

Hantek HDG6202B

Hantek HDG6202B 2CH Arbitrary Waveform Generator User Manual

Model: HDG6202B

1. INTRODUCTION

The Hantek HDG6202B is a high-performance 2-channel arbitrary waveform generator designed for generating various electrical waveforms. It features a 200MHz frequency range, 1.25 GSa/s sampling rate, and 16-bit vertical resolution, making it suitable for a wide range of testing and measurement applications in electronics, research, and education. This manual provides essential information for the safe and effective operation of your device.

2. SAFETY INFORMATION

To ensure safe operation and prevent damage to the device or injury to personnel, observe the following safety precautions:

- Always operate the device in a dry, well-ventilated environment. Avoid exposure to moisture or extreme temperatures.
- Ensure the device is properly grounded using the provided power cable. Do not defeat the grounding feature.
- Do not open the device casing. There are no user-serviceable parts inside. Refer all servicing to qualified service personnel.
- Use only the power adapter and accessories supplied or approved by Hantek.
- Disconnect the power cord before cleaning the device. Use a soft, dry cloth for cleaning.
- Avoid applying excessive force to buttons, connectors, or the display.

3. PACKAGE CONTENTS

Verify that all items listed below are present in the package upon unboxing:

1. Hantek HDG6202B Arbitrary Waveform Generator Unit
2. BNC to BNC Cable (x2)
3. US Power Cable (x1)

4. USB Cable (x1)
5. User Manual (this document or similar printed guide)



Figure 3.1: Hantek HDG6202B with standard accessories.

4. SETUP

Follow these steps to set up your Hantek HDG6202B:

1. **Placement:** Place the generator on a stable, flat surface with adequate ventilation around the unit. Ensure there is enough space for cable connections.
2. **Power Connection:** Connect the supplied US power cable to the power input port on the rear panel of the HDG6202B. Plug the other end into a grounded AC power outlet.
3. **Output Connections:** Connect BNC cables from the CH1 and/or CH2 output ports on the front panel to your test circuit or measurement device (e.g., oscilloscope).
4. **USB Connection (Optional):** If you plan to control the device via a computer or transfer arbitrary waveforms, connect the supplied USB cable from the USB port on the generator to your computer.
5. **Power On:** Press the power button, typically located on the front or rear panel, to turn on the device. The LCD screen should illuminate.



Figure 4.1: Front panel of the HDG6202B, illustrating display and controls.

5. OPERATING INSTRUCTIONS

This section outlines basic operation of the Hantek HDG6202B. Refer to the full user manual for advanced functions.

5.1 Basic Waveform Generation

1. **Select Channel:** Use the CH1 or CH2 buttons on the front panel to select the desired output channel.
2. **Choose Waveform Type:** Press the **Waveform** button and use the navigation keys or rotary knob to select a standard waveform (e.g., Sine, Square, Triangle, Pulse, Noise, Arbitrary).
3. **Set Frequency:** Press the **Frequency** button. Use the numeric keypad or rotary knob to enter the desired frequency value. Press the unit button (e.g., MHz, kHz) to confirm.
4. **Adjust Amplitude:** Press the **Amplitude** button. Enter the desired peak-to-peak amplitude value and select the unit (e.g., Vpp, mVpp).
5. **Set Offset:** Press the **Offset** button. Enter the desired DC offset voltage.
6. **Enable Output:** Press the **Output ON/OFF** button for the selected channel to enable the waveform output. The

button will typically illuminate when active.

5.2 Advanced Functions

- **Modulation:** The device supports various modulation types (AM, FM, PM, FSK, ASK, PSK). Access these functions via the **Modulation** menu to configure parameters such as modulation type, source, depth, and frequency.
- **Sweep:** Generate frequency sweeps by configuring start frequency, stop frequency, sweep time, and sweep type (linear/logarithmic) in the **Sweep** menu.
- **Burst:** Create burst waveforms with a specified number of cycles, burst period, and trigger source using the **Burst** function.
- **Arbitrary Waveforms:** Load custom waveforms from USB or create them using the device's interface. The HDG6202B supports up to 64 Mpts waveform length.
- **Frequency Counter:** Utilize the built-in frequency counter to measure external signals.

6. MAINTENANCE

Proper maintenance ensures the longevity and accuracy of your Hantek HDG6202B.

- **Cleaning:** Regularly clean the exterior of the device with a soft, dry, lint-free cloth. For stubborn dirt, dampen the cloth slightly with water. Do not use abrasive cleaners, solvents, or harsh chemicals. Ensure no liquid enters the device.
- **Storage:** When not in use for extended periods, store the generator in a clean, dry environment, away from direct sunlight, dust, and extreme temperatures.
- **Firmware Updates:** Check the official Hantek website periodically for firmware updates. Firmware updates can improve performance, add features, or resolve known issues. Follow the instructions provided by Hantek carefully when performing updates.
- **Calibration:** For critical applications, periodic calibration by a qualified service center is recommended to maintain measurement accuracy.

7. TROUBLESHOOTING

This section addresses common issues you might encounter. For problems not listed here, contact Hantek support.

Problem	Possible Cause	Solution
Device does not power on.	Power cable not connected or faulty outlet.	Ensure power cable is securely connected. Test the outlet with another device.
No waveform output.	Output not enabled, incorrect settings, or faulty cable.	Press the Output ON/OFF button. Verify frequency, amplitude, and offset settings. Check BNC cables for proper connection and integrity.
Waveform appears distorted or incorrect.	Incorrect waveform parameters, impedance mismatch, or external interference.	Double-check all waveform settings. Ensure the output impedance setting matches the load. Minimize external noise sources.
Settings (e.g., output impedance, power levels) are not saved after power cycling.	Potential firmware issue.	Check the Hantek website for the latest firmware updates for the HDG6202B model. Updating the firmware may resolve this issue.

Problem	Possible Cause	Solution
USB connection not recognized by computer.	Missing drivers or faulty USB cable/port.	Install the necessary drivers from the Hantek website. Try a different USB cable or port on your computer.

8. SPECIFICATIONS

Key technical specifications for the Hantek HDG6202B Arbitrary Waveform Generator:

Feature	Specification
Channels	2
Vertical Resolution	16-bit
Sampling Rate	1.25 GSa/s
Sine Wave Frequency	1 uHz ~ 200 MHz
Square Wave Frequency	1 uHz ~ 60 MHz
Harmonic Wave Frequency	1 uHz ~ 100 MHz
Triangle Wave Frequency	1 uHz ~ 5 MHz
Arbitrary Waveform Frequency	1 uHz ~ 50 MHz
Waveform Length	Up to 64 Mpts
Display	7.0 inch LCD (800*640 resolution)
Functions	Modulation, Sweep, Burst, Built-in Frequency Counter
Item Weight	6.4 pounds (approx. 2.9 kg)
Package Dimensions	15.2 x 9.65 x 7.64 inches (approx. 38.6 x 24.5 x 19.4 cm)

9. WARRANTY AND SUPPORT

For warranty information, technical support, or service inquiries, please contact Hantek directly through their official website or the retailer from whom you purchased the product. Keep your purchase receipt as proof of purchase for warranty claims.