SKYCENX SK202D

SKYCENX SK202D 3-in-1 Handheld Oscilloscope Multimeter DDS Generator User Manual

1. Introduction

The SKYCENX SK202D is a versatile 3-in-1 handheld device integrating a dual-channel oscilloscope, a 6000-count multimeter, and a DDS signal generator. Designed for electrical testing and measurement, it offers an 80MHz bandwidth, 200MSa/s sampling rate, and a clear TFT color screen for various applications.

Figure 1: SKYCENX SK202D highlighting its three primary functions.

2. Package Contents

Verify that all items listed below are included in your package. If any items are missing or damaged, please contact customer support.

- SKYCENX SK202D Main Unit
- Oscilloscope Probe

- Multimeter Test Leads
- USB Type-C Cable
- User Manual
- Storage Pouch

ACCESSORY

Figure 2: Included accessories with the SKYCENX SK202D.

3. Product Features

- **Dual-Channel Oscilloscope:** 80MHz bandwidth, 200MSa/s real-time sampling rate. Features automatic measurement, FFT mathematical operations, cursor measurement, persistence mode, and YZ mode. Vertical sensitivity from 10mV/div to 10V/div.
- **6000 Counts Multimeter:** Measures AC/DC Voltage (up to 750V AC, 1000V DC), DC/AC Current (up to 10A), Resistance (up to 60 MΩ), Capacitance (up to 99.99 mF), Continuity, and Diode.
- **DDS Signal Generator:** Supports sine wave (1Hz-5MHz), square wave (10Hz-1MHz), and triangle wave (10Hz-1MHz) outputs with 1Hz step.
- **Data Management:** Capable of storing 2000 sets of data and 200 waveforms. Supports Type-C connection for

data transfer to computers or tablets.

- **Power & Battery:** 15W fast charging for approximately 10 hours of usage time. Built-in auto power-off function.
- **Display:** 320×240 resolution TFT color screen for clear visibility in various lighting conditions.

4. Setup

4.1 Initial Charging

Before first use, fully charge the device using the provided USB Type-C cable and a compatible 15W charger. The charging indicator on the screen will show charging status.

Figure 3: Device charging via USB Type-C.

4.2 Power On/Off

Press and hold the red power button located on the front panel to turn the device on or off.

4.3 Connecting Probes

For oscilloscope functions, connect the oscilloscope probe to the CH1 or CH2 BNC input. For multimeter functions, connect the test leads to the appropriate input jacks (VΩCap, mA, 10A, COM).

Figure 4: Overview of button functions and input ports.

5. Operating Instructions

5.1 General Navigation

Use the directional buttons (Up, Down, Left, Right) and the ENTER button to navigate menus and adjust settings. The MENU/AUTO button accesses the main menu or enables auto-ranging/auto-setup functions. The SAVE button stores data or waveforms.

5.2 Oscilloscope Mode

Press the CH1 or CH2 button to activate the respective oscilloscope channel. Use the F1-F4 function buttons for quick access to common oscilloscope settings such as vertical sensitivity, time base, trigger settings, and measurement parameters. The device supports FFT analysis, cursor measurements, and waveform storage.

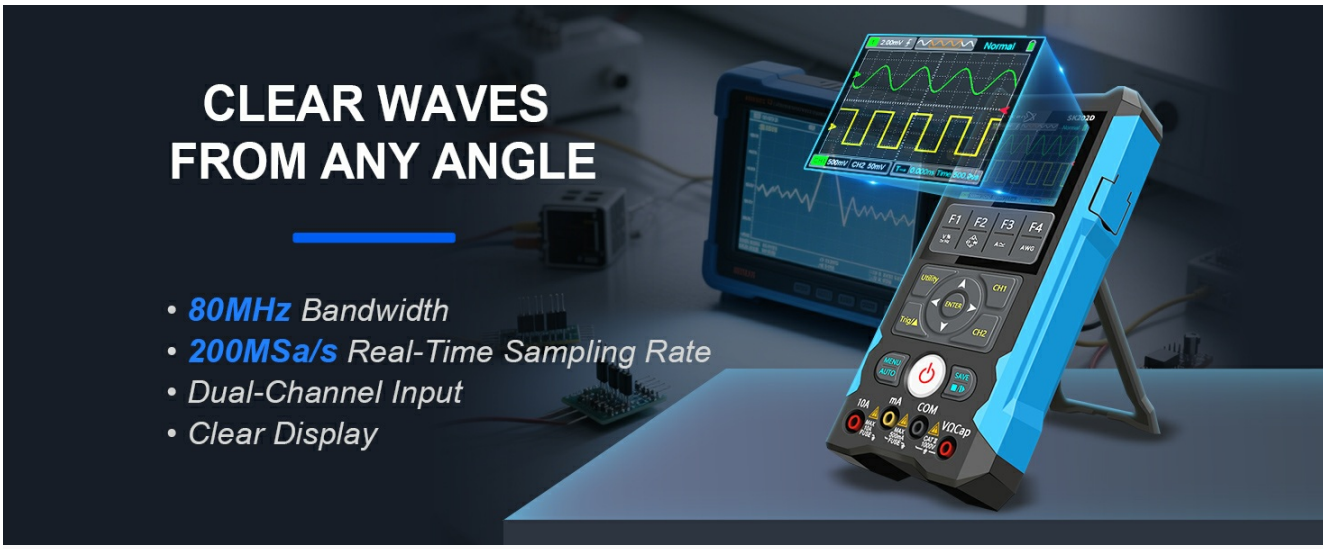

Figure 5: Oscilloscope mode displaying a waveform.

Figure 6: Detailed view of oscilloscope waveform analysis features.

5.3 Multimeter Mode

Rotate the rotary switch to select the desired multimeter function (e.g., Voltage, Current, Resistance, Capacitance, Diode, Continuity). Connect the test leads to the circuit under test. The display will show the measurement value. Use the MODE button to switch between AC/DC or other sub-functions.

Figure 7: Multimeter mode displaying various measurements.

5.4 Signal Generator Mode

Access the signal generator function via the AWG (Arbitrary Waveform Generator) button or menu. Select the desired waveform type (sine, square, triangle) and adjust frequency and amplitude using the directional buttons and ENTER. Connect the signal generator output to the circuit requiring a test signal.

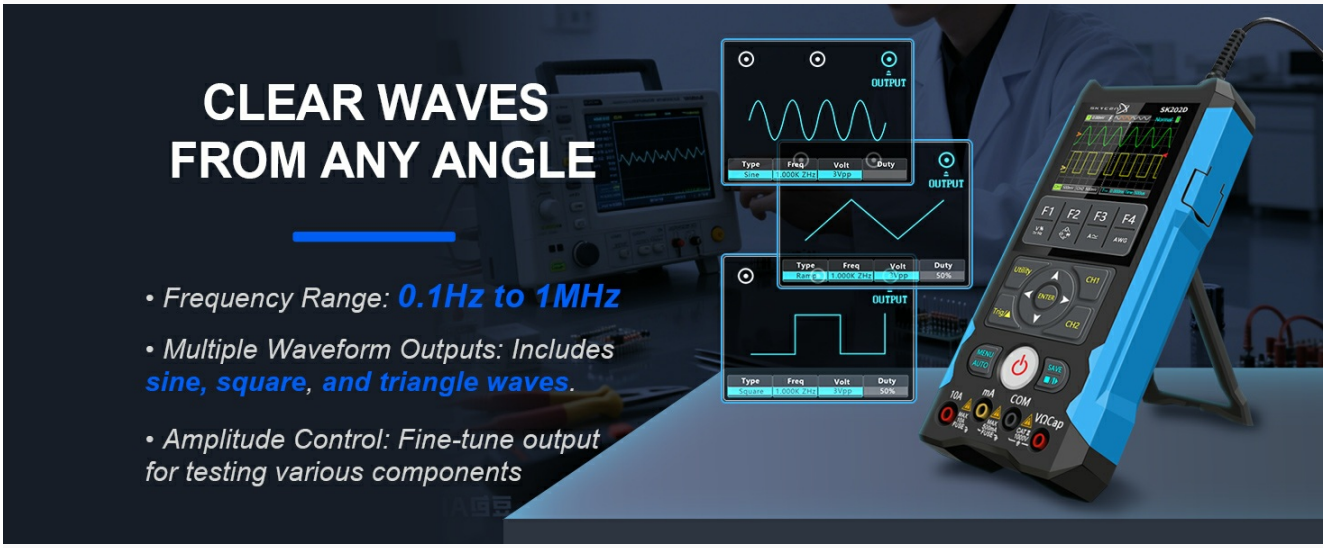

Figure 8: Signal generator mode with various waveform outputs.

5.5 Data Storage and PC Connection

The device can store measurement data and waveforms. To transfer data, connect the SK202D to a computer or tablet using the USB Type-C cable. PC software may be required for full data analysis and is available upon request from the Skycenx store.

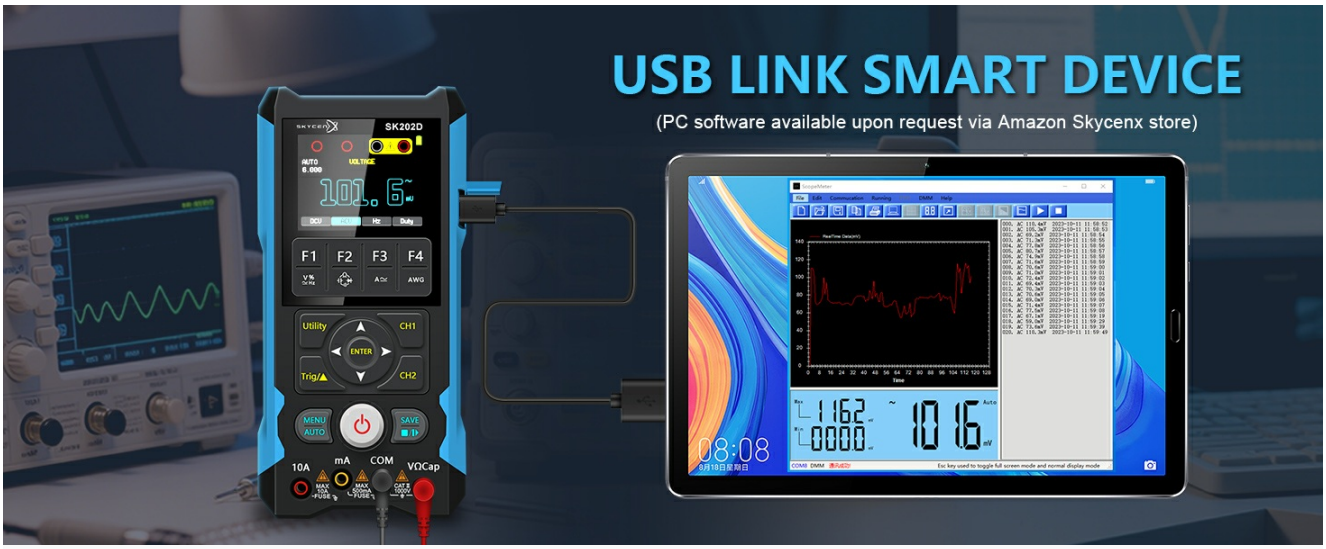

Figure 9: USB connection for data transfer to smart devices.

5.6 Product Function Introduction Video

Your browser does not support the video tag.

Video 1: An overview of the SKYCENX SK202D's various functions and operational modes.

5.7 Handheld Oscilloscope Multimeter Demonstration Video

Your browser does not support the video tag.

Video 2: A demonstration of the handheld oscilloscope and multimeter functions in use.

6. Maintenance

6.1 Cleaning

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

6.2 Battery Care

To prolong battery life, avoid fully discharging the device frequently. Charge the device regularly, especially if it will not be used for an extended period. Store in a cool, dry place.

6.3 Storage

When not in use, store the device and its accessories in the provided storage pouch to protect it from dust and physical damage.

7. Troubleshooting

- **Device does not power on:** Ensure the battery is charged. Connect to a power source and try again.
- **Inaccurate measurements:** Check probe connections and ensure the correct measurement mode is selected. Calibrate if necessary (refer to advanced settings in the full manual).
- **Slow response to button presses:** This can sometimes occur. Try restarting the device. Ensure the firmware is up to date if updates are available.
- **No waveform display:** Verify probe connection, trigger settings, and input signal. Adjust vertical and

horizontal scales.

- **Data transfer issues:** Ensure the USB cable is securely connected and the correct PC software/drivers are installed.

For further assistance, please refer to the comprehensive user manual or contact SKYCENX customer support.

8. Specifications

8.1 General Specifications

- **Batteries:** 2 Lithium Ion batteries (included)
- **Parcel Dimensions:** 23.5 x 18.01 x 4.5 cm
- **Weight:** 879.97 g
- **Power Source:** Battery Powered
- **Style:** Digital
- **Color:** Black
- **Upper Temperature Rating:** 40 Degrees Celsius
- **UPC:** 782331265784

8.2 Oscilloscope Specifications

Parameter	Value
Channels	2
Bandwidth	80MHz
Sampling Rate	200MSa/s
Record Length	6K
Horizontal Range	5ns/div ~ 500s/div
Vertical Range	1x: 10mV/div ~ 10V/div
Bandwidth Limit	20MHz
Input Resistance	1MΩ/15pF
Input Coupling	DC, AC, GND
Probe Attenuation	1X, 10X, 100X
Protection Voltage	300Vpp
Trigger Type	Edge trigger
Trigger Mode	Auto, Normal, Single
Trigger Level	±4div
Measurement Data	Vp-p, Vrms, Vavg, Vp, Vmax, Vmin, F, T, T+-, Du+, Du-
Storage	2000 sets of DMM data, 200 sets of Waveform, Thumbnail preview

Table 1: Oscilloscope Specifications.

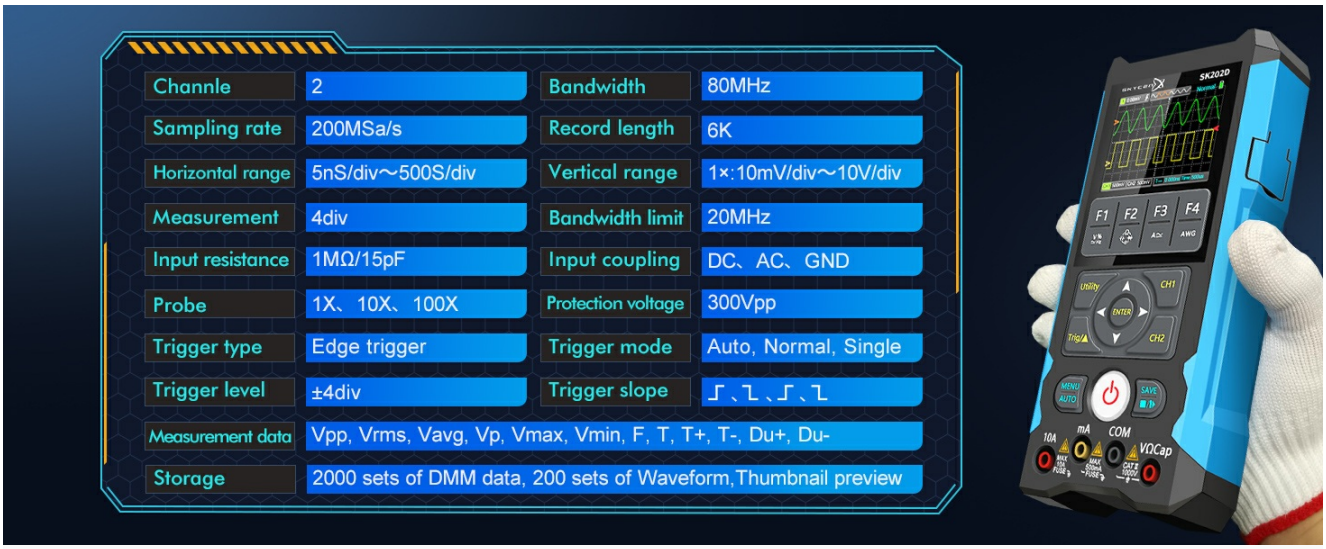

Figure 10: Visual representation of oscilloscope specifications.

8.3 Multimeter Specifications

Function	Range	Uncertainty
DC Voltage	600.0mV ~ 1000V	0.75%rdg + 10dgt
AC Voltage	600.0mV ~ 750V (TRMS, 40Hz ~ 1KHz)	1.0%rdg + 10dgt
DC Current	60.00mA/500.0mA/6.000A/10.00A	1.2%rdg + 10dgt
AC Current	60.00mA/500.0mA/6.000A/10.00A TRMS	1.5%rdg + 10dgt
Resistance	600.0Ω ~ 60.00MΩ	1.0%rdg + 5dgt
Capacitance	10.00nF ~ 1.000mF/10.00mF ~ 100.0mF	2.0/5.0%rdg + 10dgt
Frequency	10.00Hz ~ 10.00MHz	1.0%rdg + 5dgt
Diode Test	Open circuit voltage is about 3V, Max test current is about 2mA	
Continuity Test	≤50Ω buzzer sound, ≥600Ω display OL	
Other Functions	AUTO Range, TRMS/Change gear prompt, Sound switch, USB communication, Automatic shut-down	

Table 2: Multimeter Specifications.

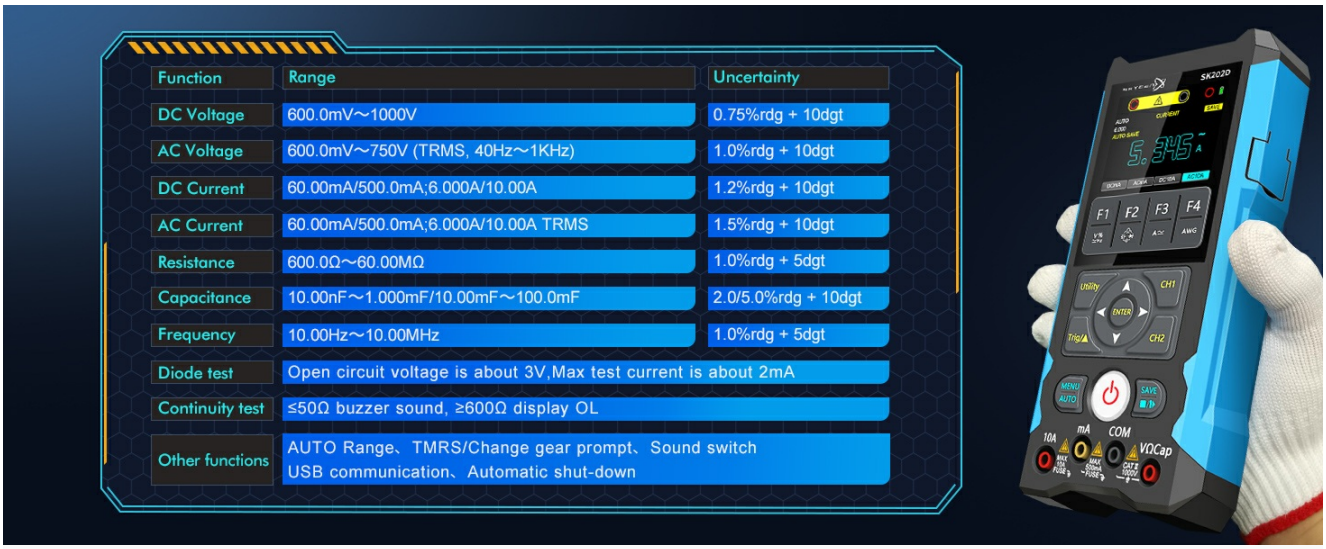

Figure 11: Visual representation of multimeter specifications.

8.4 Signal Generator Specifications

Parameter	Value
Sine Wave Frequency	1Hz ~ 5MHz
Square Wave Frequency	1Hz ~ 1MHz
Triangle Wave Frequency	1Hz ~ 1MHz
Backlighting Time	5Vpp, 3Vpp, 2Vpp, 1Vpp, 500mVpp, 200mVpp, 100mVpp, 0Vpp

Table 3: Signal Generator Specifications.

Figure 12: Visual representation of signal generator and backlighting specifications.

9. Warranty and Support

The SKYCENX SK202D comes with a standard manufacturer's warranty. For detailed warranty information, technical support, or service inquiries, please contact SKYCENX customer service through the retailer where the product was purchased or visit the official SKYCENX website.