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› RIGOL DHO804 Digital Oscilloscope User Manual

Rigol DHO804

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Model: DHO804

1. INTRODUCTION

The RIGOL DHO804 Digital Oscilloscope is a high-performance, compact instrument designed for precise signal analysis. It features a 70MHz frequency band, 12-bit vertical resolution, and four analog channels, making it suitable for a wide range of applications from embedded design to electronics maintenance and basic R&D. This manual provides essential information for setting up, operating, and maintaining your DHO804 oscilloscope.



Figure 1: Front view of the RIGOL DHO804 Digital Oscilloscope, showcasing its display and control panel.

2. SAFETY INFORMATION

Always observe the following safety precautions to prevent injury and damage to the instrument:

- Ensure the power supply voltage matches the instrument's requirements.
- Do not operate the instrument in wet or damp conditions.
- Avoid exposing the instrument to direct sunlight or extreme temperatures.
- Use only the probes and accessories supplied or recommended by RIGOL.
- Refer all servicing to qualified service personnel.

3. PACKAGE CONTENTS

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

- Main Unit (DHO804) x1
- Probe x4
- Power Supply x1
- USB Cable x1
- Grounding Cable x1

Packing List

Host X1



DH0802/812



Probe X2(150MHz)
DH0802/812 Standard 2

Host X1



DH0804/814



Probe X4(150MHz)
DH0804/814 Standard 4



power cableX1
Approx. 1.5m long



data cableX1
Length 1.5m



grounding wireX1
Length 1.0m



certificates

Figure 2: Illustration of the DHO804 package contents, including the main unit, probes, power cable, data cable, grounding wire, and certificates.

4. PRODUCT OVERVIEW

The RIGOL DHO804 is part of the DHO800 series, known for its advanced features and compact design. Key features include:

- Ultra-low background noise for pure signal acquisition.
- 12-bit hardware high resolution across all channels.
- Up to 70 MHz analog bandwidth with 4 analog channels.
- Maximum 1.25 GSa/s real-time sampling rate.
- Storage depth up to 25 Mpts.
- Vertical sensitivity range of 500 μ V/div to 10 V/div.
- Ultra Acquire mode providing up to 1 million wfms/s waveform capture rate.
- 7-inch 1024x600 high-definition touchscreen for intuitive interaction.
- Versatile interfaces: USB Device & Host, LAN, and HDMI ports.

4.1 Powering the Device

The DHO804 supports Type-C power input, allowing for flexible power options, including portable power sources for on-site testing.

Support Type-C Power



Designed with a Type-C power interface, the DHO800 can be powered by just a portable power source, enabling on-site testing.

Figure 3: The DHO804 oscilloscope connected to a portable power source via its Type-C port, highlighting its portability.

4.2 High-Definition Touchscreen

The 7-inch high-definition touchscreen enhances user interaction, providing a clear and responsive interface for waveform analysis and instrument control.

Versatile Interfaces



The DHO800 series comes standard with USB, LAN, and HDMI output interfaces, supporting remote control and conference presentations, making collaboration more convenient.

Figure 4: A hand interacting with the 7-inch HD touchscreen of the DHO804, demonstrating its touch capabilities.

4.3 Connectivity Options

The DHO800 series comes equipped with standard USB, LAN, and HDMI ports, facilitating remote control, data transfer, and external display connections for collaborative work.

Sleek Design



The DHO800 series features a compact form factor and also supports standard monitor stand usage, effectively reducing desktop footprint and providing you with more ample workspace.

Figure 5: Rear view of the DHO804 showing its USB, LAN, and HDMI ports, alongside a laptop displaying the remote control interface.

4.4 Compact and Sleek Design

The DHO804 features a compact form factor that supports standard monitor stand usage, effectively reducing desktop footprint and providing more ample workspace.

7-inch HD Touchscreen



7-inch high-definition touchscreen for more convenient human-machine interaction.

Figure 6: The DHO804 oscilloscope mounted on a monitor stand, illustrating its space-saving design.

4.5 Product Overview Video

Your browser does not support the video tag.

Video 1: An official overview of the RIGOL DHO800 series, showcasing its design, key features, and user interface. This video highlights the compact size, high resolution, and various connectivity options.

5. SETUP

1. **Unpacking:** Carefully remove the oscilloscope and all accessories from the packaging. Retain the original packaging for future transport or storage.
2. **Power Connection:** Connect the provided power cable to the Type-C port on the rear of the oscilloscope and then to a suitable power outlet.
3. **Probe Connection:** Connect the probes to the BNC input connectors on the front panel. Ensure the probe compensation is adjusted for accurate measurements.

- 4. **Initial Power On:** Press the power button to turn on the oscilloscope. The system will boot up and display the main waveform interface.
- 5. **Language Settings:** If necessary, navigate to the system settings via the touchscreen to adjust the display language.

6. OPERATING THE OSCILLOSCOPE

The DHO804 features a user-friendly interface with both physical controls and a responsive touchscreen. Here are basic operating principles:

- **Channel Controls:** Use the dedicated vertical scale and position knobs for each channel to adjust the waveform display.
- **Horizontal Controls:** Adjust the horizontal scale (time base) and position using the corresponding knobs to view different time segments of the signal.
- **Trigger System:** Set the trigger level and mode to stabilize repetitive waveforms. The trigger controls are located on the right side of the front panel.
- **Measurement Functions:** Access automatic measurements (e.g., Vpp, Freq, Period) via the 'Measure' button or touchscreen menu.
- **Touchscreen Interaction:** Tap, swipe, and pinch-to-zoom gestures can be used for navigating menus, adjusting settings, and analyzing waveforms directly on the screen.
- **Saving Data:** Use the USB host port to save waveform data, screenshots, or instrument settings to a USB flash drive.

7. MAINTENANCE

Proper maintenance ensures the longevity and accuracy of your oscilloscope:

- **Cleaning:** Use a soft, damp cloth to clean the exterior of the instrument. Avoid abrasive cleaners or solvents. For the screen, use a specialized screen cleaner.
- **Storage:** When not in use, store the oscilloscope in a dry, dust-free environment. Protect the screen and connectors from physical damage.
- **Software Updates:** Periodically check the RIGOL official website for firmware updates to ensure optimal performance and access to new features. The instrument supports online version upgrades.
- **Probe Care:** Handle probes carefully. Avoid bending or stressing the cables excessively. Store them properly to prevent damage to the tips.

8. TROUBLESHOOTING

This section provides solutions to common issues you might encounter:

Problem	Possible Cause	Solution
No display after power on	Power cable not connected; Power outlet faulty; Instrument fault.	Check power cable connection; Test power outlet; Contact service personnel.
No waveform displayed	Probe not connected; Input signal too small/large; Incorrect trigger settings.	Connect probe correctly; Adjust vertical scale; Adjust trigger level/mode.
Waveform unstable	Incorrect trigger source/mode; Signal noise.	Verify trigger settings; Reduce noise in signal path.

Problem	Possible Cause	Solution
Touchscreen unresponsive	Temporary software glitch; Screen lock enabled.	Restart the instrument; Check for 'Touch Lock' function and disable if active.

9. SPECIFICATIONS

Detailed technical specifications for the RIGOL DHO804 Digital Oscilloscope:

Feature	Specification
Product Dimensions	10.45 x 3.05 x 6.37 inches; 3.92 Pounds (265.36 x 77.38 x 161.75 mm; 1.78 kg)
Item Model Number	DHO804
Manufacturer	RIGOL
Country of Origin	China
Bandwidth	70 MHz
Vertical Resolution	12-bit
Sample Rate	Up to 1.25 GSa/s
Analog Channels	4
Storage Depth	Up to 25 Mpts
Waveform Capture Rate	Up to 1,000,000 wfms/s (Ultra Acquire mode)
Display	7-inch 1024 x 600 HD Touchscreen
Interfaces	USB Device & Host, LAN, HDMI
Serial Number Prefix	DHO8A262906640 (Example)
UPC/EAN	6973332407530 (Example)

10. WARRANTY AND SUPPORT

The main body of RIGOL equipment provides a 3-year standard warranty from the date of purchase. For technical support, service, or warranty claims, please contact RIGOL customer service or visit their official website for detailed contact information and resources.

For further assistance, please refer to the official RIGOL website or contact their authorized distributors.

ASK A QUESTION ABOUT THIS MANUAL

Ask about setup, troubleshooting, compatibility, parts, safety, or missing instructions. Manuals+ will review the question and use this page’s manual context to help answer it.

Name

Anonymous

Email

you@example.com

After a successful submission, we securely hash the supplied account or form email before sending it to Microsoft Advertising for conversion attribution. [Privacy details](#).

Question

Example: How do I reset this device or fix this error?

Details

Model number, symptoms, what you tried, or the section of the manual you are using.

Submit question