UNI-T UT683KIT

UNI-T UT683KIT Cable Tracer Wire Tracker User Manual

Model: UT683KIT

1. Introduction

The UNI-T UT683KIT is an intelligent wire tracker system designed for efficient cable testing and maintenance. It consists of a transmitter (UT683T) and a receiver (UT683R), enabling users to accurately locate and identify various types of cables, including RJ11 and RJ45.
This device is engineered with strong anti-interference capabilities and can automatically identify open circuits, short circuits, and polarity, simplifying the process of diagnosing cable failures.

Image 1.1: The complete UNI-T UT683KIT, including the transmitter, receiver, various cables, and carrying case.

2. Package Contents

Verify that all items listed below are present in your package:

- 1 x UT683KIT (Transmitter & Receiver)
- 1 x MicroUSB Cable
- 1 x RJ11 Adapter Cable (Telephone)
- 1 x RJ11 Alligator Clip Test Cable
- 1 x RJ45 Adapter Cable (Network)
- 1 x User Manual (this document)
- 1 x Carrying Case
- 1 x Packaging Box

Image 2.1: All components of the UT683KIT laid out, including the main units, cables, and carrying case.

3. Component Overview

The UT683KIT comprises two main units: the Transmitter (UT683T) and the Receiver (UT683R).

3.1. Transmitter (UT683T)

The transmitter is used to inject a signal into the cable to be traced. It features ports for RJ11 and RJ45 connections, along with controls for various test functions.

- **RJ11 Port:** For connecting telephone lines.
- **RJ45 Port:** For connecting network cables.
- **CONT Button:** Initiates continuity testing.
- **POLARITY Button:** Checks line polarity.
- **PORT FLASH Button:** Helps identify connected ports on a switch/router.
- **Power Button:** Turns the unit on/off.

3.2. Receiver (UT683R)

The receiver detects the signal emitted by the transmitter, allowing for cable tracing and identification. It includes a non-contact voltage (NCV) function and a headset jack for noisy environments.

- **NCV Sensor:** For non-contact voltage detection.
- **Sensitivity Dial:** Adjusts tracing sensitivity.
- **NCV Button:** Activates NCV function.
- **Search Button:** Initiates cable tracing.
- **Power Button:** Turns the unit on/off.
- **LED Indicators:** Display signal strength and cable status.
- **3.5mm Headset Jack:** For audio output during tracing.

Image 3.1: The UT683T Transmitter (left) and UT683R Receiver (right) units.

Image 3.2: Front view of the UT683T Transmitter and UT683R Receiver, showing controls and indicators.

4. Setup and Charging

4.1. Initial Charge

Both the transmitter and receiver are powered by a 1050mAh rechargeable lithium battery. Before first use, it is recommended to fully charge both units.

1. Connect the provided MicroUSB cable to the charging port on each unit.
2. Connect the other end of the MicroUSB cable to a standard USB power adapter (not included) or a computer's USB port.
3. The charging indicator will illuminate during charging and turn off when fully charged.

The transmitter has an operating time of over 8 hours, and the receiver has an operating time of over 5 hours on a full charge.

Image 4.1: Both the transmitter and receiver connected to a power strip for charging via MicroUSB cables.

4.2. Connecting Cables

Ensure the device is powered off before connecting cables for testing.

- **For RJ11 Cables:** Use the RJ11 adapter cable or RJ11 alligator clip test cable to connect the cable under test to the RJ11 port on the transmitter.
- **For RJ45 Cables:** Use the RJ45 adapter cable to connect the network cable under test to the RJ45 port on the transmitter.

Image 4.2: A close-up view of the RJ45 ports on both the transmitter and receiver units.

5. Operating Modes

5.1. Wire Tracking (Cable Tracing)

This mode is used to locate a specific cable among a bundle or within walls.

1. Connect one end of the target cable to the appropriate port (RJ11 or RJ45) on the **transmitter (UT683T)**.
2. Power on the transmitter.
3. Power on the **receiver (UT683R)** and press the "Search" button.
4. Adjust the sensitivity dial on the receiver to an appropriate level.
5. Move the receiver's probe along the suspected path of the cable. The receiver will emit an audible tone and illuminate LED indicators, with intensity increasing as it gets closer to the target cable.
6. For noisy environments, connect a 3.5mm headset to the receiver's jack.

The receiver can track RJ11 cables up to 3000 meters and RJ45 cables up to 100 meters.

Image 5.1: The UT683KIT being used to trace cables connected to a network switch.

5.2. Line Alignment (Cable Collation)

This function helps verify the correct wiring sequence of network cables.

1. Connect one end of the RJ45 cable to the RJ45 port on the **transmitter (UT683T)**.
2. Connect the other end of the RJ45 cable to the RJ45 port on the **receiver (UT683R)**.
3. Power on both units. The LED indicators on both units will sequentially light up, indicating the pin-to-pin connection status.
4. Observe the LED patterns to identify any miswires, open circuits, or short circuits.

5.3. Open-Short Test

This test identifies open circuits or short circuits in cables.

1. Connect the cable to the appropriate port on the **transmitter (UT683T)**.
2. Press the "CONT" button on the transmitter.
3. The transmitter will indicate if there is an open circuit or a short circuit. The open-short test range is up to 10

kΩ.

5.4. Polarity Test

Used to determine the polarity of DC voltage on a line.

1. Connect the RJ11 alligator clip test cable to the RJ11 port on the **transmitter (UT683T)**.
2. Connect the alligator clips to the two wires of the DC line.
3. Press the "POLARITY" button on the transmitter.
4. The transmitter will indicate positive or negative polarity. The device can withstand DC 60V.

5.5. Port Flashing

This feature helps locate the corresponding port on a network switch or router.

1. Connect one end of the network cable to the RJ45 port on the **transmitter (UT683T)**.
2. Connect the other end of the network cable to a port on the network switch/router.
3. Press the "PORT FLASH" button on the transmitter.
4. The corresponding port's indicator light on the switch/router will flash, allowing for easy identification.

5.6. NCV (Non-Contact Voltage) Function

The receiver (UT683R) includes an NCV function for detecting AC voltage without direct contact.

1. Power on the **receiver (UT683R)**.
2. Press the "NCV" button to activate the function.
3. Move the NCV sensor at the top of the receiver close to an AC voltage source (e.g., live wire, power outlet).
4. The receiver will indicate the presence of AC voltage through an audible alarm and/or visual indicators.

6. Maintenance

6.1. Charging

Recharge the units when the low battery indicator appears. Refer to Section 4.1 for charging instructions. Use only the provided MicroUSB cable for charging.

6.2. Cleaning

Wipe the device with a dry, soft cloth. Do not use abrasive cleaners or solvents.

6.3. Storage

When not in use, store the UT683KIT in its carrying case in a cool, dry place, away from direct sunlight and extreme temperatures.

7. Troubleshooting

Problem	Possible Cause	Solution
Device does not power on.	Low battery.	Charge the unit using the MicroUSB cable.

Problem	Possible Cause	Solution
No signal detected during wire tracking.	• Transmitter not powered on. • Receiver sensitivity too low. • Cable not properly connected. • Cable is too long for effective tracing.	• Ensure transmitter is on. • Increase receiver sensitivity. • Verify cable connections. • Note maximum tracing distances (RJ11 > 3000m; RJ45 > 100m).
Incorrect line alignment results.	• Poor cable termination. • Damaged cable.	• Re-terminate cable connectors. • Replace the cable if damaged.
NCV function not working.	NCV function not activated.	Press the "NCV" button on the receiver.

8. Specifications

General

- **Model:** UT683KIT
- **Certificates:** CE, RoHS
- **Power Source:** 1050mAh Rechargeable Lithium Battery
- **Min. Operating Voltage:** DC 60V (Withstand voltage)
- **Color:** Red
- **Package Dimensions:** 9.13 x 6.06 x 2.72 inches
- **Item Weight:** 1.08 Pounds

Transmitter (UT683T)

- **Functions:** Port Flashing, Wire Tracking, Line Alignment, Open-Short Test, Polarity Test
- **Open-Short Test Range:** 10 kΩ
- **Operating Time:** > 8 hours

Receiver (UT683R)

- **Wire Tracking Distance:** RJ11 > 3000m; RJ45 > 100m
- **Functions:** NCV (Non-Contact Voltage) Detection
- **Headset Jack:** 3.5mm
- **Indicators:** Low Battery Indicator
- **Operating Time:** > 5 hours

Image 8.1: Dimensions of the UT683T Transmitter and UT683R Receiver units.

9. Safety Information

Please read and understand all safety instructions before using the device.

- Do not use the device if it appears damaged.
- Do not attempt to repair or modify the device. Refer all servicing to qualified personnel.
- Observe all local and national safety codes.
- Avoid contact with live circuits when using the alligator clips, unless specifically performing a polarity test within the device's rated voltage.
- The NCV function is for indication only and should not be used as the sole method for determining the presence of voltage. Always verify with a dedicated voltage tester.
- Keep the device away from water and moisture.

10. Warranty and Support

For any issues or inquiries regarding your UNI-T UT683KIT, please contact UNI-T customer support.
UNI-T provides 7/24 1-to-1 user support. If you encounter any problems during use, please contact us first (via e-mail) and our customer service team will address your problem promptly.
Refer to your purchase documentation or the UNI-T official website for specific warranty terms and contact information.