RDENWZEDZ SCO2 10M

RDENWZEDZ SCO2 10M Dual-Channel Digital Oscilloscope User Manual

Introduction

This manual provides comprehensive instructions for the RDENWZEDZ SCO2 10M Dual-Channel Digital Oscilloscope. Designed for precision electronic measurement and repair, this device offers advanced signal analysis capabilities in a portable format. Please read this manual thoroughly before operating the device to ensure proper use and to maximize its performance.

Key Features

- **Rich Triggering Modes:** Includes edge, pulse width, video, and slope triggering modes, enabling stable capture of various signal waveforms.
- **Easy Operation:** Features an intuitive user interface and multifunctional knobs for quick setup. Partial support for one-click automatic measurement simplifies initial configuration.
- **Portable and Lightweight:** Its compact body design makes it easy to carry, suitable for use at different testing sites.
- **Powerful Analysis Functions:** Built-in tools such as FFT (Fast Fourier Transform), histogram, and eye diagram analysis facilitate in-depth signal examination for complex testing requirements.
- **Stable and Durable:** Constructed with high-quality components and subjected to rigorous high and low-temperature and vibration testing to ensure reliability in harsh working environments.

Safety Information

To prevent electric shock, fire, or personal injury, please observe the following safety precautions:

- Always operate the device in a dry environment. Avoid exposure to moisture or liquids.
- Do not expose the device to extreme temperatures, direct sunlight, or high humidity.
- Ensure proper grounding when connecting the oscilloscope to external circuits, especially high-voltage sources.

- Disconnect power before cleaning or performing any maintenance.
- Do not attempt to open or modify the device. Refer all servicing to qualified personnel.
- Refer to local regulations for proper disposal of electronic waste.

Product Overview

The RDENWZEDZ SCO2 10M oscilloscope features a compact design with a clear display and intuitive controls, making it suitable for both beginners and experienced users.

Figure 1: Front view of the RDENWZEDZ SCO2 10M Digital Oscilloscope displaying a sine waveform. This image shows the device's screen with measurement parameters and control buttons on the right side.

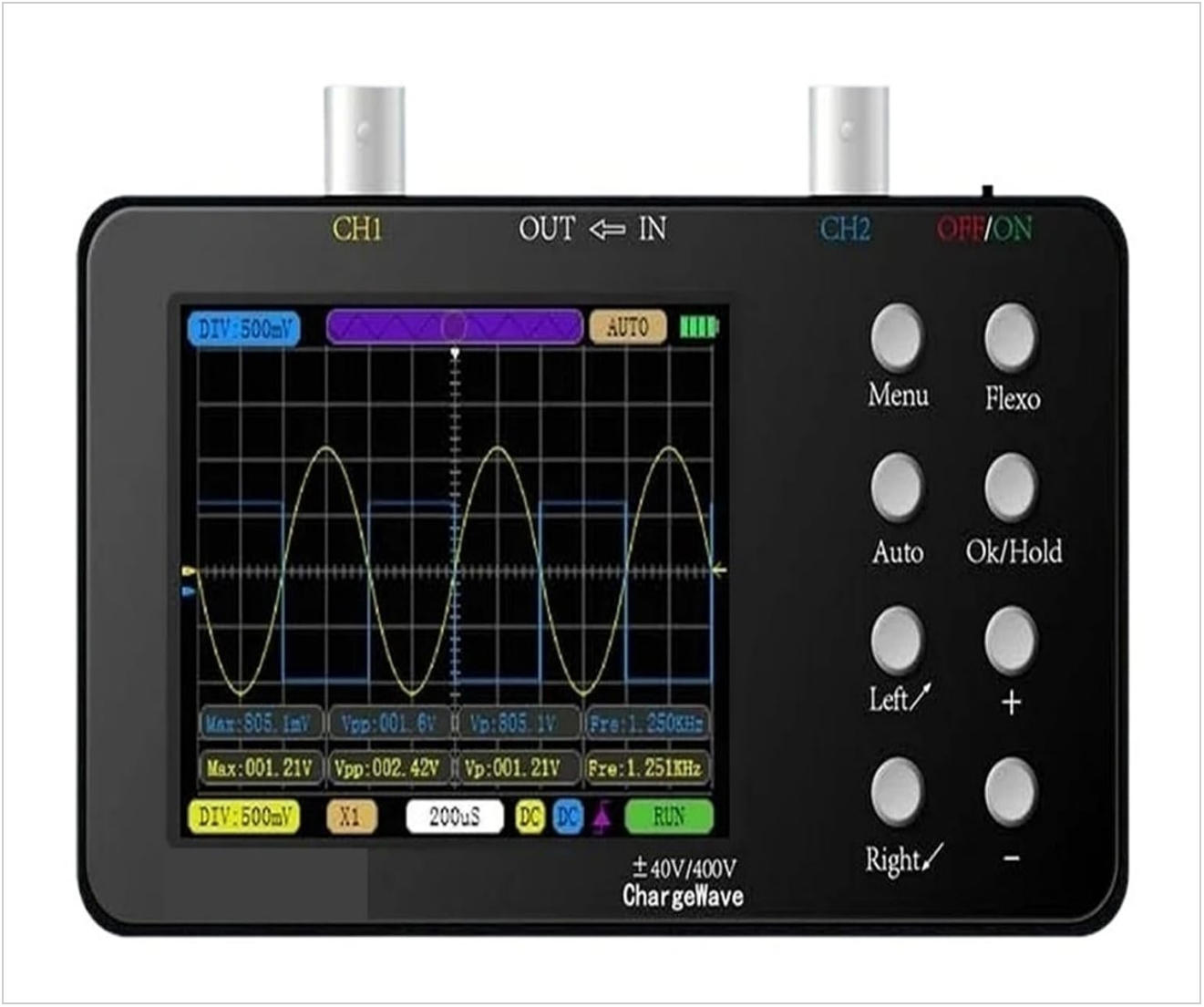

Figure 2: Another front view of the oscilloscope, showing a similar waveform with slightly different display settings, highlighting the flexibility of the interface.

Figure 3: Angled view of the oscilloscope, illustrating the top BNC connectors for CH1, OUT, IN, and CH2, along with the side control buttons.

Figure 4: Front view of the oscilloscope with the screen off, showing the clean interface and button layout.

Setup

Initial Power On

1. Connect the power adapter to the device's power input and then to a suitable power source.
2. Press the **OFF**/**ON** button, typically located on the top right of the control panel, to power on the oscilloscope.
3. The display will illuminate, showing the boot-up sequence and then the main measurement interface.

Connecting Probes

1. Identify the **CH1** and **CH2** BNC connectors on the top of the device.
2. Connect your oscilloscope probes to the desired channel (e.g., CH1 for single-channel measurements or both for dual-channel).
3. Ensure the probe is securely fastened by twisting the BNC connector until it locks.
4. Connect the probe's ground clip to the ground of the circuit under test.

Operating Instructions

Basic Measurement

1. After connecting the probe to the signal source, press the**Auto** button. The oscilloscope will automatically adjust the vertical and horizontal scales to display a stable waveform.

2. Use the **Left** / and **Right** / buttons to navigate through menu options or adjust parameters.
3. The **+** and **-** buttons are used for fine-tuning values or selecting options within menus.

Triggering Modes

The SCO2 10M supports various triggering modes to capture specific parts of a waveform accurately. Access these modes via the **Menu** button and navigate to the Trigger settings.

- **Edge Trigger:** Triggers on a rising or falling edge of the input signal, suitable for most general-purpose measurements.
- **Pulse Width Trigger:** Triggers on pulses of a specified width, useful for analyzing digital signals.
- **Video Trigger:** Triggers on standard video signals, allowing for analysis of video waveforms.
- **Slope Trigger:** Triggers on a specific slope and direction of the signal, providing more control over trigger conditions.

Automatic Measurement

The device offers partial support for one-click automatic measurement. Press the**Auto** button to initiate automatic scaling and display of key waveform parameters such as Maximum Voltage (Max), Minimum Voltage (Min), Peak-to-Peak Voltage (Vpp), and Frequency (Fre).

Advanced Analysis (FFT, Histogram, Eye Diagram)

For in-depth signal analysis, navigate through the**Menu** to access advanced functions. These include Fast Fourier Transform (FFT) for frequency domain analysis, Histogram for statistical analysis of signal characteristics, and Eye Diagram analysis for assessing digital signal integrity.

Maintenance

Proper maintenance ensures the longevity and accuracy of your oscilloscope.

- **Cleaning:** Use a soft, dry, lint-free cloth to clean the device's exterior. For stubborn dirt, lightly dampen the cloth with water. Do not use abrasive cleaners, solvents, or harsh chemicals, as these can damage the casing or screen.
- **Storage:** Store the oscilloscope in a cool, dry place away from direct sunlight, extreme temperatures, and high humidity. Use the original packaging or a protective case for transport and storage.
- **Probe Care:** Handle oscilloscope probes carefully. Avoid bending or stressing the cables excessively, as this can damage the internal wiring. Keep probe tips clean and protected when not in use.

Troubleshooting

This section addresses common issues you might encounter with your oscilloscope.

No Display After Power On

- **Check Power:** Ensure the power adapter is securely connected to both the device and a functional power outlet.
- **Battery:** If the device is battery-powered, ensure the battery is sufficiently charged. Connect the power adapter to charge the battery.

Unstable Waveform

- **Adjust Trigger:** Press the **Auto** button to allow the oscilloscope to automatically set the trigger. Alternatively, manually adjust the trigger level and mode (e.g., Edge, Pulse Width) to stabilize the waveform.

- **Probe Connection:** Ensure probes are securely connected to the oscilloscope and the circuit under test. Verify that the probe's ground clip is properly connected.
- **Signal Source:** Verify that the signal source itself is stable and not intermittent.

Incorrect Measurements

- **Probe Attenuation:** Ensure the probe attenuation setting on the oscilloscope matches the physical probe (e.g., 1X, 10X). Mismatched settings will result in incorrect voltage readings.
- **Calibration:** If available in the menu, perform a self-calibration to ensure the device's internal settings are optimized.

Specifications

Feature	Specification
Model Number	SCO2 10M
Digital Channels	2
Analog Bandwidth	10 MHz
Real-Time Sampling Rate	50 MSa/s
Record Length	20 Kbit
Display Size	3.0 - 4.9 Inches
Display Resolution	320*240 Pixels
Input Voltage Range	±40V/400V (ChargeWave)

Warranty and Support

For detailed warranty information and technical support, please refer to the documentation provided with your original purchase. It is recommended to keep your purchase receipt as proof of purchase for any warranty claims.

If you require assistance or have questions not covered in this manual, please contact RDENWZEDZ customer service through the contact information provided with your product or on the official RDENWZEDZ website.