

Hantek Hantek2D42

Hantek 2D42 3-in-1 Handheld Oscilloscope User Manual

Model: Hantek2D42

1. INTRODUCTION

The Hantek 2D42 is a versatile 3-in-1 handheld device combining the functionalities of a digital oscilloscope, a waveform generator, and a digital multimeter. Designed for portability and ease of use, it features a compact size, a large-capacity lithium battery, and a Type-C charging interface. This manual provides essential information for the proper setup, operation, and maintenance of your device.



Figure 1: Hantek 2D42 device and included accessories, including probes, USB cable, and power adapter.

2. SETUP

2.1 Battery Installation and Charging

The Hantek 2D42 is powered by a large-capacity 18650 replaceable lithium battery system. Ensure the battery is correctly installed before first use.

- **Battery Installation:** Open the battery compartment cover on the rear of the device. Insert the 18650 lithium battery, ensuring the correct polarity as indicated inside the compartment. Close the cover securely.
- **Charging:** Connect the device to a 5V/2A charger or a computer USB interface using the provided Type-C cable. The device supports intelligent charging control, allowing use while charging. A full charge typically provides a full day of continuous operation or over two months of standby time.

BUILT-IN LARGE CAPACITY LITHIUM BATTERY

18650 replaceable lithium battery power system, free from replace battery;

5V/2A CHARGER

TYPE C CHARGING AND DATA TRANSMISSION CABLE

Type C power + data transfer interface, can share the charger and data cable with your mobile phone;

ULTRA LOW POWER DESIGN

Each 2 hours battery charge allow working one full day or standby two months;



Figure 2: Rear view of the Hantek 2D42 showing the battery compartment and Type-C charging port. The device uses 18650 replaceable lithium batteries.



Figure 3: The Hantek 2D42 device shown with its integrated kickstand extended and connected to a USB-C charging cable.

2.2 Initial Power On

Press and hold the power button located on the device to turn it on. The color highlight LCD screen will display the main interface. The device features a minimalist keyboard design for simplified operation.



Great function with small size!

Color highlight LCD screen, legible even in bright sunlight;
 Soft colors, clear waveforms display;
 High quality casing + Silicon protective cover with fine touch feeling, favorable impact resistance, and outstanding heat resistance;

Powered by two 18650 lithium battery only; Be able to work continuously for a full day and standby over 8 weeks;

Minimalist keyboard design simplify operation, easy to use.

Figure 4: The Hantek 2D42 held in hand, displaying its color LCD screen and control buttons for various functions.

3. OPERATING INSTRUCTIONS

The Hantek 2D42 integrates three primary functions: Oscilloscope, Waveform Generator, and Multimeter. Use the dedicated buttons on the front panel to switch between modes.

3.1 Oscilloscope Function

The oscilloscope mode allows for detailed waveform analysis. Key features include:

- **Sampling Rate:** 250MSa/s
- **Bandwidth:** 40MHz (for 2D42 model)
- **Vertical Resolution:** 10mV~10V
- **Automatic Measuring:** Auto one-key test function for quick measurements.
- **Display:** Adjustable backlight brightness, backlight duration, and auto power-off time.
- **Measurements:** Digital voltmeter function, cursor measurement, reference waveform, and storage function.
- **Language:** Supports Chinese and English menu switching.



Figure 5: The Hantek 2D42 screen showing a typical oscilloscope waveform display with measurement parameters.

3.2 Waveform Generator Function

The waveform generator produces various test signals for circuit analysis. Specifications include:

- **Sampling Rate:** 250MSa/s
- **Vertical Resolution:** 12 bits
- **Waveform Types:** Sine (1Hz~25MHz), Square (1Hz~10MHz), Triangular (1Hz~1MHz), Trapezoid (1Hz~5MHz), and 4 types of arbitrary waveforms.
- **Frequency Resolution:** 1Hz
- **Output Impedance:** 50Ω

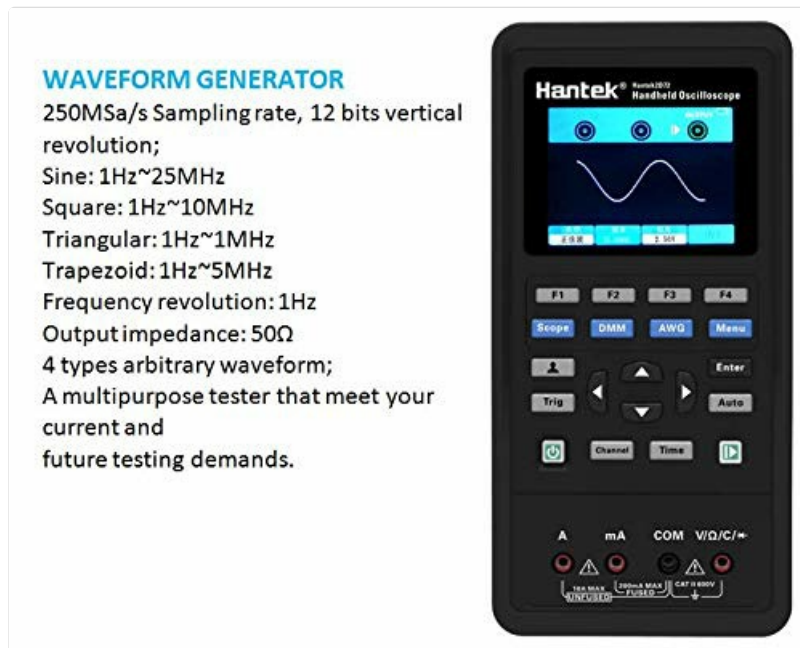


Figure 6: The Hantek 2D42 screen showing a generated sine waveform in waveform generator mode.

3.3 Multimeter Function

The integrated digital multimeter offers standard measurement capabilities with high accuracy.

- **Measurements:** AC/DC voltage, AC/DC current, resistance, diode, capacitance, and on-off test.

- **Performance:** High sensitivity, accuracy, clear display, strong overload ability, and ultra-portable design.



Figure 7: The Hantek 2D42 screen showing a digital multimeter voltage reading.

4. MAINTENANCE

- **Cleaning:** Use a soft, dry cloth to clean the device. Avoid using abrasive cleaners or solvents.
- **Battery Care:** For prolonged storage, ensure the battery is partially charged (around 50%) and store the device in a cool, dry place. Replace the 18650 lithium battery if its performance degrades significantly.
- **Storage:** Store the device and its accessories in a protective case when not in use to prevent damage from impacts or dust.

5. TROUBLESHOOTING

If you encounter issues with your Hantek 2D42, consider the following basic troubleshooting steps:

- **Device not powering on:** Ensure the battery is correctly installed and sufficiently charged. Try connecting the device to a charger.
- **Incorrect readings:** Verify that probes are correctly connected and that the correct measurement mode is selected. Check probe integrity.
- **Screen issues:** Adjust backlight brightness in the settings menu. If the screen remains unresponsive, try restarting the device.
- **Software issues:** If the device behaves unexpectedly, a factory reset (if available in the menu) or firmware update (refer to Hantek's official website) might resolve the problem.

For more complex issues, please refer to the official Hantek support resources.

6. SPECIFICATIONS

Below are the general and model-specific specifications for the Hantek 2000 series, including the Hantek 2D42.

Hantek2C42 Hantek 2C72 Hantek 2D42 Hantek2D72

3 in 1 Oscilloscope + Waveform Generator + Universal Multimeter Lithium Battery

Hantek 2000 Series Comparison:

Model	Channel	Bandwidth	Sample	Power	DMM	AFG
Hantek2C42	2CH+DMM	40 MHz	250MSa/S	Direct Charge	√	---
Hantek2C72	2CH+DMM	70 MHz	250MSa/S	Direct Charge	√	---
Hantek2D42	2CH+AFG+DMM	40 MHz	250MSa/S	Direct Charge	√	√
Hantek2D72	2CH+AFG+DMM	70 MHz	250MSa/S	Direct Charge	√	√

Hantek 2000 Series Introduction:

Oscilloscope + Waveform Generator + Multimeter: This multi-purpose station own three universal test instrument functions. It is outgoing right-hand product for engineers.

- **Intelligent charging control:** Its lithium batteries can be recharged by either high current-5V/2A or ordinary computer USB interface. Allow while charging, while using, very convenient and handy;
- **Ultra-low power design:** Type C charging interface, after every recharge of 2 hours, the device can be used continuously for a full day or standby more than two months;
- **Large-capacity lithium battery power supply:** Tesla style 18650 replaceable lithium battery power system, free from replace battery;
- **5V/2A charger + Type C charging cable:** Type C power + data transfer interface, can share the charger and data cable with your mobile phone;
- **AUTO one-key test:** Magic tool and essential function for test newbie;
- **Volume small, one hand holding:** The 45 degree suspension bracket design provide you a work station anywhere anytime;
- One key page out, quick compare two groups of reference waveforms + 6 groups of waveforms storage, simple and effective;
- **Digital voltmeter function:** automatic frequency and amplitude measurement, convenient and worry-free;
- Its cursor measurement functions supports time and voltage manual measurement, and measure the required waveforms accurately;
- One-click switching its Chinese and English language menu;
- **Color LCD screen:** exquisite and smooth lines make the waveforms clear and undistorted when magnify;
- Minimalist keyboard design simplify operation, convenient to use;
- **Unibody casing:** fine touch feeling, favorable impact resistance, outstanding heat resistance, easy to disassemble;
- **Self-calibration function:** free from level drift after long time unused;
- **Universal multimeter function:** voltage, current, resistance, diode, capacitor, on-off test;
- **Waveform generator output function:** output sine, square, triangle, trapezoidal and other waveforms; sine up to 25MHz;
- **Function of video help:** scan code on back of machine to get help of video course;

Figure 8: Comparison table for Hantek 2000 series models (2C42, 2C72, 2D42, 2D72) and detailed feature list.

6.1 General Specifications

- **Brand:** Hantek
- **Power Source:** Battery Powered (18650 Lithium Battery, Type-C Charging)
- **Item Weight:** 0.5 Kilograms
- **Display:** Color Highlight LCD Screen
- **Casing:** High quality casing with Silicon protective cover for impact resistance and heat dissipation.

6.2 Hantek 2D42 Specifics

Feature	Specification
Channels	2CH+AFG+DMM
Bandwidth	40 MHz
Sample Rate	250MSa/s
Power	Direct Charge
DMM Function	Included
AFG (Arbitrary Function Generator)	Included

7. WARRANTY AND SUPPORT

For warranty information, technical support, and service inquiries, please visit the official Hantek website or contact their customer service department. Keep your purchase receipt as proof of purchase for warranty claims.

You can find more information and support resources at the [Hantek Store on Amazon](#).

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