Hantek 6074BC

Hantek 6074BC 4-Channel PC Oscilloscope User Manual

Model: 6074BC

1. Introduction

This manual provides comprehensive instructions for the Hantek 6074BC 4-channel PC-based digital storage oscilloscope. Designed for precision and versatility, this device offers a 70MHz bandwidth and a 1GSa/s real-time sampling rate, making it suitable for a wide range of electrical testing and signal analysis applications. Please read this manual thoroughly before operating the device to ensure proper usage and to maximize its capabilities.

2. Package Contents

Verify that all items listed below are present in your package. If any items are missing or damaged, please contact your vendor.

- Hantek 6074BC Oscilloscope Unit
- USB Cable
- Oscilloscope Probes (4)
- Probe Accessories (e.g., ground clips, adjustment tools, color rings)
- Software CD (or download link)
- BNC to Alligator Clip Cables (2)
- User Manual (this document)



Figure 2.1: Hantek 6074BC Oscilloscope unit with USB cable, software CD, two oscilloscope probes, and two BNC to alligator clip cables.

3. Product Features

The Hantek 6074BC oscilloscope is equipped with advanced features for accurate and efficient signal analysis:

- **4 Analog Channels:** Simultaneous measurement across four independent channels.
- **High Sampling Rate:** 1GSa/s real-time sampling rate for detailed waveform capture.
- **Wide Bandwidth:** 70MHz analog bandwidth.
- **Extensive Functions:** Includes over 20 functions such as pass/fail testing, various trigger modes, dynamic cursor tracking, and waveform record/replay.
- **Compact and Durable Design:** Features a heat-resistant and scratch-proof compact case.
- **Broad Compatibility:** Supports Windows 7/8/10, Android (via H-scope/Openscope), Linux (via Openhantek), and OSX (through virtual box/machine).
- **Development Support:** Provides a development library DLL with Labview/VC/VB development examples.



Figure 3.1: The Hantek 6074BC oscilloscope connected to a PC, demonstrating its software interface and multi-channel waveform display.

4. Setup Guide

4.1 Software Installation

1. Insert the provided software CD into your computer's CD-ROM drive, or download the latest software from the official Hantek website: https://d.hantek.com/qE.
2. Follow the on-screen instructions to install the Hantek oscilloscope software and necessary drivers. Administrator privileges may be required.
3. After installation, restart your computer if prompted.

4.2 Hardware Connection

1. Connect one end of the supplied USB cable to the USB Interface port on the Hantek 6074BC unit.
2. Connect the other end of the USB cable to an available USB port on your computer. The device is powered via USB.
3. Attach the oscilloscope probes to the desired BNC input channels (CH1, CH2, CH3, CH4) on the side of the unit. Ensure a

secure connection.

4. Connect the ground clip of each probe to the ground reference of your circuit.



Figure 4.1: Detailed view of the Hantek 6074BC's side panel, highlighting the USB interface for PC connection and the four BNC input channels (CH1-CH4) for probe attachment.

5. Operating Instructions

5.1 Launching the Software

Once the hardware is connected, launch the Hantek oscilloscope application from your computer's desktop or Start menu. The software should automatically detect the connected device.

5.2 Basic Waveform Display

1. Ensure your probes are correctly connected to the circuit under test.
2. In the software interface, enable the desired channels (CH1, CH2, etc.).
3. Adjust the vertical scale (Volts/Div) and horizontal time base (Time/Div) to view the waveform appropriately.

4. Use the trigger settings to stabilize the waveform. Common trigger types include Edge, Pulse, and Video. Select a trigger source (e.g., CH1) and set the trigger level.
5. Utilize the "Auto" function for quick automatic setup of vertical and horizontal scales, and trigger level.

5.3 Advanced Functions

- **Measurements:** The software provides automatic measurements for parameters like Vpp, Vmax, Vmin, Freq, Period, etc. Access these through the measurement menu.
- **Cursors:** Use horizontal and vertical cursors to manually measure voltage and time differences on the waveform.
- **Waveform Storage and Recall:** Save captured waveforms to your computer for later analysis or comparison.
- **Pass/Fail Test:** Configure masks to perform automated pass/fail testing against defined waveform templates.
- **FFT Analysis:** Perform Fast Fourier Transform to analyze the frequency components of your signal.



Figure 5.1: Screenshot of the Hantek 6074BC software interface, showing multiple active channels, waveform displays, and various control panels for settings and measurements.

6. Maintenance

- **Cleaning:** Use a soft, dry cloth to clean the exterior of the oscilloscope. Do not use abrasive cleaners or solvents.
- **Storage:** Store the device in a cool, dry place away from direct sunlight and extreme temperatures.
- **Probe Care:** Handle probes carefully. Avoid bending or stressing the cables. Calibrate probes regularly if your application requires high accuracy.
- **Software Updates:** Periodically check the Hantek website for software and driver updates to ensure optimal performance and compatibility.

7. Troubleshooting

Problem	Possible Cause	Solution
Device not detected by software.	USB connection issue, driver not installed correctly, or software not running.	Ensure USB cable is securely connected to both the device and the computer. Try a different USB port. Reinstall the device drivers and software. Restart the computer and the oscilloscope software.
No waveform displayed.	Channel disabled, incorrect vertical/horizontal scale, or no signal input.	Verify the channel is enabled in the software. Adjust the Volts/Div and Time/Div settings. Ensure the probe is correctly connected to the signal source and ground. Check the signal source for activity.
Unstable waveform.	Incorrect trigger settings.	Adjust the trigger level. Select an appropriate trigger source and type (e.g., Edge trigger for repetitive signals). Use the "Auto" function to attempt automatic trigger setup.
Software crashes or freezes.	Software bug, system resource issue, or driver conflict.	Close and reopen the software. Ensure your operating system is up to date. Check for and install the latest software/driver updates from Hantek. Ensure your computer meets the minimum system requirements.

8. Specifications

Parameter	Value
Model Number	6074BC
Analog Channels	4
Bandwidth	70MHz
Real-time Sampling Rate	1GSa/s
Vertical Resolution	8 Bit

Parameter	Value
Memory Depth	64K
Product Dimensions	6.89 x 4.13 x 0.98 inches
Item Weight	1.98 Pounds (900 Grams)
Power Source	Corded Electric (USB Powered)
Manufacturer	Hantek
Date First Available	May 18, 2017



Figure 8.1: The Hantek 6074BC oscilloscope connected to a tablet, illustrating its compact size and displaying key specifications such as real-time sampling rate, vertical resolution, memory depth, bandwidth, and number of channels.

9. Warranty and Support

For warranty information, technical support, or service inquiries, please refer to the official Hantek website or contact your local distributor. Keep your purchase receipt as proof of purchase for warranty claims.
Official Hantek Website: www.hantek.com

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