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PQWT PQWT-TC500

PQWT-TC500 Underground Water Detector User Manual

Model: PQWT-TC500 | Brand: PQWT

1. INTRODUCTION

This manual provides comprehensive instructions for the operation, maintenance, and troubleshooting of the PQWT-TC500 Underground Water Detector. The PQWT-TC500 is a high-accuracy automatic measuring device designed for surveying underground water sources up to 500 meters deep. It is suitable for various geological structures including plains, hills, mountains, highlands, and basins.

Please read this manual thoroughly before operating the device to ensure proper usage and to maximize its performance and longevity.

2. PRODUCT OVERVIEW

2.1 Components

The PQWT-TC500 system typically includes the main control unit, connecting cables, and electrode probes.

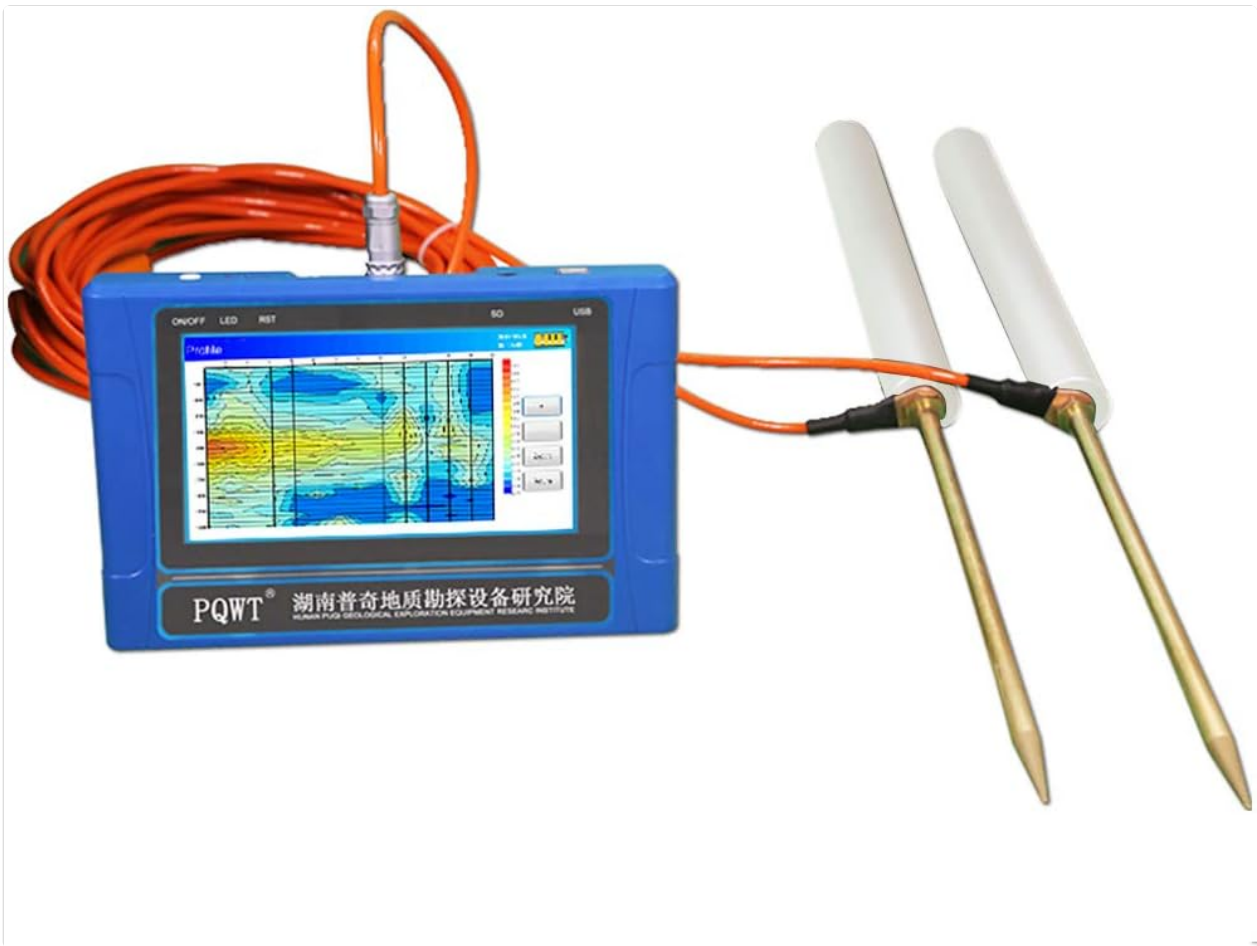


Figure 2.1: The PQWT-TC500 main control unit connected to two electrode probes via an orange cable. The screen displays a profile survey map.



Figure 2.2: The complete PQWT-TC500 kit, including the main unit, cables, and probes, neatly packed within a durable protective case.

2.2 Key Features

- **Automatic Mapping:** The device automatically generates drilling position and depth results on-site, simplifying the survey process.
- **High Accuracy:** Provides highly accurate results, with precision reported to be over 85% based on user feedback.
- **Multi-language Support:** Supports 6 languages including English, Spanish, French, and Arabic for broader accessibility.
- **User-Friendly Operation:** Designed for ease of use, allowing non-professionals to learn operation methods within 5 minutes.
- **Minimal Personnel Requirement:** Only requires 1-2 people for operation, making it efficient for field work.
- **Versatile Application:** Suitable for various geological conditions including plains, hills, mountains,

highlands, and basins.

- **Rechargeable Battery:** Equipped with a rechargeable lithium-ion battery for extended field use.



Figure 2.3: A close-up view of the PQWT-TC500's display screen, showing various menu icons for functions like Single Frequency, Three Frequency, Profile Survey, File Explorer, and Settings.



Figure 2.4: An image highlighting the rechargeable battery compartment of the PQWT-TC500 device, indicating its power source.

3. SETUP

Before beginning any survey, ensure all components are present and in good condition. Follow these steps for initial setup:

1. **Unpack Components:** Carefully remove the main unit, cables, and probes from the protective case.
2. **Charge Battery:** Ensure the device's internal lithium-ion battery is fully charged. Connect the provided charger to the main unit and a power source.
3. **Connect Probes:** Connect the orange main cable to the designated port on the PQWT-TC500 main unit. Then, attach the two electrode probes to the ends of the main cable. Ensure connections are secure.
4. **Placement of Probes:** For a survey, the probes are typically inserted into the ground at specific intervals. Refer to the operating instructions for detailed placement guidelines based on your survey method.

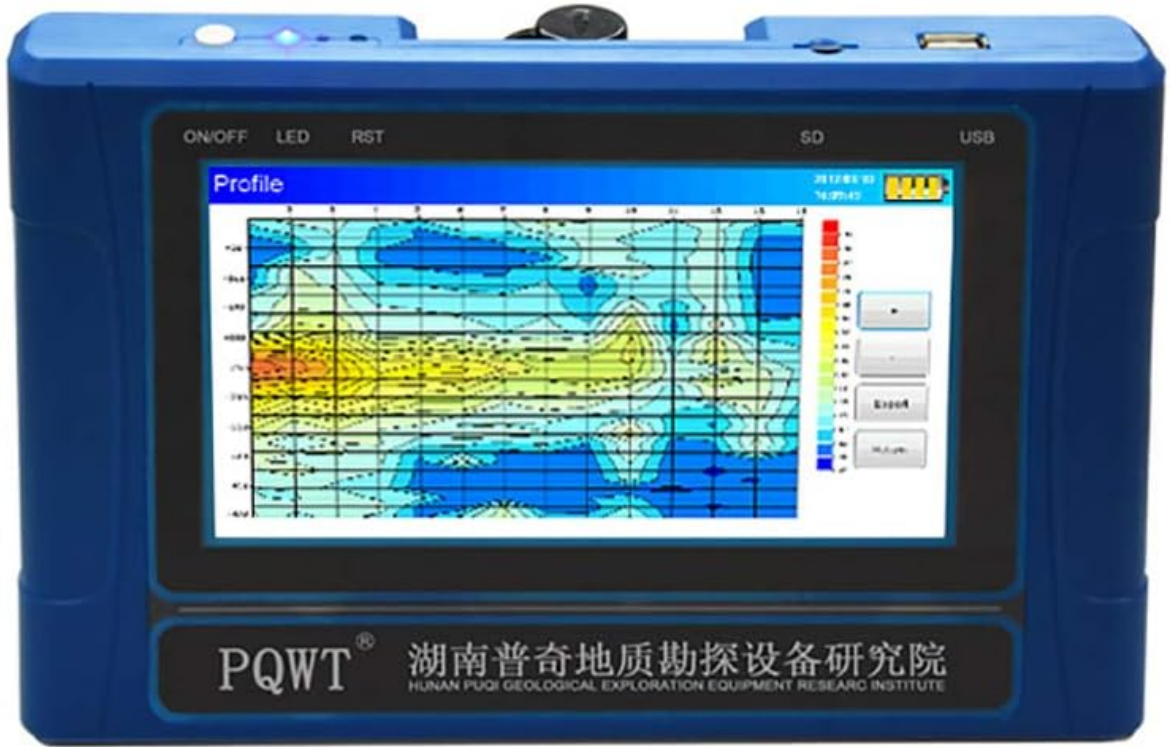


Figure 3.1: The PQWT-TC500 main unit, connecting cable, and two electrode probes laid out, ready for assembly and field deployment.

4. OPERATING INSTRUCTIONS

The PQWT-TC500 is designed for intuitive operation. Follow these general steps for conducting a survey:

1. **Power On:** Press and hold the power button on the main unit to turn on the device.
2. **Language Selection:** If necessary, navigate to the settings menu to select your preferred language (English, Spanish, French, Arabic, etc.).
3. **Select Survey Mode:** From the main menu, choose the appropriate survey mode (e.g., "Profile Survey" for automatic mapping).
4. **Prepare Survey Area:** Ensure the survey area is clear of major obstructions. Insert the electrode probes into the ground according to the chosen survey method's requirements.
5. **Start Measurement:** Follow the on-screen prompts to initiate the measurement process. The device will automatically collect data and process it.
6. **Review Results:** Once the measurement is complete, the device will display the results, including potential drilling positions and depths, directly on the screen.
7. **Data Export (Optional):** If supported, you may export the survey data via USB or SD card for further analysis on a computer.



PQWT-TC500 • 500 Meters

Figure 4.1: The PQWT-TC500 display showing a detailed profile survey graph, which helps in identifying underground water formations.



PQWT®

PQWT-TC150/300/500

ONE BUTTON UNDERGROUND WATER DETECTOR

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Figure 4.2: The PQWT-TC500 device set up in a dry, cracked landscape, demonstrating its application in challenging environments for water detection.

5. MAINTENANCE

Proper maintenance ensures the longevity and accuracy of your PQWT-TC500 device.

- **Cleaning:** After each use, especially in dusty or muddy conditions, wipe down the main unit, cables, and probes with a soft, damp cloth. Ensure no moisture enters the device's ports.
- **Storage:** Store the device and its components in the provided protective case when not in use. Keep it in a cool, dry place away from direct sunlight and extreme temperatures.
- **Battery Care:** For optimal battery life, avoid fully discharging the battery frequently. Recharge the battery regularly, even during periods of non-use.
- **Cable Inspection:** Periodically inspect cables for any signs of wear, cuts, or damage. Replace damaged cables immediately to prevent operational issues.

6. TROUBLESHOOTING

This section addresses common issues you might encounter with the PQWT-TC500.

Problem	Possible Cause	Solution
Device does not power on.	Low or depleted battery; faulty power button.	Charge the battery fully. If issue persists, contact customer support.
Inaccurate readings.	Poor probe contact with ground; incorrect setup; environmental interference.	Ensure probes are firmly inserted. Re-check setup instructions. Minimize external electrical interference.
Screen is unresponsive.	Software glitch; extreme temperature exposure.	Restart the device. If unresponsive, perform a hard reset (refer to specific device reset instructions if available). Ensure operation within recommended temperature ranges.
Cannot connect to PC for data transfer.	Faulty USB cable; incorrect driver; port issue.	Try a different USB cable and port. Ensure necessary drivers are installed on your PC.

7. SPECIFICATIONS

Attribute	Detail
Brand	PQWT
Model	PQWT-TC500
Battery Composition	Lithium-ion
Product Dimensions (L x W x H)	2.28 x 6 x 5.64 meters (approx. 228 x 600 x 564 cm)
Item Weight	8 Kilograms
Material	PVC
Voltage	12 Volts
Power Source	Battery Powered
Included Components	Device
Max Detection Depth	500 meters

8. WARRANTY AND SUPPORT

The PQWT-TC500 comes with a **2-year warranty**. For any technical assistance, troubleshooting beyond this

manual, or warranty claims, please contact PQWT customer service.

Free After-Sale Service is provided to ensure you get the most out of your device.

For support, please refer to the contact information provided with your purchase or visit the official PQWT website.