KUIDAMOS DSO FNIRSI PRO

KUIDAMOS DSO FNIRSI PRO Handheld Digital Oscilloscope User Manual

1. Product Overview

The KUIDAMOS DSO FNIRSI PRO is a portable digital oscilloscope designed for various measurement tasks. It features a 2.4-inch LCD display, a real-time sampling rate of up to 20MS/s, and an analog bandwidth of 5MHz. This device is equipped with a built-in 1200mAh rechargeable lithium battery, offering approximately 3 hours of continuous operation. It supports waveform storage and management, making it suitable for both maintenance and research and development applications.

Image 1.1: The DSO FNIRSI PRO Digital Oscilloscope, highlighting its 20MS/s sampling rate and 5MHz analog bandwidth.

Image 1.2: The oscilloscope's 2.4-inch HD LCD screen with 320 x 240 resolution for clear waveform display.

Image 1.3: Front and back views of the DSO FNIRSI PRO, illustrating its physical layout.

2. Package Contents

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

- 1 x DSO FNIRSI PRO Digital Oscilloscope
- 1 x Matching Probe
- 1 x USB Data Line
- 1 x User Manual (this document)

3. Initial Setup

3.1 Charging the Device

Before first use, fully charge the oscilloscope. Connect the provided USB data line to the device's charging port and to a 5V/1A, 2A, 3A, or 4A USB power adapter. The built-in 1200mAh lithium battery can be charged continuously for approximately 3 hours.

3.2 Connecting the Probe

Connect the matching probe to the BNC connector on the top of the oscilloscope. Ensure a secure connection by twisting the probe connector clockwise until it locks into place.

3.3 Powering On/Off

To power on the device, press and hold the power button (usually located on the side or bottom) for a few seconds until the screen illuminates. To power off, press and hold the power button again until the device shuts down.

4. Operating Instructions

4.1 Controls and Interface

The oscilloscope features a user-friendly interface with several buttons for navigation and function control.

Image 4.1: Operating the DSO FNIRSI PRO, showing the placement of control buttons.

Image 4.2: Detailed view of the oscilloscope's control panel.

- **MENU:** Accesses the main menu for settings and functions.
- **RUN/STOP:** Starts or pauses waveform acquisition.
- **AUTO:** Automatically adjusts settings for optimal waveform display.
- **TRIG:** Adjusts trigger level.
- **50%:** Sets the trigger level to 50% of the waveform amplitude.
- **AC/DC:** Toggles between AC and DC coupling modes.
- **1X/10X:** Sets the oscilloscope's input attenuation to match the probe's setting.
- **MODE/OK:** Confirms selections or changes modes.
- **Arrow Buttons (Up, Down, Left, Right):**Navigate menus and adjust parameters.

4.2 Probe Attenuation Settings

It is critical to match the probe's attenuation setting with the oscilloscope's input setting to ensure accurate measurements.

- For **1X measurement (0-40V)**: Set both the physical switch on the probe and the**1X/10X** button on the oscilloscope to the **1X** position.
- For **10X measurement (40-800V)**: Set both the physical switch on the probe and the**1X/10X** button on the oscilloscope to the **10X** position.

4.3 Measurement Modes and Triggering

The oscilloscope supports various trigger modes to stabilize waveform display:

- **Single:** Captures a single waveform event and then stops.
- **Normal:** Captures a waveform only when a trigger condition is met.
- **Auto:** Continuously acquires waveforms, even without a trigger, but will trigger if a signal is present.

Use the **TRIG** button and arrow keys to adjust the trigger level, which determines the voltage point at which the oscilloscope begins to acquire data.

4.4 Waveform Storage and Management

The device includes 16MB of built-in storage, capable of storing up to 500 waveform images. Use the file manager function to browse, view, and manage saved waveforms. This includes viewing detailed information, flipping through images, and deleting unwanted files.

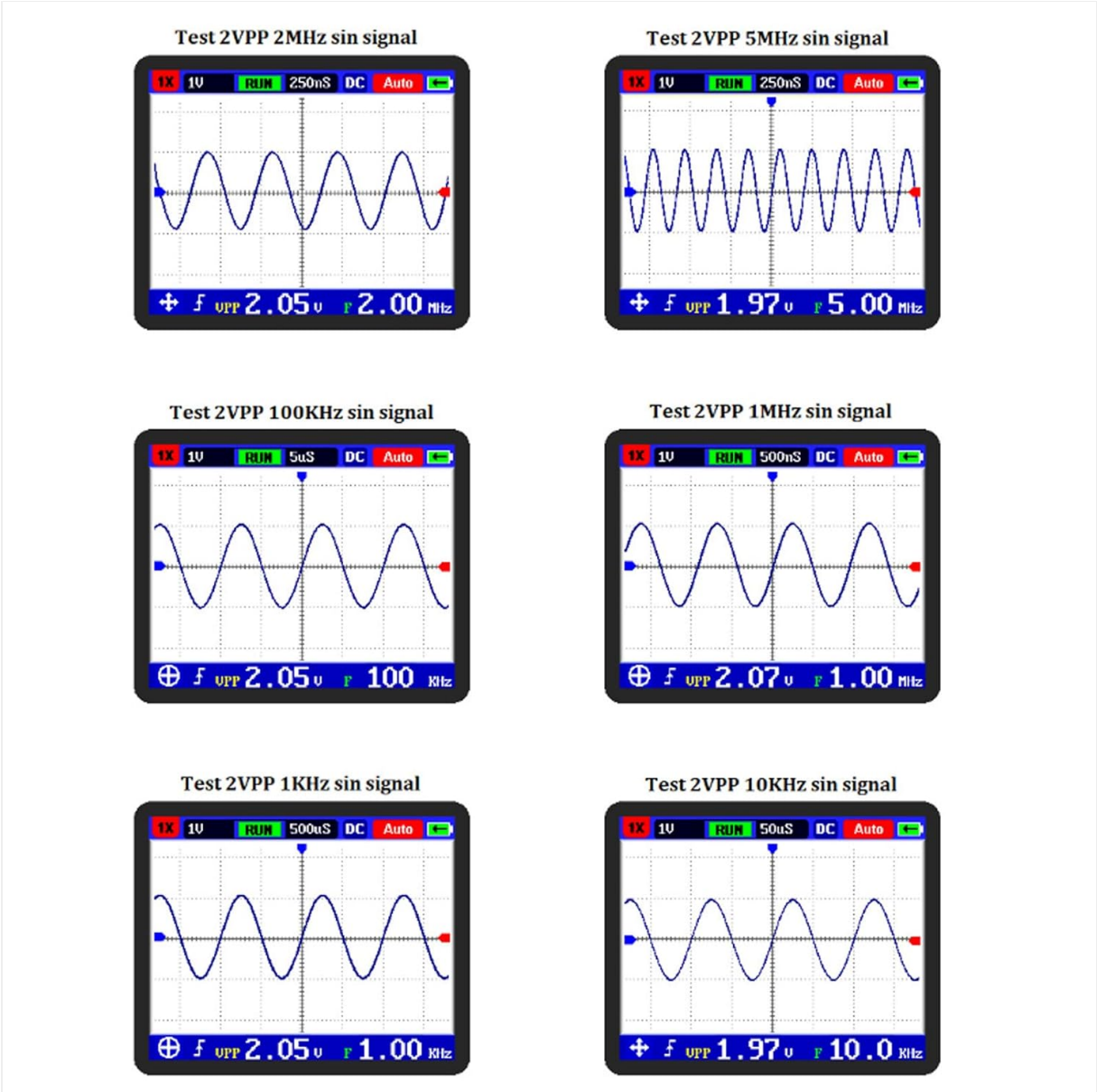

Image 4.3: Examples of sine wave measurements at various frequencies.

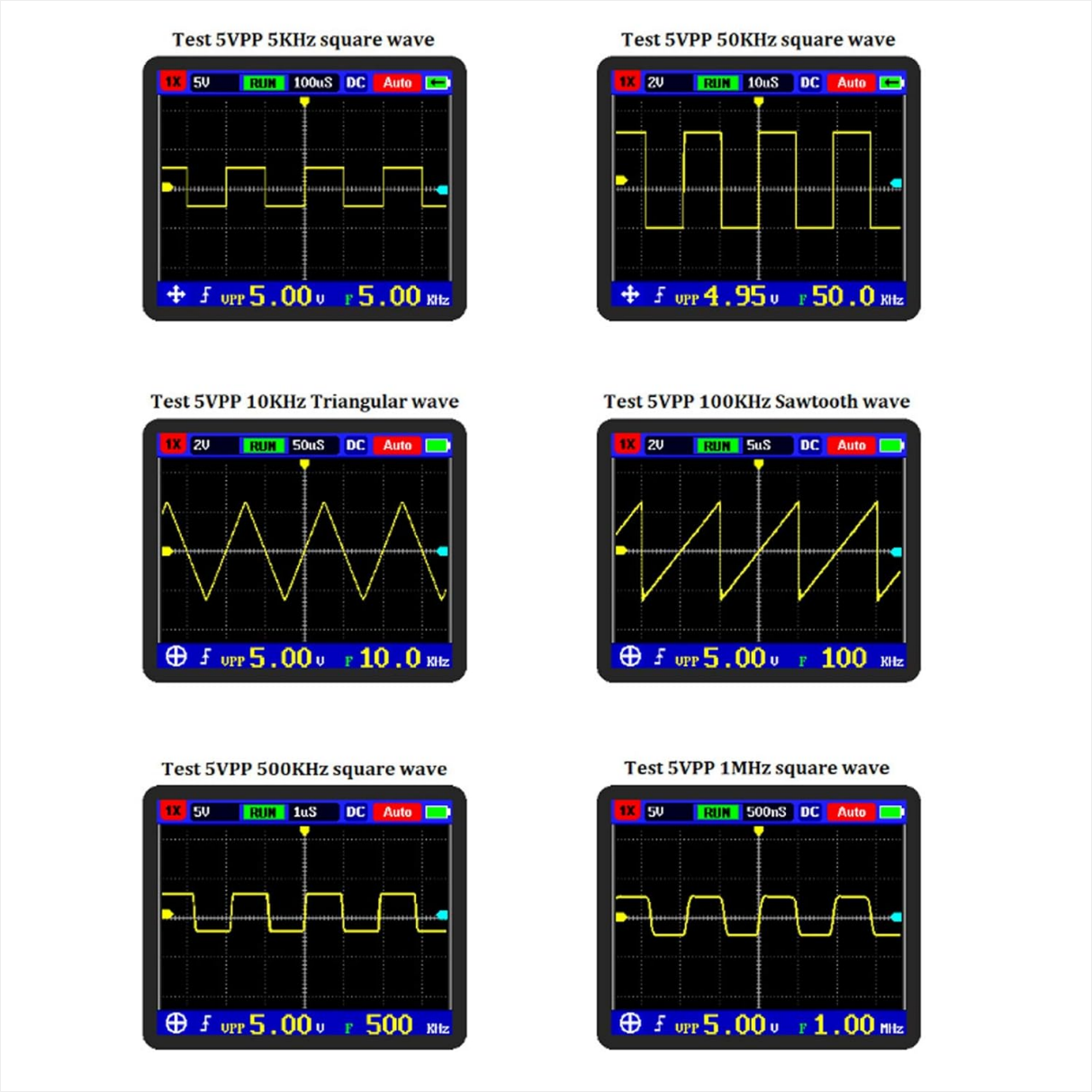

Image 4.4: Examples of square, triangular, and sawtooth wave measurements.

5. Care and Maintenance

5.1 Cleaning

Wipe the device with a soft, dry cloth. Do not use abrasive cleaners or solvents, as they may damage the casing or screen. Ensure the device is powered off and disconnected from any power source before cleaning.

5.2 Battery Care

To prolong battery life, avoid fully discharging the battery frequently. If storing the device for an extended period, charge it to approximately 50% and recharge every few months.

5.3 Storage

Store the oscilloscope in a cool, dry place, away from direct sunlight, extreme temperatures, and high humidity. Keep it protected from dust and physical impact.

6. Troubleshooting

- **Issue: Abnormal measured data.**
  Solution: Check the probe's attenuation switch (1X or 10X) and ensure it matches the setting on the oscilloscope (using the **1X/10X** button). If the probe is set to 10X and the oscilloscope is set to 1X, the device will not be damaged, but the data displayed will be incorrect.
- **Issue: Device does not power on.**
  Solution: Ensure the battery is sufficiently charged. Connect the device to a power source using the USB data line and allow it to charge for at least 30 minutes before attempting to power it on again.
- **Issue: Screen is blank or frozen.**
  Solution: Try performing a soft reset by pressing and holding the power button for an extended period (e.g., 10-15 seconds) until the device powers off, then power it back on. If the issue persists, ensure the battery is charged.

7. Technical Specifications

Feature	Specification
Product Model	DSO FNIRSI PRO
Product Material	ABS
Number of Channels	1
Screen Size	Approx. 6.1cm / 2.4in
Screen Resolution	320 x 240
Display Type	LCD screen
Analog Bandwidth	5MHz
Maximum Sampling Rate	20MSps
Trigger Mode	Single/Normal/Auto
Waveform Storage	16MB (up to 500 waveform pictures)
Built-in Battery	Lithium battery 1200mAh
Standby Time	3 hours
Charging Input	5V/1A/2A/3A/4A
Manufacturer	KUIDAMOS
Country of Origin	USA
Item Part Number	KUIDAMOStgaix9hwck

8. Warranty and Customer Support

For warranty information, technical support, or service inquiries, please refer to the documentation

provided with your purchase or contact the seller directly. Keep your purchase receipt as proof of purchase for any warranty claims.