VOLTCRAFT VC-11901280

VOLTCRAFT DSO-2072H Handheld Oscilloscope

USER MANUAL

1. Introduction

The VOLTCRAFT DSO-2072H is a versatile 3-in-1 digital instrument, combining the functionalities of a digital oscilloscope, a multimeter, and a waveform generator. Designed for precision and ease of use, this device is ideal for various electrical measurement and testing applications.

Figure 1.1: VOLTCRAFT DSO-2072H Handheld Oscilloscope

2. Safety Information

Please read and understand all safety warnings and operating instructions before using this device. Failure to do so may result in injury or damage to the device.

- This device is rated for CATII 1000 V measurements. Always adhere to safety standards for the measurement category.
- **WARNING:** To avoid electrical shock, do not open the case. There are no user-serviceable parts inside.
- To avoid personal injury or damage to the instrument, install quick-acting fuses with amp/voltage ratings shown on the device.
- Do not use the device if it appears damaged or is operating abnormally.
- Ensure proper ventilation during operation.

3. Package Contents

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

- VOLTCRAFT DSO-2072H Handheld Oscilloscope
- Oscilloscope Probe and Adjustment Tool
- BNC to Alligator Clip Cable
- Multimeter Test Leads (one black, one red)
- USB Cable
- Quick Start Guide
- Soft Protective Case
- CD with Software and English User Manual

4. Product Overview

4.1 Front Panel and Display

The device features a 3.5-inch (8.89 cm) LCD color display with a resolution of 320 x 240 pixels. The front panel includes various function buttons and input terminals for operation.
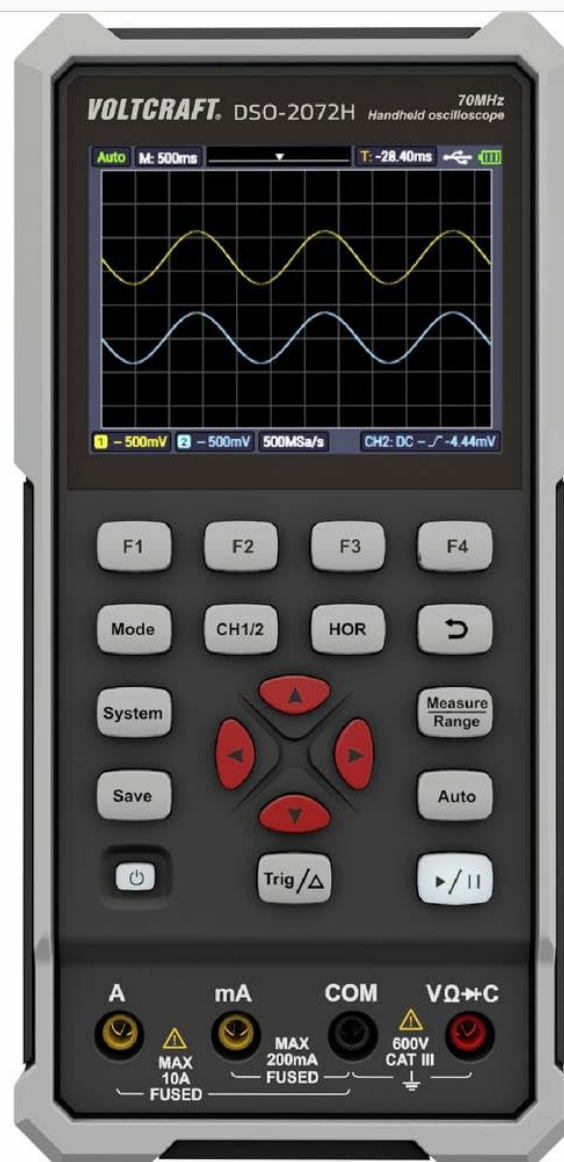
- **Display:** Shows waveform, measurement readings, and menu options.
- **Function Buttons (F1-F4):** Context-sensitive buttons for menu navigation.
- **Mode:** Switches between Oscilloscope, Multimeter, and Waveform Generator modes.
- **CH1/2:** Selects or controls oscilloscope channels.
- **HOR:** Adjusts horizontal scale/time base.
- **Save:** Saves waveform data or settings.
- **System:** Accesses system settings and configurations.
- **Trig/Δ:** Controls trigger settings or delta measurements.
- **Auto:** Auto-sets oscilloscope or multimeter parameters for quick measurements.
- **Measure Range:** Adjusts measurement range in multimeter mode.
- **Navigation Keys (Up/Down/Left/Right/Enter):** For menu navigation and parameter adjustment.
- **Power Button:** Turns the device on or off.
- **Play/Pause:** Starts or stops waveform acquisition.

4.2 Input Terminals

- **A (Amperes):** Input for high current measurements (Max 10A, Fused).
- **mA (Milliamperes):** Input for low current measurements (Max 200mA, Fused).
- **COM (Common):** Common return terminal for all measurements.
- **VΩ+C (Volts, Ohms, Capacitance):** Input for voltage, resistance, capacitance, continuity, and diode measurements (600V CAT III).

4.3 Rear Panel

The rear panel provides information about the device model, battery specifications, and important warnings.

Figure 4.2: Rear Panel

- **Model No.:** DSO-2072H
- **Li-ion cell:** 3.7V, 2200 mAh, 8.14 Wh
- **USB Type-C Port:** For charging and data transfer.

5. Setup

5.1 Powering On/Off

To power on the device, press and hold the **Power** button until the display illuminates. To power off, press and hold the **Power** button again until the display turns off.

5.2 Battery Charging

Connect the device to a USB power source using the provided USB Type-C cable. The battery indicator on the display will show charging status. Ensure the device is fully charged before initial use for optimal battery life.

5.3 Connecting Probes/Leads

For oscilloscope measurements, connect the oscilloscope probe to the BNC input. For multimeter

measurements, insert the red test lead into the VΩ+C terminal and the black test lead into the COM terminal. For current measurements, use the A or mA terminals as appropriate.

6. Operating Instructions

6.1 Digital Oscilloscope Function

The DSO-2072H operates as a 2-channel digital oscilloscope with a maximum bandwidth of 70 MHz and a sampling rate of 250 MS/s. It features an 8K record length and 8-bit vertical resolution.

- Press **Mode** to select Oscilloscope mode.
- Use **CH1/2** to select the active channel or adjust channel settings.
- Adjust the horizontal time base using the**HOR** button and navigation keys.
- Configure trigger settings with the**Trig/Δ** button.
- Press **Auto** for automatic waveform scaling and triggering.

6.2 Multimeter Function

The integrated multimeter supports measurements for voltage, current, resistance, capacitance, continuity, and diode testing, with a 20,000-count display and TRMS capability.

- Press **Mode** to select Multimeter mode.
- Use the **Measure Range** button or navigation keys to select the desired measurement type (V, A, Ω, F, continuity, diode).
- The **Auto** function can simplify the measurement process by automatically selecting the appropriate range.

6.3 Waveform Generator Function

The device includes a single-channel waveform generator with a maximum frequency output of 25 MHz, a sampling rate of 125 MS/s, 0.1 Hz frequency resolution, 14-bit vertical resolution, and 8K waveform length.

- Press **Mode** to select Waveform Generator mode.
- Use the function buttons and navigation keys to configure waveform type, frequency, amplitude, and offset.

6.4 Saving Data and System Settings

- Press **Save** to store current waveform data or measurement results.
- Press **System** to access and adjust general device settings, display options, and calibration.

7. Maintenance

Proper maintenance ensures the longevity and accuracy of your VOLTCRAFT DSO-2072H.

- **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.

- **Fuse Replacement:** If a fuse blows, replace it only with a quick-acting fuse of the specified amp/voltage rating as indicated on the device's rear panel or in the full manual.

8. Troubleshooting

If you encounter issues with your device, refer to the following common solutions:

- **Device does not power on:** Ensure the battery is charged. Connect the USB cable to a power source and allow it to charge for some time.
- **No waveform displayed:** Check probe connections. Ensure the input signal is within the device's measurement range. Try using the **Auto** function.
- **Incorrect multimeter readings:** Verify that the test leads are correctly inserted into the appropriate terminals (VΩ+C, A, mA, COM) for the measurement type. Ensure the correct measurement range is selected.
- **Device freezes or becomes unresponsive:** Try restarting the device by holding the **Power** button. If the issue persists, refer to the full user manual on the provided CD for advanced troubleshooting.

9. Specifications

Feature	Specification
Model Number	VC-11901280
Dimensions (L x W x H)	19.8 x 3.8 x 9.6 cm (7.8 x 1.5 x 3.8 inches)
Weight	600 Grams (1.32 lbs)
Display	3.5-inch (8.89 cm) LCD Color Display (320 x 240 pixels)
Power Source	Electric Cable (USB Type-C), Li-ion Battery (3.7V, 2200 mAh)
Oscilloscope Bandwidth	70 MHz
Oscilloscope Channels	2
Oscilloscope Sampling Rate	250 MS/s
Oscilloscope Record Length	8K
Oscilloscope Vertical Resolution	8 bits
Multimeter Display Counts	20,000
Multimeter Measurement Category	CATII 1000 V

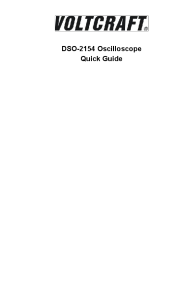| Waveform Generator Channels	1
Waveform Generator Max Frequency	25 MHz
Waveform Generator Sampling Rate	125 MS/s
Waveform Generator Vertical Resolution	14 bits
Compliance	EN 61010-1

10. Warranty and Support

For detailed warranty information and technical support, please refer to the full user manual and software provided on the included CD. You can also visit the official VOLTCRAFT website for further assistance.

Manufacturer: VOLTCRAFT

Related Documents - VC-11901280

VOLTCRAFT Handheld Oscilloscope User Manual ■ Item No.: 2380258 (DSO-2072H) ■ Item No.: 2687734 (DSO-2202H + AFG)	[VOLTCRAFT Handheld Oscilloscope User Manual](#) User manual for the VOLTCRAFT handheld oscilloscope, covering safety information, operation, multimeter functions, waveform generator, PC communication, troubleshooting, and technical specifications for models DSO-2072H and DSO-2202H + AFG.
VOLTCRAFT. DSO-111 Oscilloscope Quick Guide	[VOLTCRAFT DSO-111 Oscilloscope Quick Guide: Operation, Safety, and Troubleshooting](#) Comprehensive quick guide for the VOLTCRAFT DSO-111 Oscilloscope, detailing safety instructions, front/rear panel operations, basic usage, probe compensation, X-Y mode, and troubleshooting common issues.
USER'S MANUAL DSO-1102 USB DSO-2202 USB	[VOLTCRAFT DSO-1102 USB & DSO-2202 USB User Manual](#) Comprehensive user manual for the VOLTCRAFT DSO-1102 USB and DSO-2202 USB oscilloscopes, covering installation, operation, functions, safety precautions, and technical specifications.

VOLTCRAFT DSO-2154 Oscilloscope Quick Guide	**VOLTCRAFT DSO-2154 Oscilloscope Quick Guide** A quick guide to the VOLTCRAFT DSO-2154 Oscilloscope, covering safety instructions, basic operation, interface overview, and PC communication for efficient use.
VOLTCRAFT VOLTCRAFT - RELIABLE AND PRECISE, SINCE 1982. VC-44 DIGITAL MULTIMETER + OSCILLOSCOPE C€ FEATURES	**Voltcraft VC-44 Digital Multimeter + Oscilloscope - Technical Specifications and Features** Detailed technical specifications, features, and package contents for the Voltcraft VC-44, a two-in-one hand-held digital multimeter and basic oscilloscope. Includes multimeter and oscilloscope measurement ranges, accuracy, and general specifications.
VOLTCRAFT Digital Multimeters User Manual ■VC-7060BT ■VC-7200BT	**VOLTCRAFT Digital Multimeters VC-7060BT & VC-7200BT User Manual** Comprehensive user manual for VOLTCRAFT VC-7060BT and VC-7200BT digital multimeters, covering safety, operation, functions, measurement tutorials, troubleshooting, and technical specifications.