJ45:** Tests the quality of the RJ45 plug on the probe.
- **Adjust Sensitivity:** Rotary knob to adjust the sensitivity of the probe for tracking cables.
- **Mode (SCAN/NCV/RJ45):** Button to switch between different operating modes.
- **Light Switch Button:** Toggles the light on/off.

- **Cable Type Indicator (Straight/Cross/Other):** Indicates the type of cable detected.
- **SNCV:** When SNCV mode is enabled, the voltage detection sensitivity is increased.
- **1000M/100M Indicator:** Shows network speed.
- **SNCV/Mute Mode:** Long press to mute.
- **Power Button:** Turns the unit on/off.
- **USB Type-C Charging Port (5V/1A input):** For charging the probe unit.
- **PD PoE Power Detection Port:** For detecting PoE power (blinking for standard PoE, solid light for non-standard PoE).
- **Earphone Jack:** For connecting earphones.
- **UTP Cable Test Port:** For connecting UTP cables.

3.2 Tone Generator (Main Unit) Port Introductions

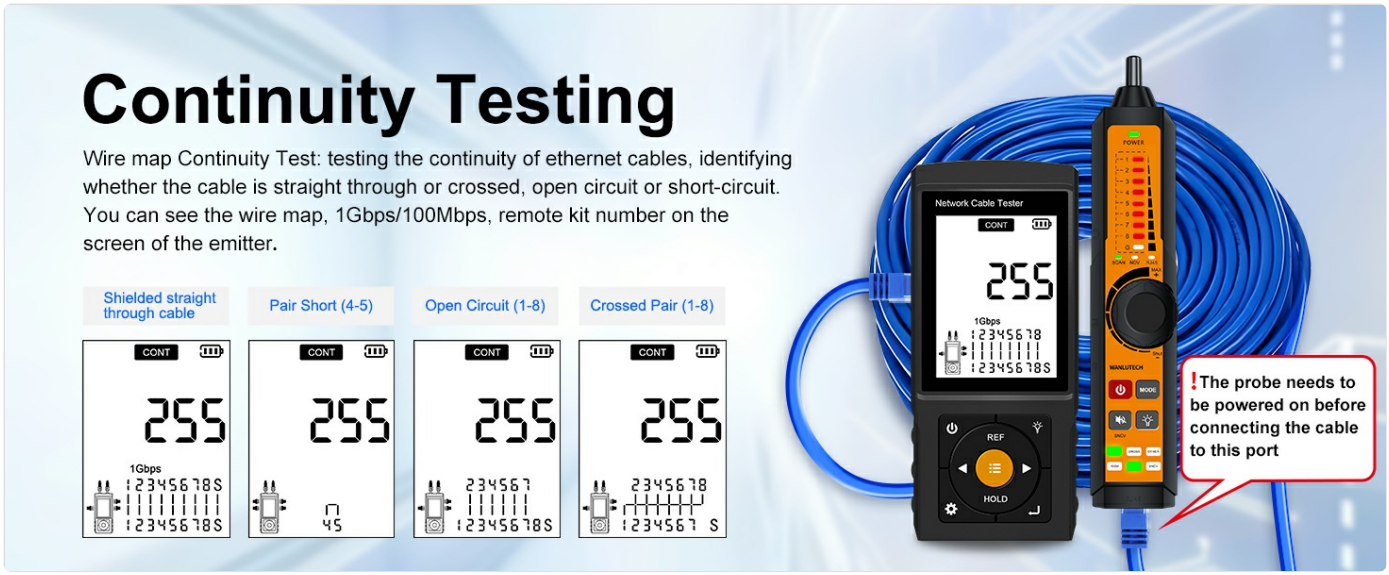


Image: Detailed diagram illustrating the various ports, indicators, and buttons on the main unit of the tone generator.

- **Port Indication:** Displays current port status.
- **Main Mode Cycle Button:** Cycles through main operating modes.
- **Power Button:** Turns the unit on/off (Red light: charging; Full light: off).
- **Left Arrow Selection Button:** Navigates left in menus.
- **SET Button:** Sets backlight auto-off time & power-off time; long press for manual calibrate optical power.
- **Pair Test/Continuity Test / Cable Tracing:** Port for these functions.
- **Port Flashing/Cable Length Test:** Port for these functions.
- **PoE Input:** Used to connect to a PoE switch.
- **PoE Output:** Not for powering other devices. Used for load testing, detecting PoE power from a switch to a PoE camera.
- **Confirm Button:** Confirms selections.
- **Optical Power Lock Button:** Locks optical power readings.
- **Right Arrow Selection Button:** Navigates right in menus.
- **Light Switch Button:** Toggles screen backlight.
- **Optical Power Difference Button:** Calculates optical power difference.
- **USB Type-C Charging Port (5V/1A input):** For charging the main unit.
- **Optical Power Meter:** Port for OPM function.
- **Visual Fault Locator:** Port for VFL function.

4. Setup

4.1 Charging the Device

The LT-300S features a built-in 3.7V 2000mAh lithium battery. Before first use, or when the battery indicator is low, charge both the main unit and the probe using the provided Type-C charging cable.

1. Connect the Type-C charging cable to the charging port on both the main unit and the probe.
2. Connect the other end of the cable to a standard USB power adapter (5V/1A recommended).
3. The power indicator light will show charging status (red while charging, off when fully charged).



Image: The main unit and probe being charged simultaneously from a power outlet using USB-C cables.

5. Operating Instructions

5.1 Digital Tone Cable Tracer

This function helps in searching for BNC, network, and telephone cables from cluttered bundles, including shielded network cables.

1. Connect the cable to be traced to the appropriate port on the main unit.
2. Select the 'SCAN' mode on the probe.
3. Use the probe to scan the cables. The signal strength indicator on the probe will help locate the correct cable.
4. To switch between UTP (Unshielded Twisted Pair) and STP (Shielded Twisted Pair) modes, press the left and right arrow buttons after selecting cable tracing mode.



Image: Demonstrates the use of the digital tone cable tracer to identify a specific cable within a bundle, showing the main unit connected and the probe being used to scan.

5.2 Continuity Testing (Wire Map)

Test twisted pair cables for continuity, identifying open, short, or cross connections. The cable sequence (1Gbps/100Mbps) and remote kit number are displayed on the emitter's screen.

1. Ensure the probe is powered on before connecting the cable to its port.
2. Connect one end of the RJ45 cable to the main unit's 'Pair Test/Continuity Test' port and the other end to the probe's RJ45 port.
3. The screen will display the wire map, indicating any faults such as open circuits, short circuits, or crossed pairs.
4. The device supports detection of near-end, mid-end, and far-end fault points of the RJ45 cable plug.



Image: The main unit displaying the wire map results during a continuity test, with the cable connected to both the main unit and the probe.

5.3 Optical Power Meter (OPM)

The built-in OPM supports calibrated wavelengths 850/980/1270/1300/1310/1490/1550/1577/1625/1650nm with a power range of -70~+6dBm.

1. Connect the fiber optic cable to the OPM port on the main unit.
2. Select the OPM function on the device.
3. The screen will display the optical power reading in dBm.

4. Use the SET button (long press) for manual calibration of optical power if needed.

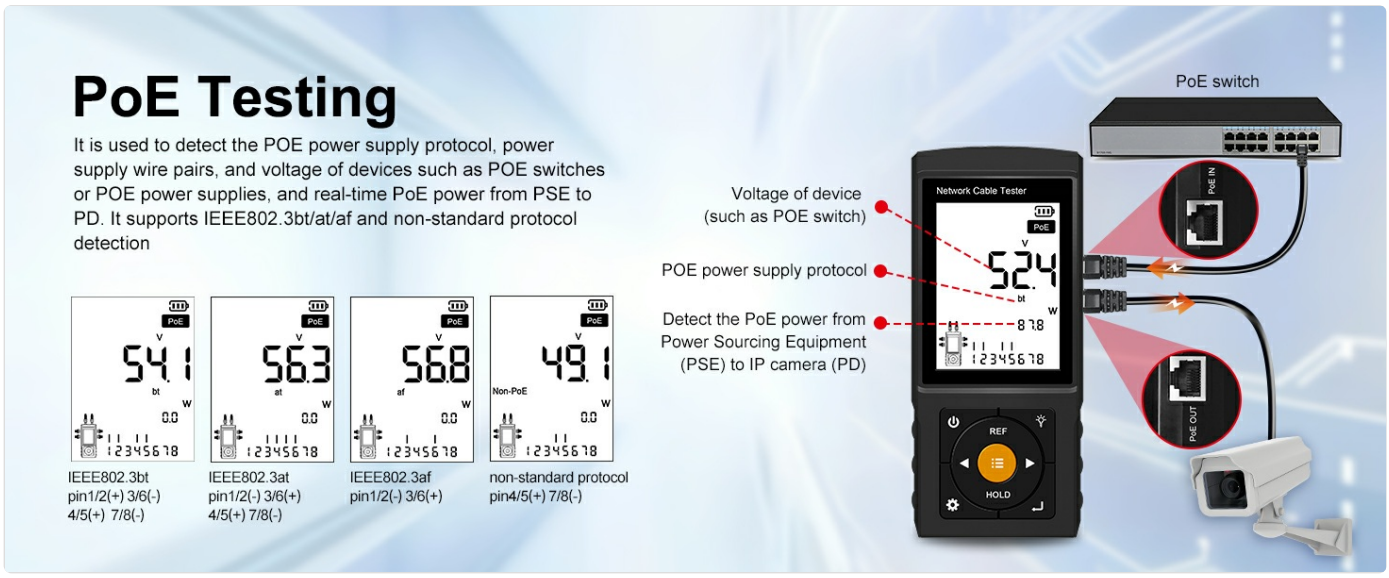


Image: The main unit connected to an optical fiber device, displaying an optical power reading on its screen.

5.4 Visual Fault Locator (VFL)

The VFL emits a visible red light (650nm wavelength) to detect faults like breakage, cracking, or bending in fiber optic lines. Modulation mode is CW 1Hz/2Hz.

1. Connect the fiber optic cable to the VFL port on the main unit.
2. Activate the VFL function.
3. Observe the fiber optic cable for red light leakage, which indicates a fault.



Image: The main unit connected to a fiber optic cable, with red light emanating from the cable end, indicating the VFL function is active.

5.5 PoE Testing

Detect PoE power supply protocol, power supply wire pairs, voltage, and real-time power of PD load devices (e.g., PoE cameras). Supports IEEE802.3bt/at/af and non-standard protocols.

1. Connect the PoE input port of the main unit to the PoE switch.
2. Connect the PoE output port of the main unit to the PoE camera or PD device.
3. The screen will display the PoE power supply protocol, voltage, and real-time power consumption.

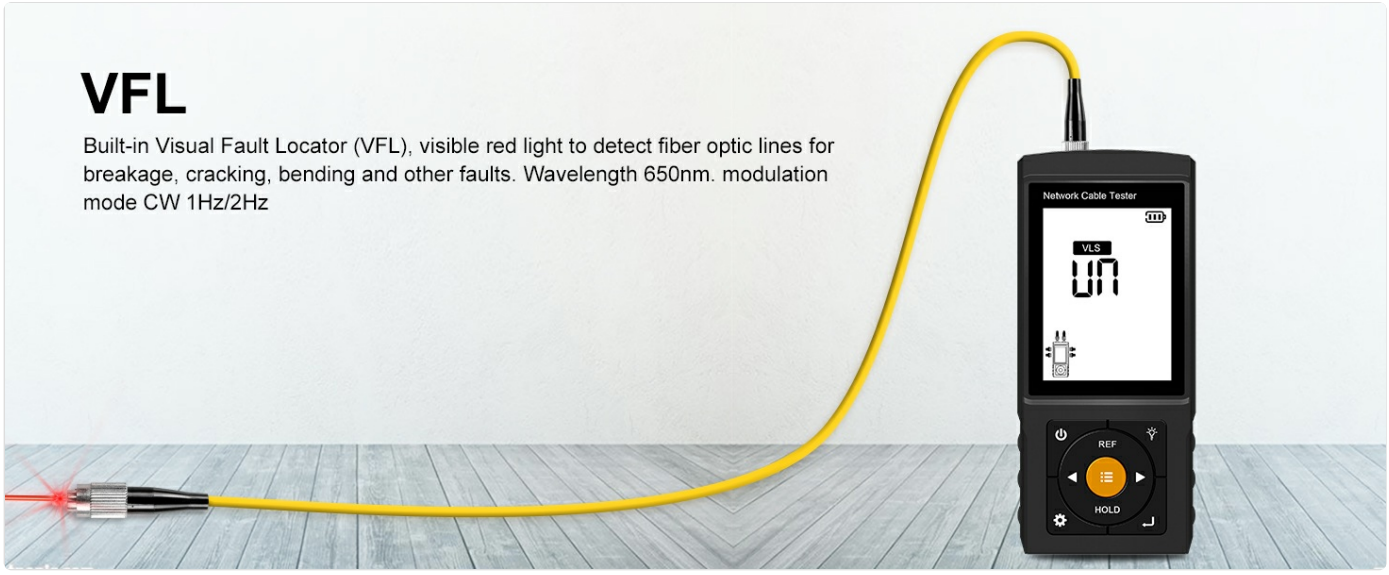


Image: The main unit connected between a PoE switch and a PoE camera, displaying PoE voltage and power readings.

5.6 Non-Contact Voltage (NCV) Mode

The NCV mode works for AC voltage detection. When the tone probe detects AC voltage, it will beep and light up.

1. Select 'SCAN + NCV' mode on the probe.
2. Press the button to enter the mode for increasing voltage detection sensitivity.
3. Bring the probe near an AC voltage source. The power-seeking indicator will flash and an alarm will sound.
4. Indicators 1-5 on the probe will flash to indicate the current strength of the signal.

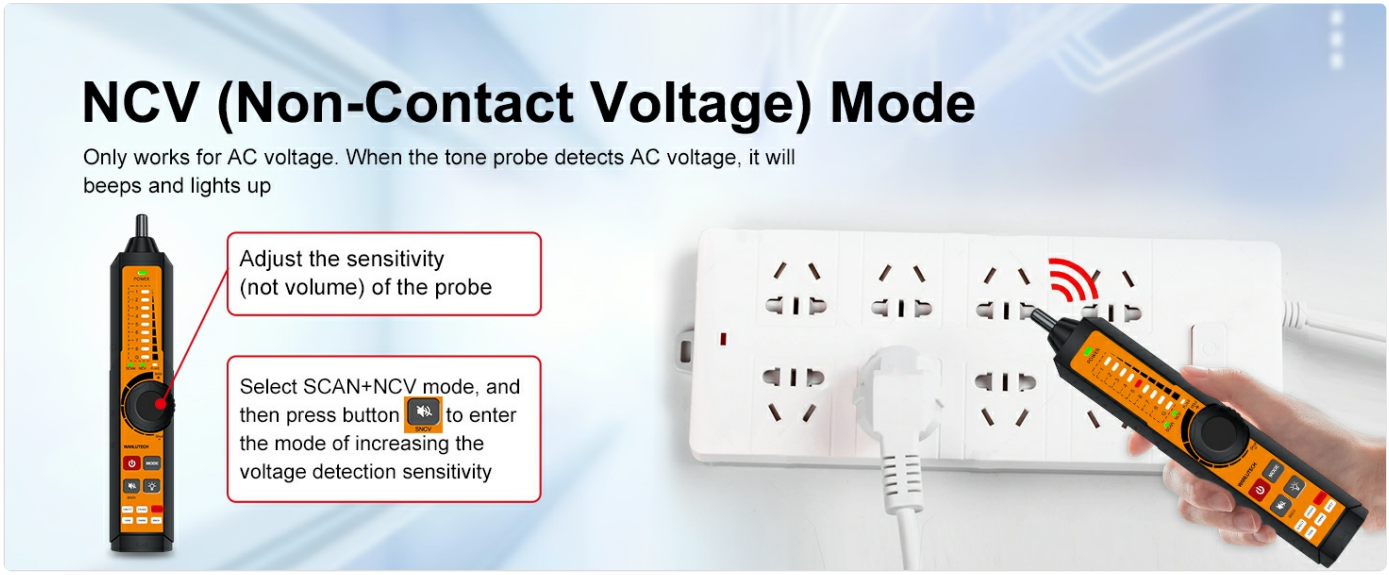


Image: The probe detecting AC voltage from a power strip, with the NCV indicator lighting up.

5.7 Port Flashing

This function helps quickly locate the switch port to which the tester is connected by making the switch port flash at a fixed frequency.

1. Connect the main unit to a network switch port.
2. Activate the 'Port Flashing' function on the main unit.
3. The connected switch port will flash, allowing for easy identification.
4. The screen will also display the port rate (1Gbps/100Mbps/10Mbps).

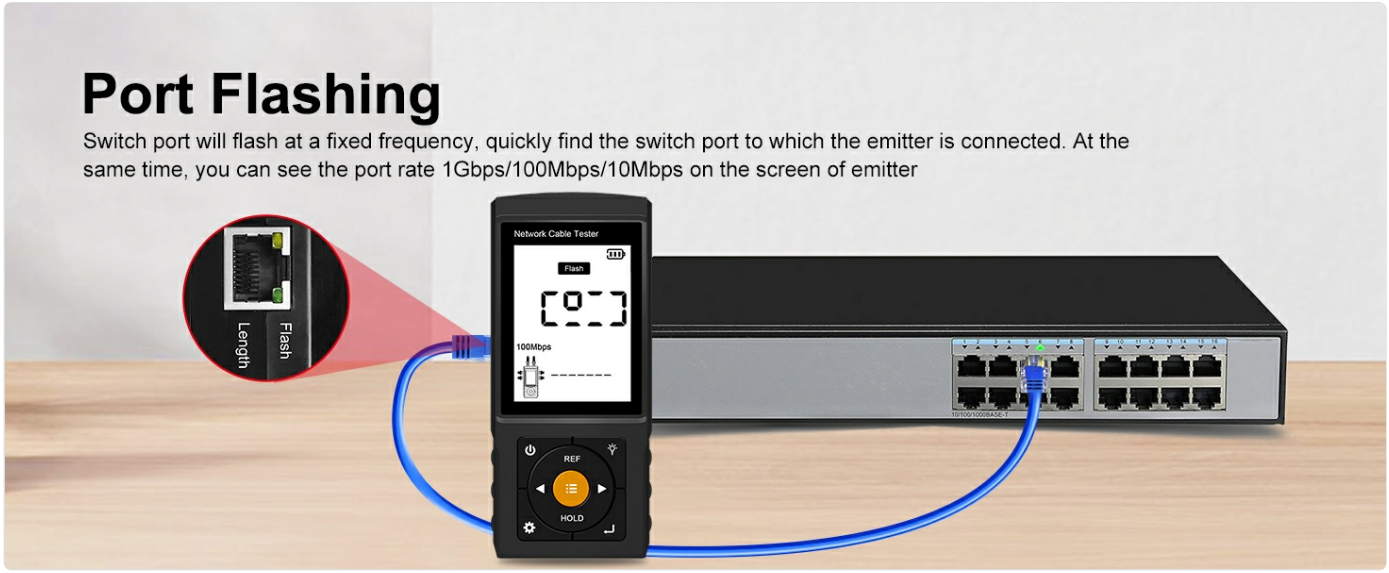


Image: The main unit connected to a network switch, with the screen showing the port flashing indicator and the corresponding port on the switch blinking.

5.8 PD Power Detection

Detects power delivery over specific pin pairs from a PoE switch or PSE.

1. Connect the PD port of the tone probe to a power supply device (e.g., PoE switch or PSE).
2. Observe the indicator lights on the PD port:
   - **12 36 Light ON:** Power is delivered over pairs 1-2 & 3-6.
   - **45 78 Light ON:** Power is delivered over pairs 4-5 & 7-8.
   - **Both 12 36 & 45 78 Lights ON:** Power is delivered over all 4 pairs (1-2, 3-6, 4-5, 7-8).
3. **Light always on:** Indicates non-standard PoE access.
4. **Light blinking:** Indicates standard PoE access (IEEE 802.3af/at/bt PoE).
5. Supports testing of 24V and 48V PoE power supply equipment.



Image: The probe connected to a network switch, with an inset showing the PD port indicators for power detection.

5.9 Cable Length Measurement

Measure the length of network cables within 1-600 meters (1968 ft) in open/short conditions.**NOTE:** The other end of the cable must NOT be connected to any device when measuring length.

1. Select 'Length' mode on the main unit.
2. Press the 'confirm' button to measure the length.
3. To switch length units (meters/feet):
    - Press the '+' button three times to enter the unit selection.
    - Press the 'confirm' button to choose M/FT.
    - Press the 'confirm' button again to save your selection.



Image: The main unit displaying cable length measurements in meters, with various cable conditions shown.

5.10 RJ45 Connector Crimp Quality Testing

Verify the crimp quality of an RJ45 connector.

1. Select 'RJ45' mode on the probe.
2. Connect the RJ45 connector to the probe's RJ45 port.
3. The device will indicate if the crimp is proper or if there's a problem (e.g., with Pin 5).

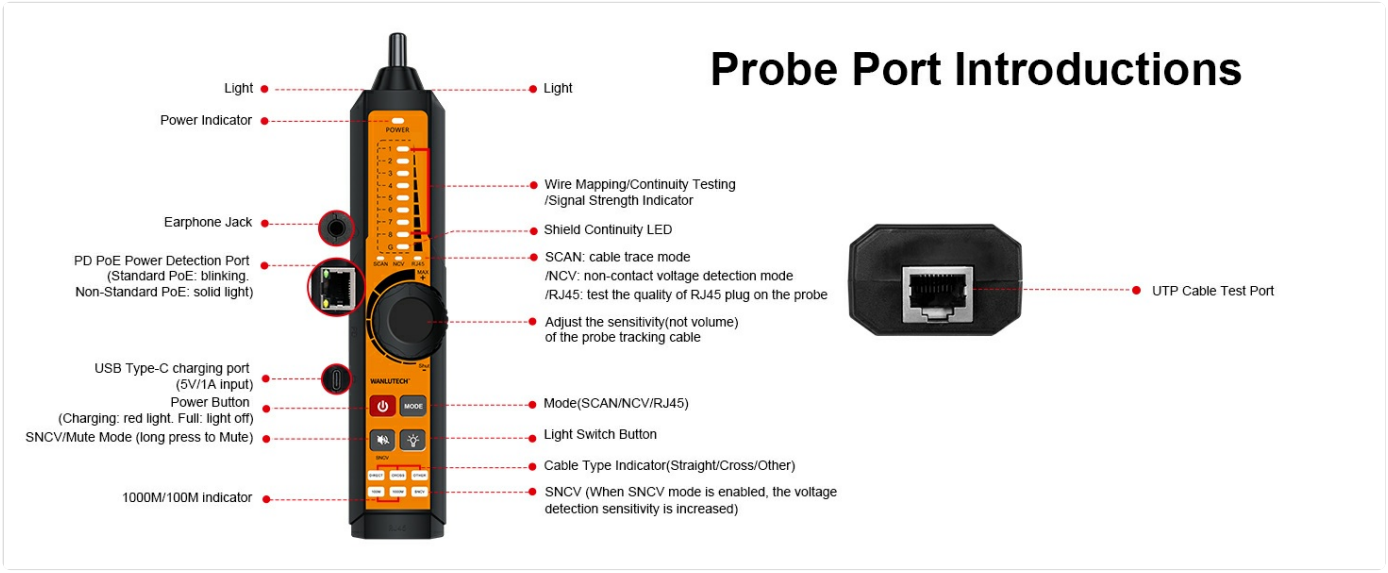


Image: The main unit and probe connected to an RJ45 cable, demonstrating the crimp quality test and displaying results for proper and problematic crimps.

6. Settings

6.1 Setting Backlight Time and Auto Power Off Time

Adjust the backlight duration and the automatic power-off time to conserve battery life.

1. **Auto Power-off Time Setting:**
    - After powering off, press and hold the Probe button "MODE", then press the power button to enter the power-off timer setting.
    - Indicators ("DIRECT", "CROSS", "OTHER") LEDs will blink.
    - Press the "MODE" button to modify the power-off time (1 LED = 10 minutes, e.g., 3 LEDs = 30 minutes).
    - Press the power button to save the setting.
2. **Backlight Time Setting:**
    - Press the SET button twice to access the backlight time setting.
    - Press the right arrow button to cycle through options (5-60 seconds).
    - Press the SET button to save your selection.



Image: Diagrams showing the steps to adjust the backlight duration and auto power-off time on the main unit and probe.

7. Maintenance

To ensure the longevity and optimal performance of your WANLUTECH LT-300S, follow these maintenance guidelines:

- **Cleaning:** Use a soft, dry cloth to clean the device. Do not use abrasive cleaners or solvents.
- **Storage:** Store the device in a cool, dry place away from direct sunlight and extreme temperatures. Use the provided tool bag for protection.
- **Battery Care:** Recharge the battery regularly, even if the device is not in frequent use, to maintain battery health. Avoid fully discharging the battery for extended periods.
- **Port Protection:** Keep all ports free from dust and debris. Use protective caps if provided.

8. Troubleshooting

If you encounter issues with your LT-300S, consider the following general troubleshooting steps:

- **Device Not Powering On:** Ensure the device is fully charged. Connect it to a power source and check the charging indicator.
- **Inaccurate Readings:** Ensure cables are properly connected and free from damage. Check for correct mode selection for the test being performed.
- **No Signal Detection:** Verify that the cable is correctly connected to both the main unit and the probe. Adjust sensitivity settings if applicable (e.g., for cable tracing).
- **Screen Issues:** If the screen is dim, check the backlight settings. If the screen is unresponsive, try restarting the device.

For persistent issues or specific technical support, please refer to the 'Support and Warranty' section.

9. Specifications

Feature	Specification
Model Number	LT-300S
Battery	3.7V 2000mAh Lithium Polymer (included)
Screen Size	3 inches
Optical Power Meter Wavelengths	850/980/1270/1300/1310/1490/1550/1577/1625/1650nm
Optical Power Meter Range	-70~+6dBm
Visual Fault Locator Wavelength	650nm
Cable Length Measurement Range	1-600 meters (1968 feet)
PoE Protocol Support	IEEE802.3bt/at/af and non-standard protocols
Charging Input	5V/1A (USB Type-C)
Package Dimensions	9.45 x 6.69 x 1.97 inches
Item Weight	1.32 Pounds
Color	Black + Orange

10. Support and Warranty

WANLUTECH is committed to providing high-quality products and excellent customer service. If you have any questions or require assistance with your LT-300S Digital Tone Cable Tester, please do not hesitate to contact us.

We are the manufacturer and aim to respond to all inquiries within 12 hours.

Contacting Support:

- **Through Amazon:**
  1. Find your order on your Amazon account, view order details, and click 'Get Product Support' to message us directly.

2. Alternatively, on the product detail page, click on 'WANGLU TESTER' (the seller name) and then message us.

For information regarding product warranty, please refer to the terms and conditions provided at the time of purchase or contact our support team.

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