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Henkion LT-600T

Henkion Multifunction Network Cable Tester LT-600T User Manual

Model: LT-600T | Brand: Henkion

1. INTRODUCTION AND OVERVIEW

The Henkion LT-600T is a versatile multifunction network cable tester designed for comprehensive network and cable diagnostics. It integrates various testing capabilities including UTP/STP cable testing, Time Domain Reflectometer (TDR), Digital Multimeter (DMM), Optical Power Meter (OPM), Visual Fault Locator (VFL), Power over Ethernet (PoE) detection, cable tracing, and a suite of network tools. This device is engineered to provide accurate and efficient solutions for network installation, maintenance, and troubleshooting.



Figure 1: Henkion LT-600T Main Unit and Remote Receiver

The main unit features a 4-inch IPS touch screen for intuitive operation, while the remote unit assists in various cable tests. The LT-600T is equipped with rechargeable lithium-ion batteries for extended use in the field.

2. PRODUCT FEATURES

The LT-600T offers a wide array of functionalities:

- **UTP/STP Cable Tester & Tracer:** Checks wire sequence, cable type, and detects faults (near-end, mid-span, far-end) for RJ45 connectors. The digital cable tracer identifies target cables (BNC, network, telephone, metallic) and rejects noise.
- **Digital Multimeter (DMM):** Auto-ranging measurement of voltage, resistance, and continuity with isolation protection.
- **Optical Power Meter (OPM):** Tests signal power and insertion loss for various fiber optic components across wavelengths (850/1300/1310/1490/1550/1625nm) with a measurement range of -70 to +10 dBm.
- **Visual Fault Locator (VFL):** Class 2, 650nm wavelength,
- **PoE++ Detection:** Supports IEEE 802.3BT/AT/AF and non-standard PoE protocols, displaying supply voltage,

power pins, and pin polarity.

- **Network Tools:** Includes IP discovery, IP scanning, PING testing, LLDP/CDP detection, port flashing, and PPPoE dial-up.
- **TDR (Time Domain Reflectometer):** Locates breaks and short circuits in cables up to 1200 meters (3937 feet).
- **Level Meter:** Measures peak level, sync level, and burst level of video signals for coaxial camera systems.
- **RJ45 TDR Cable Test & Length Measurement:** Tests pair status, length, attenuation, reflectivity, impedance, and skew for cables up to 180 meters (590 feet). Measures open circuits in network cables up to 3000 meters.
- **Display & Battery:** 4-inch IPS touch screen with 800*480 resolution. Emitter: 3.7V 4000mAh lithium-ion rechargeable battery (approx. 6 hours working time). Receiver: 3.7V 2000mAh lithium-ion rechargeable battery (approx. 12 hours working time).

3. SETUP

3.1. Unboxing and Package Contents

Carefully unpack the device and verify all components are present. Refer to the packing list below:

Rechargeable Cable Tester

4 inch IPS touch screen, 800*480 resolution.

Emitter: **3.7V 4000mAh** lithium-ion rechargeable battery(working time about **6** hours)

Receiver: **3.7V 2000mAh** lithium-ion rechargeable battery(working time about **12** hours)



4000mAh



Packing List

- | | | | | |
|------------------|-----------------------------|----------------------------|-------------------------|------------------|
| 1 Manual x1 | 2 Type-C cable x1 | 3 RJ45 to BNC connector x1 | 4 Screwdriver x1 | 5 Lanyard x1 |
| 6 Tool Bag x1 | 7 Host x1 | 8 Receiver x1 | 9 BNC alligator clip x1 | 10 RJ45 cable x1 |
| 11 RJ11 cable x1 | 12 Multimeter test cable x1 | 13 Packing box x1 | | |

Figure 2: Rechargeable Cable Tester and Packing List

1. Manual x1
2. Type-C cable x1
3. RJ45 to BNC connector x1
4. Screwdriver x1
5. Lanyard x1
6. Tool Bag x1
7. Host x1 (Main Unit)
8. Receiver x1
9. BNC alligator clip x1
10. RJ45 cable x1
11. RJ11 cable x1
12. Multimeter test cable x1
13. Packing box x1

Figure 3: LT-600T Main Unit and Receiver Details

4.1. UTP Cable Test

This function tests the continuity and wiring sequence of UTP/STP RJ45 cables. It can detect faults at the near-end, mid-span, or far-end.

1. Connect one end of the RJ45 cable to the 'RJ45 Network Port' on the main unit and the other end to the 'UTP Cable Test Port' on the receiver.
2. On the main unit's touch screen, navigate to the 'Cable Tester' or 'UTP Test' function.
3. The screen will display the connection sequence, cable type (e.g., 1000/100M), and identify any faults.

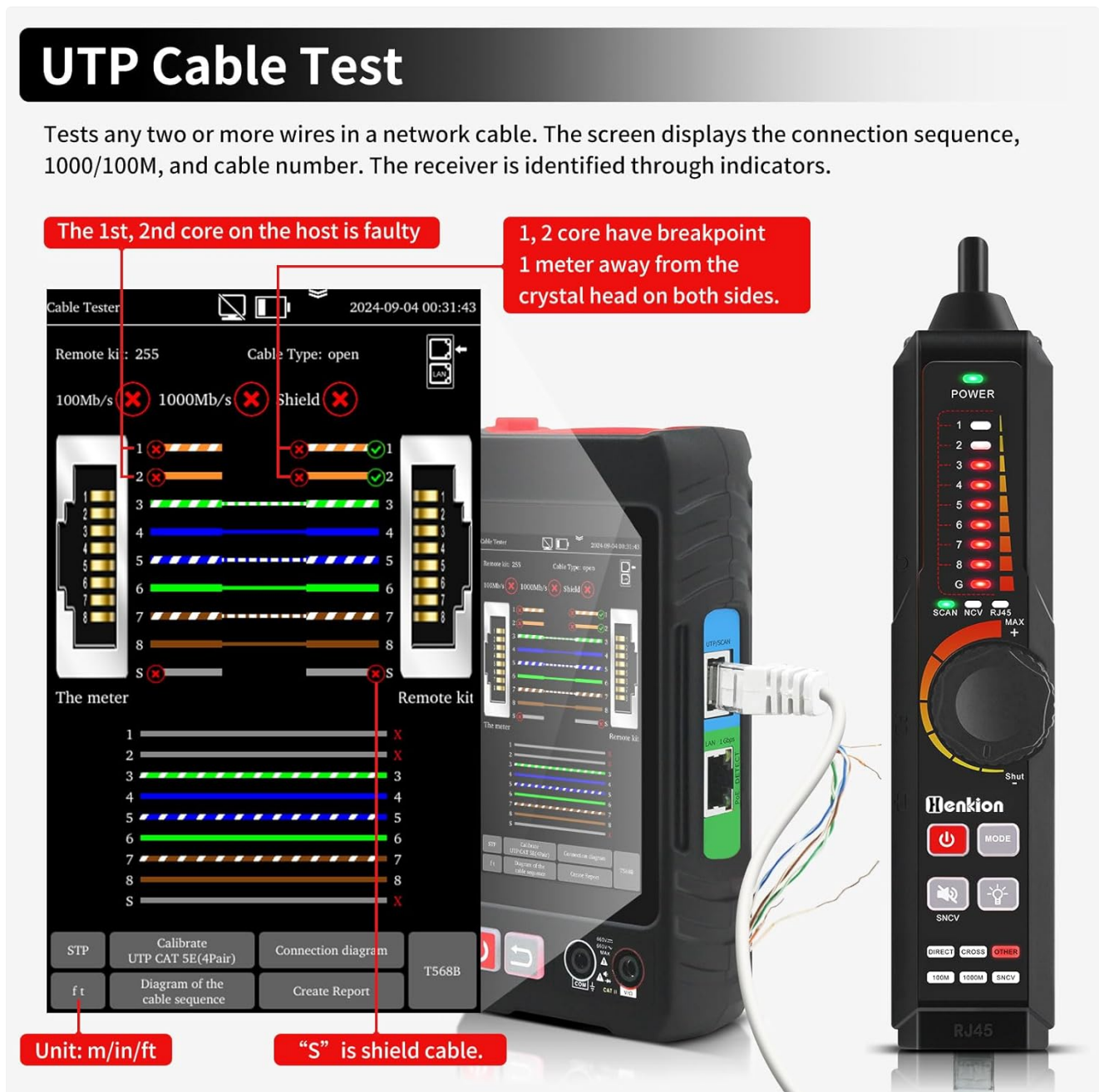


Figure 4: UTP Cable Test Interface and Results

The display will indicate if a core is faulty or if there is a breakpoint, specifying the location if possible.

4.2. TDR Cable Test

The TDR function is used to locate breaks and short circuits in various cables, including BNC, network, telephone, and RV cables.

1. Connect the cable to be tested to the appropriate TDR port on the main unit (e.g., BNC for coaxial cables).
2. Select the 'TDR' function from the main menu.
3. Initiate the test. The device will display a graph and the distance to any detected fault. The maximum measurement range is 1.2 km (3937 feet).

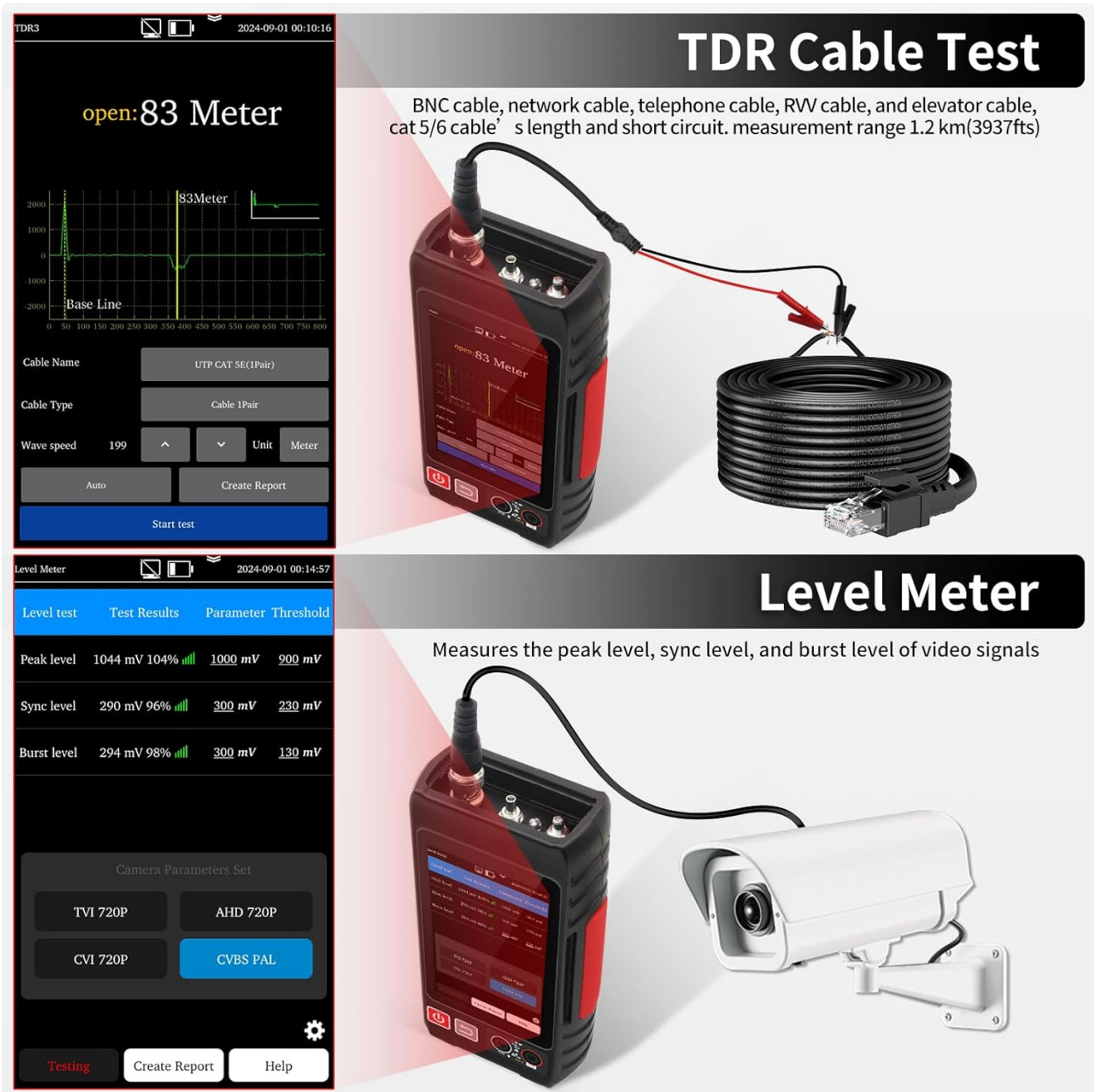


Figure 5: TDR Cable Test and Level Meter Interfaces

4.3. Level Meter

This function measures the peak level, sync level, and burst level of video signals, useful for coaxial camera systems.

1. Connect the coaxial video cable to the BNC port on the main unit.
2. Select the 'Level Meter' function.
3. The screen will display the measured levels and allow for parameter settings (e.g., TVI, AHD, CVI, CVBS PAL).

4.4. VFL Optical Power Meter (OPM)

The OPM measures signal power and insertion loss in fiber optic cables, while the VFL helps locate breaks and faults.

1. For OPM, connect the fiber optic cable to the OPM port. Select the 'OPM' function and choose the appropriate wavelength.
2. For VFL, connect the fiber optic cable to the VFL port. Activate the VFL function to emit a red laser light, which will be visible at breaks or faults.

VFL Optical Power Meter

OPM is used for signal power test and insertion loss test of various equipment and photoelectric components.

VFL to detect fiber optic line breaks, cracks, bends, and other faults.



Figure 6: VFL and OPM Functionality

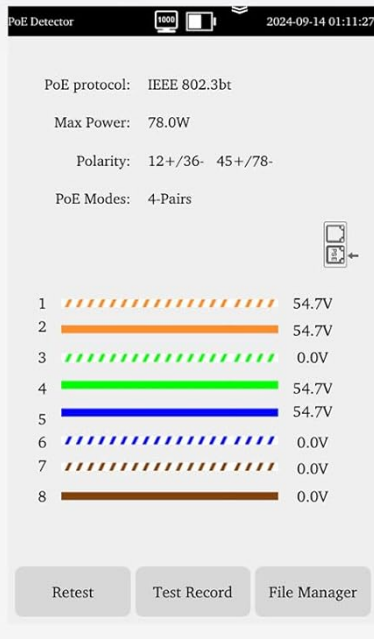
4.5. Digital Multimeter (DMM)

The integrated DMM allows for basic electrical measurements.

1. Connect the multimeter test leads to the DMM ports on the main unit.
2. Select the 'Digital Multi-Meter' function.
3. Choose the desired measurement mode (DC/AC voltage, DC/AC current, resistance, continuity, diode, capacitance). The device features auto-ranging.

Digital Multi-Meters

DC voltage measurement(V), AC voltage measurement(V), DC current measurement(A), AC current measurement(A), the tester's multimeter can also measurement resistance, diode, capacitance measurement and continuity testing. Automatically adjust 0.



PoE Detect

Supports IEEE802.3BT/AT/AF and non-standard protocol detection. Displays power supply voltage, power supply pins, and pin polarity.



IEEE 802.3bt/af/at



Figure 7: Digital Multimeter and PoE Detect Interfaces

4.6. PoE Detect

This function identifies Power over Ethernet (PoE) presence and details.

1. Connect the network cable from the PoE source to the 'PD Powered Test Port' on the main unit.
2. Select the 'PoE Detect' function.
3. The screen will display the PoE protocol (e.g., IEEE 802.3BT/AT/AF), supply voltage, power pins, and pin polarity.

4.7. Cable Tracer

The cable tracer helps identify specific cables within a bundle.

1. Connect the cable to be traced to the main unit (e.g., RJ45 Network Port).
2. Activate the 'Cable Search' or 'Cable Tracer' function on the main unit.
3. Use the receiver unit to scan the cable bundle. The receiver's LED indicators and audio tone will guide you to the target cable. The device is designed to reject noise and false signals.

Cable Tracer

Cable tracer can quickly search BNC cable, network cable and telephone cable from the mess cables. Digital signal (decisively rejects noise and false signals).



RJ45 TDR Test

Test cable pair status, length, attenuation, reflectivity, impedance, skew etc. measurement range 180m (590ft)

Cable Length

Measures opens of network cables, the maximum measurement length up to 3000 meters. Accuracy: Cable length x 3% \pm 1m

line pair	Status	length (m)	Attenuation (dB/100m)
1	open	15.2	-7.0
2	open	15.2	-7.0
3	open	15.2	-8.1
4	open	15.2	-8.1
5	open	15.2	-8.1
6	open	15.2	-8.1
7	short	15.2	-9.2
8	short	15.2	-9.2



Pair	Length	Status
1	2.6Meter	open
2	2.6Meter	open
3	2.6Meter	open
4	0.0Meter	short
5	0.0Meter	short
6	2.6Meter	open
7	2.6Meter	open
8	2.6Meter	open



Figure 8: Cable Tracer, RJ45 TDR Test, and Cable Length Functions

4.8. RJ45 TDR Test

This test provides detailed analysis of RJ45 network cables, including pair status, length, attenuation, reflectivity, impedance, and skew.

1. Connect the RJ45 cable to the main unit's RJ45 port.
2. Select the 'RJ45 TDR Test' function.
3. Initiate the test. The screen will display detailed parameters for each pair. This test is effective for cables up to 180 meters (590 feet).

4.9. Cable Length Measurement

Measures the length of network cables and can detect open circuits.

1. Connect the network cable to the main unit's RJ45 port.
2. Select the 'Cable Length' function.
3. The device will measure and display the cable length. It can measure open circuits up to 3000 meters with an

accuracy of $\pm 1m$.

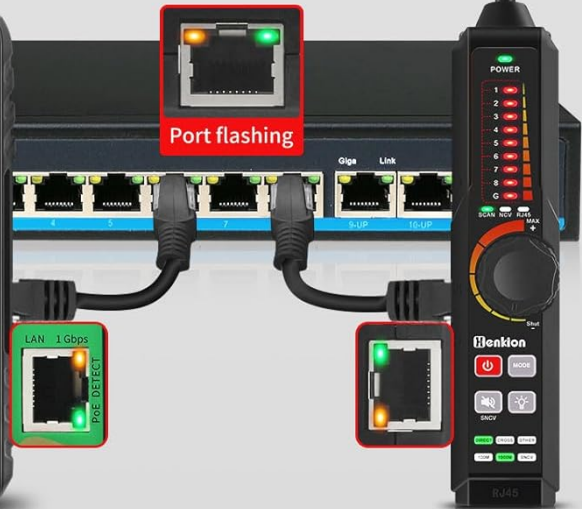
4.10. Port Flashing

This feature helps quickly identify the port of an Ethernet switch or other connected devices.

1. Connect the main unit to a network port on a switch or device.
2. Select the 'Port Flashing' function.
3. The corresponding port's LED on the connected switch will flash, allowing for easy identification.

Port Flashing

Quickly find the port of the Ethernet switch and other devices connected to the device.



Network Tools

Network Tools: IP discovery, IP address scan, PING test, LLDP/CDP detection, PPPOE dial-up, FTP server.

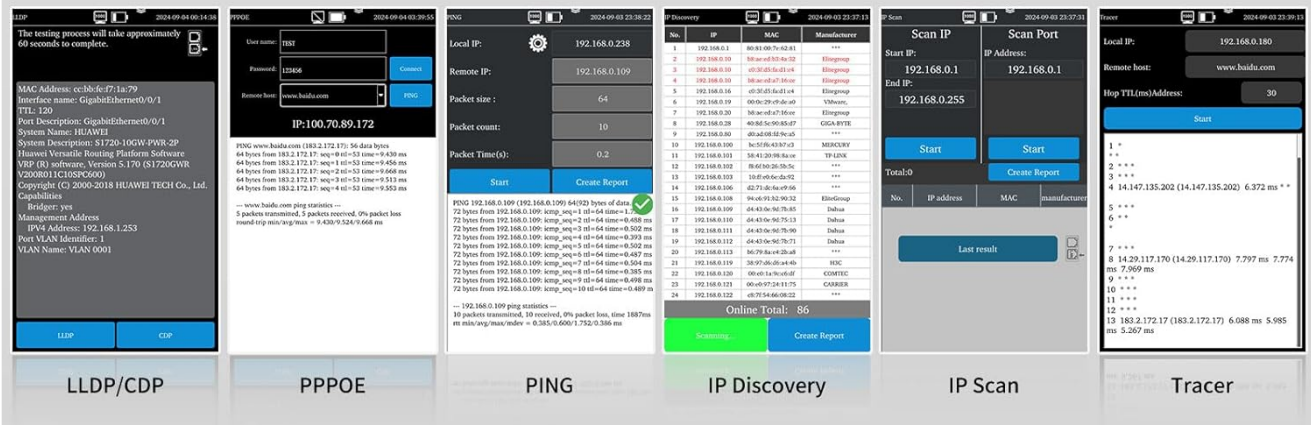


Figure 9: Port Flashing and Network Tools Interfaces

4.11. Network Tools

The LT-600T includes a suite of network diagnostic tools:

- **IP Discovery:** Scans the network to find active IP addresses.
- **IP Scanning:** Performs a detailed scan of specified IP ranges.
- **PING Testing:** Tests network connectivity and latency to a target IP address.

- **LLDP/CDP Detection:** Detects Link Layer Discovery Protocol (LLDP) and Cisco Discovery Protocol (CDP) information from connected devices.
- **PPPoE Dial-up:** Supports PPPoE connection testing.

5. MAINTENANCE

5.1. Cleaning

Wipe the device with a soft, dry cloth. For stubborn dirt, use a slightly damp cloth with mild soap, then dry thoroughly. Do not use abrasive cleaners or solvents.

5.2. Battery Care

To prolong battery life:

- Avoid fully discharging the battery frequently.
- Charge the device regularly, even if not in use, to maintain battery health.
- Store the device in a cool, dry place when not in use for extended periods.

5.3. Storage

Store the LT-600T and its accessories in the provided tool bag in a clean, dry environment away from direct sunlight, extreme temperatures, and corrosive substances.

6. TROUBLESHOOTING

If you encounter issues with your LT-600T, consider the following common troubleshooting steps:

- **Device not powering on:** Ensure the battery is charged. Connect the Type-C cable and attempt to power on while charging.
- **Inaccurate test results:** Check all cable connections for proper seating. Ensure the correct test mode is selected for the cable type. Calibrate the device if a calibration option is available for the specific test.
- **Touch screen unresponsive:** Try restarting the device. If the issue persists, ensure the screen is clean and dry.
- **Cable tracer not detecting:** Verify the cable is properly connected to the main unit. Adjust the sensitivity knob on the receiver. Ensure there isn't excessive electromagnetic interference in the environment.

For persistent issues, refer to the official Henkion support resources or contact customer service.

7. SPECIFICATIONS

Feature	Specification
Model Number	LT-600T
Applicable Cables	UTP/STP/RJ45/RJ11, BNC, Network, Telephone, RV cable
Display	4-inch IPS Touch Screen, 800*480 resolution
TDR Measurement Range	Max 1.2 km (3937 ft)
RJ45 TDR Cable Test Range	Up to 180 meters (590 ft)
Cable Length Measurement	Up to 3000 meters (open circuits), Accuracy: ± 1 m
Optical Power Meter Wavelengths	850/1300/1310/1490/1550/1625nm
Optical Power Meter Range	-70 ~ +10 dBm
Visual Fault Locator	Class 2, Power <1mW, Wavelength: 650nm
PoE Support	IEEE 802.3BT/AT/AF and non-standard PoE
Main Unit Battery	3.7V 4000mAh Lithium-ion (approx. 6 hours working time)
Receiver Battery	3.7V 2000mAh Lithium-ion (approx. 12 hours working time)
Dimensions (Emitter)	150x86x40mm (5.91x3.39x1.57inch)
Net Weight (Emitter)	0.3kg (0.66lbs)
Dimensions (Receiver)	210x40x25mm (8.26x1.57x0.98inch)
Net Weight (Receiver)	0.13kg (0.3lbs)
Certifications	CE, ETL, RoHS

8. WARRANTY AND SUPPORT

Henkion products are designed for reliability and performance. For warranty information, technical support, or service inquiries, please refer to the contact details provided with your purchase or visit the official Henkion website. Please retain your proof of purchase for warranty claims.