English

RIGOL

Quick Guide

DS4000E Series Digital Oscilloscope

May 2016
RIGOL TECHNOLOGIES, INC.

English

Guaranty and Declaration

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RIGOL guarantees that this product conforms to the national and industrial standards in China as well as the ISO9001:2008 standard and the ISO14001:2004 standard. Other international standard conformance certifications are in progress.

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If you have any problem or requirement when using our products or this manual, please contact **RIGOL**.
E-mail: service@rigol.com
Website: www.rigol.com

English

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General Safety Summary

1. Only the exclusive power cord designed for the instrument and authorized for use within the local country could be used.
2. Ensure that the instrument is safely grounded.
3. Connect the probe correctly.
4. Observe all terminal ratings.
5. Use proper overvoltage protection.
6. Do not operate without covers.
7. Do not insert objects into the air outlet.
8. Use the proper fuse.
9. Avoid circuit or wire exposure.
10. Do not operate the instrument with suspected failures.
11. Provide adequate ventilation.
12. Do not operate in wet conditions.
13. Do not operate in an explosive atmosphere.
14. Keep instrument surfaces clean and dry.
15. Prevent electrostatic impact.
16. Handle with caution.

Safety Notices and Symbols

Safety Notices in this Manual:



WARNING
Indicates a potentially hazardous situation or practice which, if not avoided, will result in serious injury or death.



CAUTION
Indicates a potentially hazardous situation or practice which, if not avoided, could result in damage to the product or loss of important data.

English

Safety Terms on the Product:

DANGER	It calls attention to an operation, if not correctly performed, could result in injury or hazard immediately.
WARNING	It calls attention to an operation, if not correctly performed, could result in potential injury or hazard.
CAUTION	It calls attention to an operation, if not correctly performed, could result in damage to the product or other devices connected to the product.

Safety Symbols on the Product:



Hazardous Voltage



Safety Warning



Protective Earth Terminal



Chassis Ground



Test Ground

Care and Cleaning

Care

Do not store or leave the instrument where it may be exposed to direct sunlight for long periods of time.

Cleaning

Clean the instrument regularly according to its operating conditions.

1. Disconnect the instrument from all power sources.
2. Clean the external surfaces of the instrument with a soft cloth dampened with mild detergent or water. When cleaning the LCD, take care to avoid scarifying it.



CAUTION

To avoid damage to the instrument, do not expose it to caustic liquids.



WARNING

To avoid short-circuit resulting from moisture or personal injuries, ensure that the instrument is completely dry before connecting it to the power supply.

English

Document Overview

This manual introduces some basic information that you should know when you use the DS4000E series digital oscilloscope for the first time. For more information about this instrument, log in to the **RIGOL** official website (www.rigol.com) to download the latest version of the relevant manuals.

Format Conventions in this Manual

1. **Key**
   The key on the front panel is denoted by the format of "Key Name (Bold) + Text Box" in the manual. For example, **Utility** denotes the "Utility" key.

2. **Menu softkey**
   The menu softkey is denoted by the format of "Menu Name (Bold) + Character Shading" in the manual. For example, **System** denotes the "System" softkey under **Utility**.

3. **Operation Procedures:**
   The next step of the operation is denoted by an arrow "→" in the manual. For example, **Utility** → **System** denotes that first press **Utility**, and then press **System**.

4. **Knob**

Icon	Knob
HORIZONTAL SCALE	Horizontal time base knob
HORIZONTAL POSITION	Horizontal position knob
VERTICAL SCALE	Channel vertical scale knob
VERTICAL POSITION	Channel vertical position knob
TRIGGER LEVEL	Trigger level knob

Content Conventions in this Manual

DS4000E series includes the following models. Unless otherwise specified, this manual takes DS4024E as an example to illustrate the basic information of DS4000E series.

Model	Analog Bandwidth	No. of Analog Channels
DS4024E	200 MHz	4
DS4014E	100 MHz	4

English

General Inspection

1. **Inspect the packaging**
   If the packaging has been damaged, do not dispose the damaged packaging or cushioning materials until the shipment has been checked for completeness and has passed both electrical and mechanical tests.

   The consigner or carrier shall be liable for the damage to the instrument resulting from shipment. **RIGOL** would not be responsible for free maintenance/rework or replacement of the instrument.

2. **Inspect the instrument**
   In case of any mechanical damage, missing parts, or failure in passing the electrical and mechanical tests, contact your **RIGOL** sales representative.

3. **Check the accessories**
   Please check the accessories according to the packing lists. If the accessories are damaged or incomplete, please contact your **RIGOL** sales representative.

Product Overview

Based on the UltraVision technology, DS4000E is a multi-functional digital oscilloscope with high performance. It is easy to use, and its superb technical specifications and multiple functions are perfectly integrated, enabling you to quickly accomplish the tasks, such as test measurement, remote control, etc.

For a brief introduction about the front panel, refer to Figure 1; for the rear panel, refer to Figure 2; and for the user interface, refer to Figure 3. For details about them, refer to the User's Guide of this instrument.

English

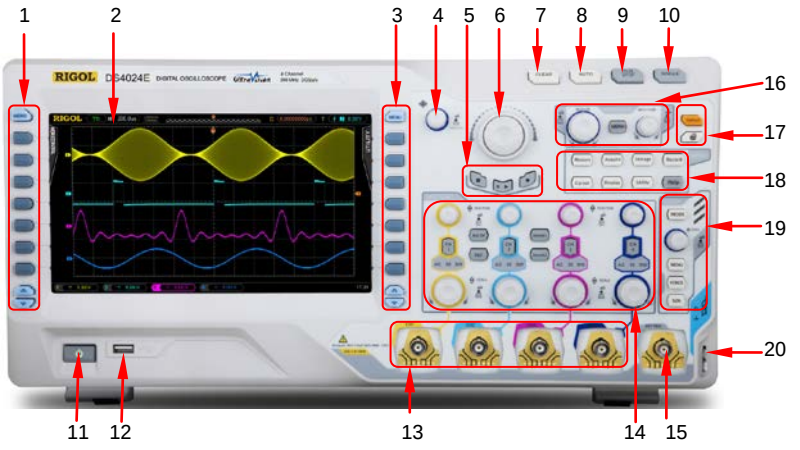


Figure 1 Front Panel

Table 1 Front Panel Description

No.	Description	No.	Description
1	Parameter Measurement Menu Softkeys	11	Power Key
2	LCD	12	USB HOST Interface
3	Function Setting Menu Softkeys	13	Analog Channel Input Terminals
4	Multi-function Knob	14	Vertical Control Area
5	Waveform Record Keys	15	External Trigger Input Terminal
6	Navigation Knob	16	Horizontal Control Area
7	CLEAR Key	17	Default Key and Print Key
8	AUTO Key	18	Function Keys
9	RUN/STOP Key	19	Trigger Control Area
10	SINGLE Key	20	Probe Compensation Signal Output Terminal and Ground Terminal



Figure 2 Rear Panel

Table 2 Front Panel Description

No.	Description
1	Trig Out/Calibration
2	10 MHz In/Out
3	Video Output
4	LAN Interface
5	USB DEVICE Interface
6	USB HOST Interface
7	Lock Hole
8	AC Power Supply Connector and Power Switch

English

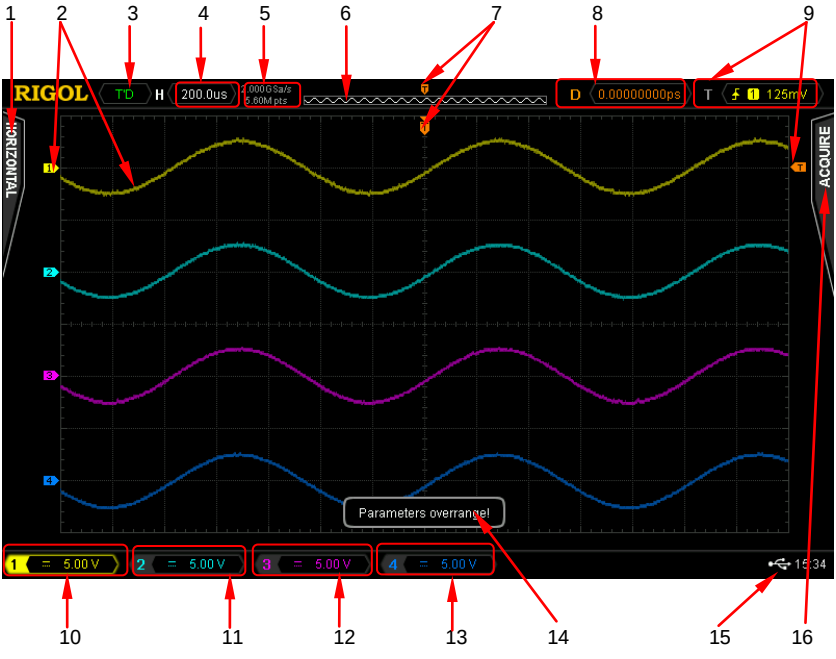


Figure 3 User Interface

Table 3 User Interface Description

No.	Description	No.	Description
1	Auto Measurement Option	9	Trigger Setting
2	Analog Channel Label and Waveform	10	CH1 Status Label
3	Operating Status	11	CH2 Status Label
4	Horizontal Time Base	12	CH3 Status Label
5	Sample Rate and Memory Depth	13	CH4 Status Label
6	Waveform Memory	14	Message Box
7	Trigger Position	15	Notification Area
8	Horizontal Position	16	Function Setting Menu

English

To Prepare the Oscilloscope for Use

To Remove the Front Panel Cover

Before using the oscilloscope, remove the front panel cover. Grasp the transverse tabs on each side and pull them outward to remove the cover.

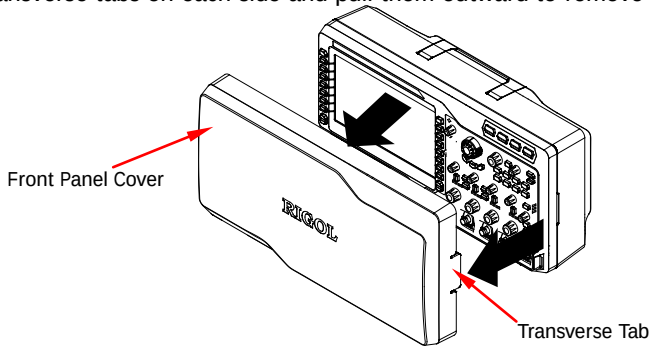


Figure 4 To Remove the Front Panel Cover

To Connect to Power Supply

This oscilloscope supports two kinds of AC input power supplies: 100 V-127 V, 45 Hz-440 Hz; 100 V-240 V, 45 Hz-65 Hz. Please use the power cord supplied with the accessories to connect the oscilloscope to the AC power source, as shown in the figure below. After you turn on the power switch, the oscilloscope is connected to power, and the Power key  located at the lower left corner of the front panel is blinking.

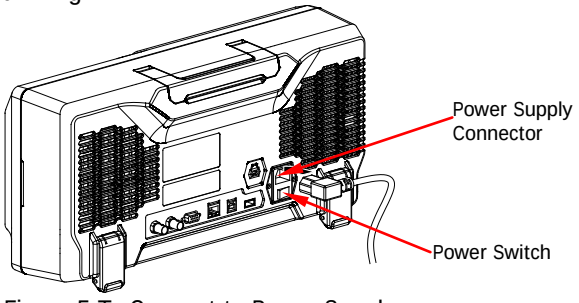


Figure 5 To Connect to Power Supply

English

Power-on Inspection

When the oscilloscope is connected to power, press the Power key  at the lower left corner of the front panel to start the oscilloscope. During the start-up process, the oscilloscope performs a series of self-tests. You can hear the switching sound of the relay. After the self-test, the welcome screen is displayed. The "Current Options" dialog box will be displayed if your instrument currently has installed the trial versions of the options. From this dialog box, you can view the name, version, and the remaining trial time of the option currently installed. The instrument will be installed with the trial versions of the options before leaving factory. Its remaining trial time is about 2,000 minutes. You can press **Utility** → **System** → **SelfTestInfo** to view the self-test results.

To Connect the Probe

RIGOL provides passive and active probes for DS4000E. For detailed information of the probes, please refer to the User's Guide of the corresponding probe. The following table lists the recommended probes for this oscilloscope.

Model	Description
RP3300A	350 MHz, passive probe, standard, auto detection
RP7150	1.5 GHz, active probe, optional, auto detection

Besides, DS4000E supports Tektronix probes with TekProbe II BNC Interface (required to be used with the option - **RIGOL** T2R1000 interface adapter).

To Connect the Passive Probe

1. Connect the BNC terminal of the probe to an analog channel input terminal or the external trigger input connector on the front panel of the oscilloscope.

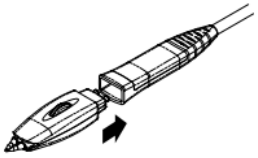
2. Connect the ground alligator clip or spring of the probe to the circuit ground terminal and connect the probe tip to the circuit point to be tested.

After connecting the passive probe, you need to perform probe function inspection and probe compensation adjustment before making measurements. For detailed procedures, refer to "**Function Inspection for the Passive Probe**" and "**Probe Compensation**".

To Connect the Active Probe

Take RP7150 (using the differential probe front) as an example.

1. Connect the probe head to the active probe amplifier.



2. Connect the other end of the active probe amplifier to the analog channel input terminal or the external trigger input connector on the front panel of the oscilloscope. Note that you need to push the probe straight on until it latches into place.

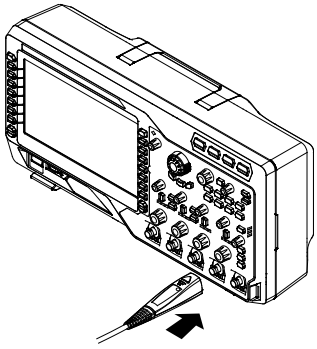


Figure 6 To Connect the Active Probe

3. Use the probing aids to connect the probe head to the circuit under test.

After connecting the active probe, you can perform probe calibration and offset voltage adjustment if necessary. For detailed procedures, refer to the User's Guide of this instrument.

English

To Connect the Tektronix Probe

1. Connect the Tektronix probe to one end of T2R1000 adapter properly.

2. Connect the other end of T2R1000 adapter to the analog channel input terminal or the external trigger input connector on the front panel of the oscilloscope.



3. Connect the ground terminal of the probe to the circuit ground terminal, and connect the probe tip to the test point of the circuit.

For the specified model of the Tektronix probe, after connecting the probe, you can perform probe calibration and offset voltage adjustment if necessary. For detailed procedures, refer to the User's Guide of this instrument.

Function Inspection for the Passive Probe

You need to perform probe function inspection according to the steps below before making measurements with the passive probe.

1. Press **Default** → **OK** to restore the oscilloscope to factory settings.

2. Connect the ground alligator clip of the probe to the "Ground Terminal" as shown in Figure 7 below.

3. Connect one end of the probe to CH1 input terminal of the oscilloscope, and connect the other end to the "Probe Compensation Signal Output Terminal" as shown in Figure 7.

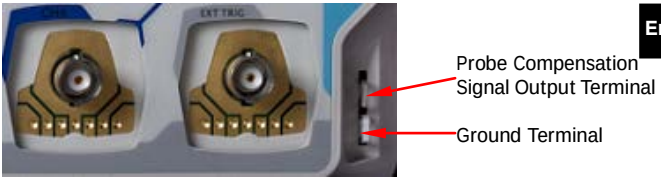


Figure 7 To Use the Compensation Signal

4. Press **AUTO**.

5. Observe the waveform on the screen. In normal conditions, the square waveform is displayed, as shown in the figure below. If the square waveform actually shown does not match that in the figure below, please follow the procedures for "**Probe Compensation**" in the next section.

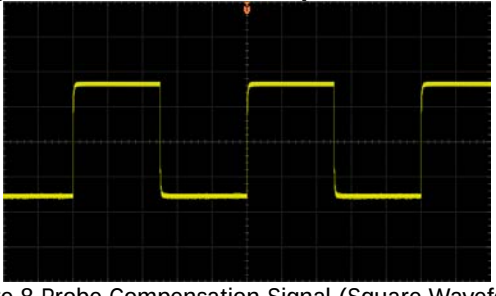


Figure 8 Probe Compensation Signal (Square Waveform)

6. Use the same method to inspect other analog channels.

WARNING

To avoid electric shock, please ensure that the insulated wire of the probe is in good condition, and do not touch the metallic part of the probe when the probe is connected to high voltage source.

Tip

The probe compensation signal can only be used for probe compensation adjustment and cannot be used for calibration.

English

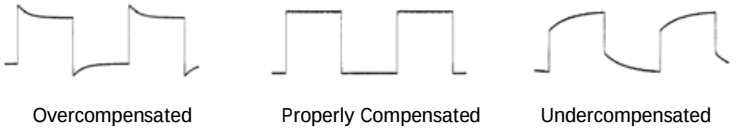
Probe Compensation

When the probe is used for the first time or when the probe compensation signal does not match that shown in Figure 8, you should compensate the probe to match the input channel of the oscilloscope. The non-compensated or poorly compensated probe may cause measurement errors.

The procedures for the probe compensation are as follows:

1. Perform Step 1, 2, 3, and 4 in the above section.

2. Check the waveform displayed on the screen of the oscilloscope and compare it with the waveforms shown in the figure below.



Overcompensated Properly Compensated Undercompensated

Figure 9 Probe Compensation

3. Use a nonmetallic screwdriver to adjust the low-frequency compensation adjustment hole on the probe until the waveform is displayed as "Properly Compensated" in the figure above.

To Use the Built-in Help System

The help system of this oscilloscope provides instructions for all the function keys and menu softkeys on the front panel. Press **Help** to open the help interface, and press it again to close the interface. The help interface consists of two sections. The left section is "Help Options", and you can select the "Button" or "Index" tab. The right section is "Help Display Area", which displays the help information.

English

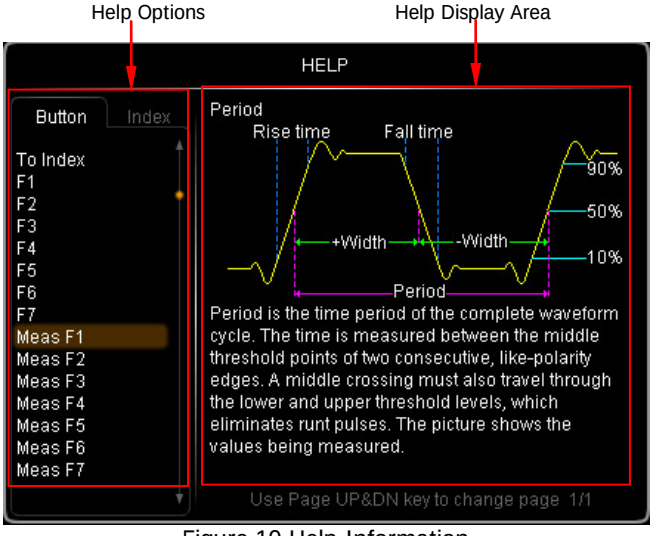


Figure 10 Help Information

Button:

By default, the "Button" tab is selected. Under the tab, you can view the corresponding help information in the "Help Display Area" by pressing the keys or menu softkeys (except the Power key, multi-function knob, and the Page Up/Down key /) on the front panel directly or rotating the multi-function knob to select the desired key name (the item currently selected is displayed with brown shading) in the “Help Options” area and then pressing down the knob.

Besides, you can acquire the help information of the navigation knob by rotating the multi-function knob to select "WaveSearch" or directly rotating the navigation knob to quickly select "WaveSearch". To switch to the "Index" tab, use the multi-function knob to select "To Index" and then press down the knob.

Index:

Under the tab, you can view the corresponding help information in the "Help Display Area" by rotating the multi-function knob to select the desired key name (the item currently selected is displayed with brown shading) in the “Help Options” area and then pressing down the knob. To switch to the **Button** tab, use the multi-function knob to select "To Button" and then press down the knob.

English

Remote Control

DS4000E series digital oscilloscope can be connected to the PC via the USB, LAN, or GPIB (option) interface to set up communication and realize remote control through the PC. The remote control can be realized by using SCPI (Standard Commands for Programmable Instruments) commands. DS4000E series digital oscilloscope supports two ways of remote control: user-defined programming and PC software (e.g. **RIGOL** Ultra Sigma).

More Product Information

1. **Obtain the device information**
   Press **Utility** → **System** → **System Info** to obtain the information of the instrument, including the manufacturer, model, serial number, as well as software and hardware version number.

2. **Check the option installation status**
   Press **Utility** → **Options** → **Installed** to view the installation status of the current option.

For more information about this instrument, refer to the relevant manuals by logging in to the official website of **RIGOL** (www.rigol.com) to download them.

DS4000E User's Guide	introduces the functions of the instrument and the operation methods, remote control methods, possible failures and solutions in using the DS4000E series, specifications, and order information;
DS4000E Programming Guide	provides detailed descriptions of SCPI commands and programming instances of the instrument.
DS4000E Datasheet	provides the main features and technical specifications of the instrument.

RIGOL

快速指南

中文

DS4000E 系列数字示波器

2016 年 5 月
RIGOL TECHNOLOGIES, INC.

保证和声明

版权

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中文

商标信息

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文档编号

QGA21001-1110

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联系我们

如您在使用此产品或本手册的过程中有任何问题或需求，可与 **RIGOL** 联系：
电子邮箱：service@rigol.com
网址：www.rigol.com

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一般安全概要

1. 请使用所在国家认可的本产品专用电源线。
2. 请确保产品可靠接地。
3. 正确连接探头。
4. 查看所有终端额定值。
5. 请使用合适的过压保护。
6. 请勿开盖操作。
7. 请勿将异物插入排风口。
8. 请使用合适的保险丝。
9. 避免电路外露。
10. 怀疑产品出故障时，请勿进行操作。
11. 请保持适当的通风。
12. 请勿在潮湿环境下操作。
13. 请勿在易燃易爆的环境下操作。
14. 请保持产品表面的清洁和干燥。
15. 请注意防静电保护。
16. 请注意搬运安全。

安全术语和符号

本手册中的安全术语：



警告

警告性声明指出可能会造成人身伤害或危及生命安全的情况或操作。



注意

注意性声明指出可能导致本产品损坏或数据丢失的情况或操作。

产品上的安全术语：

DANGER	表示您如果不进行此操作，可能会立即对您造成危害。
WARNING	表示您如果不进行此操作，可能会对您造成潜在的危害。
CAUTION	表示您如果不进行此操作，可能会对本产品或连接到本产品的其他设备造成损坏。

产品上的安全符号：



高电压　安全警告　保护性接地端　壳体接地端　测量接地端

保养与清洁

保养

请勿将仪器放置在长时间受到日照的地方。

中文

清洁

请根据使用情况定期对仪器进行清洁。方法如下：

1. 断开电源。
2. 用柔和的清洁剂或清水浸湿软布擦拭仪器外部。清洁带有液晶显示屏的仪器时，请注意不要划伤 LCD 显示屏。



注意

请勿使任何腐蚀性的液体沾到仪器上，以免损坏仪器。



警告

重新通电之前，请确认仪器已经干透，避免因水分造成电气短路甚至人身伤害。

文档概述

本文档介绍初次使用DS4000E系列数字示波器时需要了解的信息。欲了解本产品更多信息，请登陆**RIGOL**官网（www.rigol.com）下载相关手册的最新版本。

文档格式的约定

1. 按键

用“按键字符（加粗）+文本框”表示前面板按键。例如：**Utility** 表示“Utility”按键。

2. 菜单软键

用“菜单文字（加粗）+字符底纹”表示菜单软键。例如：**系统** 表示 **Utility** 按键下的“系统”菜单软键。

3. 操作步骤

用箭头“→”表示下一步操作。例如：**Utility** → **系统** 表示按下前面板上的 **Utility** 按键后，再按 **系统** 菜单软键。

4. 旋钮

标识	旋钮
水平 **SCALE**	水平时基旋钮
水平 **POSITION**	水平位移旋钮
垂直 **SCALE**	通道垂直档位旋钮
垂直 **POSITION**	通道垂直位移旋钮
触发 **LEVEL**	触发电平旋钮

文档内容的约定

DS4000E 系列包含以下型号。如无特殊说明，本手册以 DS4024E 为例说明 DS4000E 系列的基本信息。

型号	模拟带宽	模拟通道数
DS4024E	200 MHz	4
DS4014E	100 MHz	4

一般性检查

中文

1. 检查运输包装

如运输包装已损坏，请保留被损坏的包装或防震材料，直到货物经过完全检查且仪器通过电性和机械测试。

因运输造成仪器损坏，由发货方和承运方联系赔偿事宜。**RIGOL**公司恕不进行免费维修或更换。

2. 检查整机

若存在机械损坏或缺失，或者仪器未通过电性和机械测试，请联系您的**RIGOL** 经销商。

3. 检查随机附件

请根据装箱单检查随机附件，如有损坏或缺失，请联系您的**RIGOL**经销商。

产品简介

DS4000E 是一款基于 UltraVision 技术的多功能、高性能的数字示波器。它实现了易用性，优异的技术指标及众多功能特性的完美结合，可帮助用户更快地完成工作任务，例如测试测量，远程控制等功能。

前面板、后面板和用户界面的简要介绍请分别参考图 1、图 2 和图 3，详细信息请参考本产品用户手册。

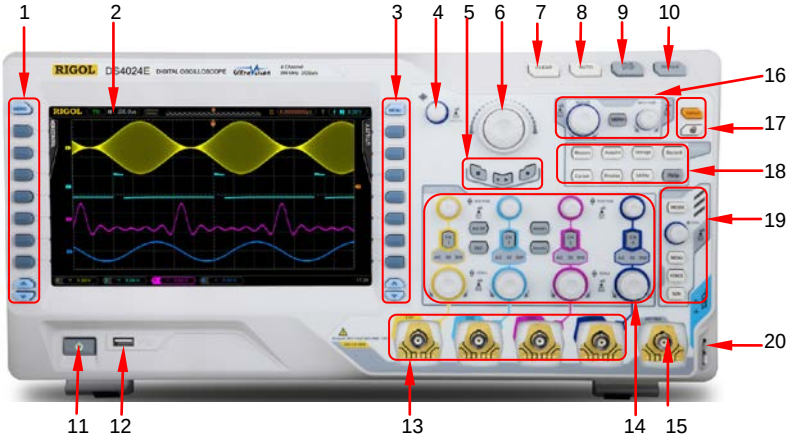


图 1 前面板

表 1 前面板说明

编号	说明	编号	说明
1	参数测量菜单软键	11	电源键
2	LCD	12	USB HOST 接口
3	功能设置菜单软键	13	模拟通道输入端
4	多功能旋钮	14	垂直控制区
5	波形录制按键	15	外触发输入端
6	导航旋钮	16	水平控制区
7	全部清除键	17	默认配置键和打印键
8	波形自动显示	18	功能按键
9	运行控制键	19	触发控制区
10	单次触发控制键	20	探头补偿信号输出端和接地端

中文

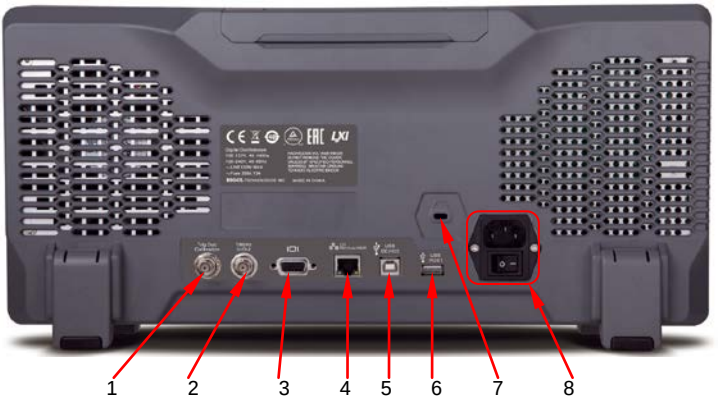


图 2 后面板

表 2 后面板说明

编号	说明
1	触发输出/自校正
2	参考时钟
3	视频输出
4	LAN
5	USB DEVICE
6	USB HOST
7	锁孔
8	AC 电源插孔及电源开关

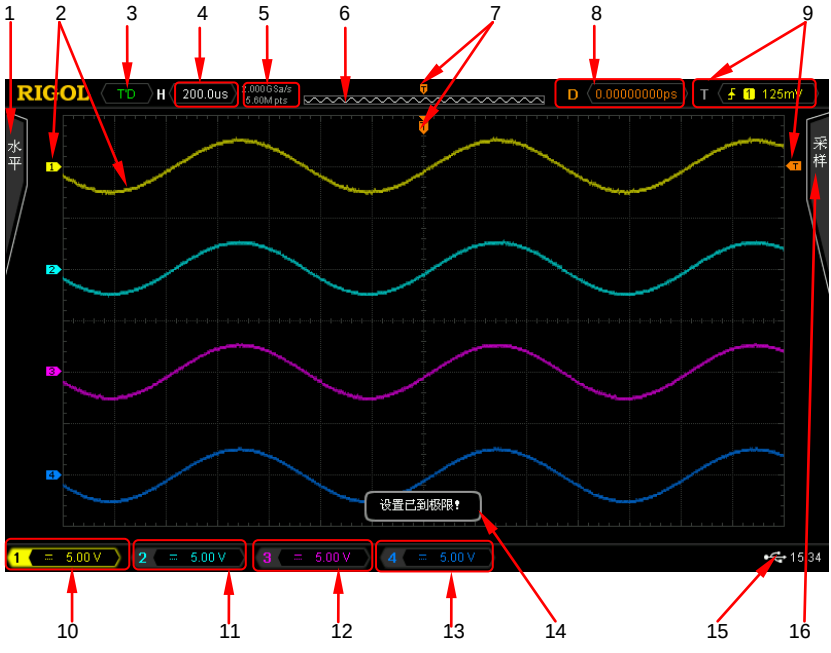


图 3 用户界面

表 3 用户界面说明

编号	说明	编号	说明
1	自动测量选项	9	触发设置
2	模拟通道标签和波形	10	CH1 状态标签
3	运行状态	11	CH2 状态标签
4	水平时基	12	CH3 状态标签
5	采样率和存储深度	13	CH4 状态标签
6	波形存储器	14	消息框
7	触发位置	15	通知区域
8	水平位移	16	功能设置菜单

使用前准备

拆卸前面板保护壳

中文

使用示波器之前，请先拆除前面板保护壳。双手拉住前面板保护壳两边的横向卡钩，适当向外用力即可将保护壳卸下。

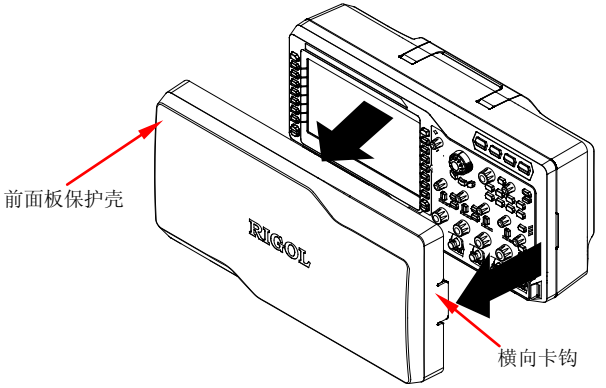


图 4 拆卸保护壳

连接电源

本示波器支持两种规格的交流电源输入：100 V-127 V，45 Hz-440 Hz 和 100 V-240 V，45 Hz-65 Hz。请使用附件提供的电源线通过电源插孔将示波器连接至 AC 电源，如下图所示。打开电源开关后，示波器处于通电状态，前面板左下方的电源键  呈呼吸状态。

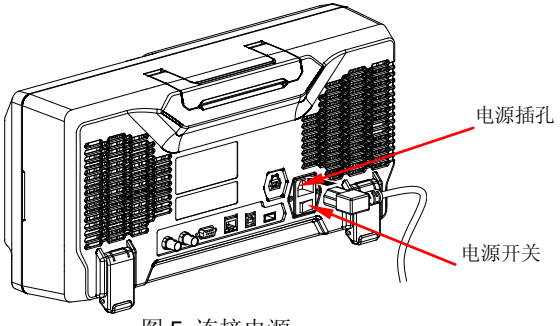


图 5 连接电源

开机检查

当示波器处于通电状态时，按前面板左下方的电源键  即可启动示波器。开机过程中，示波器执行一系列自检，您可以听到继电器切换的声音。自检结束后，出现开机画面。如果您的仪器当前安装了试用版本的选件，屏幕将弹出“当前选件”对话框，您可以查看当前已安装选件的选件名称、选件版本和剩余时间。仪器出厂时，我们将为用户提供选件的试用版本，剩余时间约为 2000 分钟。自检结果可以通过 **Utility** → **系统** → **自检信息** 查看。

连接探头

RIGOL 为 DS4000E 提供无源探头和有源探头。有关探头的详细信息请参考相应的探头用户手册。下表为本示波器推荐使用的探头。

型号	描述
RP3300A	350 MHz，无源探头，标配，自动识别
RP7150	1.5 GHz，有源探头，选配，自动识别

此外，DS4000E系列示波器还支持使用泰克（Tektronix）公司的TekProbe-BNC 2级探头（需配合**RIGOL**提供的T2R1000接口适配器，选件）。

连接无源探头

1. 将探头的 BNC 端连接至示波器前面板的模拟通道输入端或外部触发输入连接器。

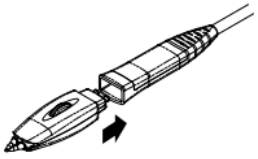
2. 将探头接地鳄鱼夹或接地弹簧连接至电路接地端，将探针连接至待测电路测试点。

连接无源探头后，您需要在测量前进行探头功能检查和探头补偿调节，具体步骤请参考“**无源探头功能检查**”和“**探头补偿**”。

连接有源探头

以 RP7150（使用差分探头前端）为例：

1. 将探头前端与有源探头放大器连接。



2. 将有源探头放大器的另一端连接至示波器前面板的模拟通道输入端或外部触发输入连接器。注意将探头推到紧闭的位置。

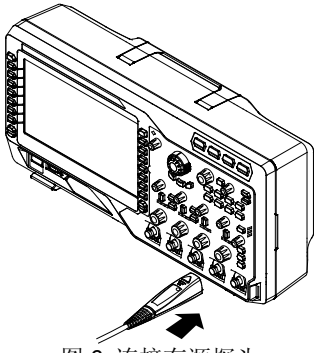


图 6 连接有源探头

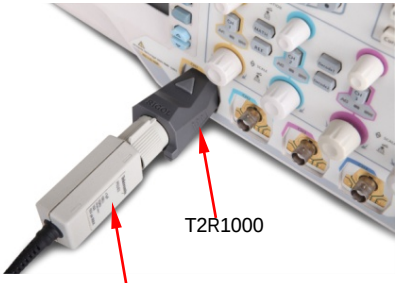
3. 使用探头辅助装置将探头前端连接到待测电路中。

连接有源探头后，您可以根据需要进行探头校准和偏移电压调整，具体步骤请参考本产品用户手册。

连接泰克探头

1. 将泰克探头正确插入 T2R1000 适配器的一端。

2. 将 T2R1000 接口适配器的另一端正确插入 DS4000E 系列示波器前面板的模拟通道输入端或外部触发输入连接器。



3. 将泰克探头的接地端连接至待测电路接地端，将泰克探头的探针连接至待测电路测试点。

对于指定型号的泰克探头，连接探头后，您可以根据需要进行探头校准和偏移电压调整，具体步骤请参考本产品用户手册。

无源探头功能检查

使用无源探头进行测量前，您需要按照如下步骤进行探头功能检查。

1. 按 **Default** → **确定** 将示波器恢复为出厂设置。

2. 将探头接地鳄鱼夹连接至图 7 所示的“接地端”。

3. 使用探头连接示波器的 CH1 输入端与图 7 所示的“探头补偿信号输出端”。

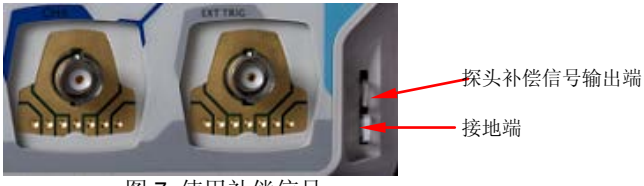


图 7 使用补偿信号

4. 按 **AUTO** 键。

5. 观察示波器显示屏上的波形，正常情况下应显示下图所示的方波；否则，请执行下一节“**探头补偿**”。

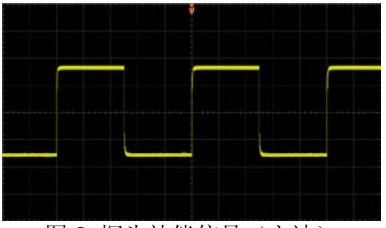


图 8 探头补偿信号（方波）

6. 使用同样方法检查其他模拟通道。

警告

为避免使用探头时被电击，请首先确保探头的绝缘导线完好，并且在连接高压源时不要接触探头的金属部分。

提示

探头补偿信号仅作探头补偿调整之用，不可用于校准。

探头补偿

首次使用探头时或检查到探头补偿信号与图 8 所示信号不符时，应进行探头补偿调节，使探头与示波器输入通道匹配。未经补偿或补偿偏差的探头会导致测量误差或错误。

探头补偿操作步骤如下：

1. 执行上一节中的步骤 1 至 4。

2. 检查示波器显示屏上显示的波形，并与下图所示的波形形状对比。

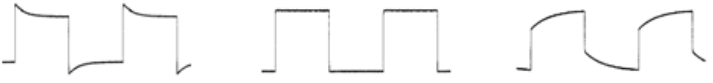


图 9 探头补偿

3. 用非金属质地的改锥调整探头上的低频补偿调节孔，直至显示的波形如上图“补偿正确”所示。

使用内置帮助系统

本示波器的帮助系统提供了前面板各按键和菜单软键的帮助信息。按 **Help** 键打开帮助界面，再次按下该键则关闭。帮助界面分两部分，左边为“帮助选项”，可选择“Button”或“Index”方式；右边为“帮助显示区”，显示相应的帮助信息。

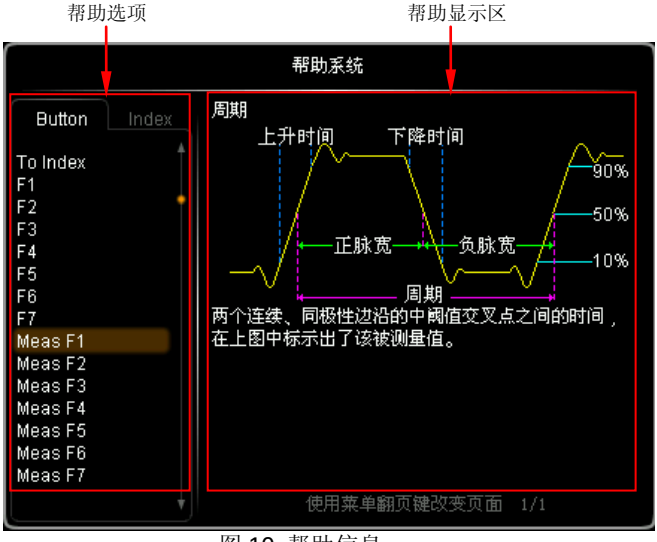


图 10 帮助信息

Button：

默认方式。该方式下，直接按前面板上的按键或菜单软键（电源键 、多功能旋钮 和菜单翻页键 / 除外），或者旋转多功能旋钮 在“帮助选项”区中选择所需按键名称（当前选中项带有棕褐色底纹）并按下该旋钮，即可在“帮助显示区”中查看相应的帮助信息。

此外，旋转多功能旋钮 选择“WaveSearch”项或直接旋转导航旋钮快速选择“WaveSearch”项即可获取导航旋钮的帮助信息。使用多功能旋钮 选择“To Index”后按下该旋钮可切换至 **Index** 方式。

Index：

该方式下，旋转多功能旋钮 在“帮助选项”区中选择所需项（当前选中项带有棕黄色底纹）并按下该旋钮，即可在“帮助显示区”中查看相应的帮助信息。使用多功能旋钮 选择“To Button”后按下该旋钮可切换至 **Button** 方式。

远程控制

DS4000E 系列数字示波器支持通过 USB、LAN 或 GPIB（选件）接口与计算机进行通信从而实现远程控制。远程控制基于 SCPI（Standard Commands for Programmable Instruments）命令集实现。DS4000E 系列数字示波器支持两种远程控制方式：用户自定义编程和使用 PC 软件（如 **RIGOL** Ultra Sigma）。

中文

更多产品信息

1. **获取设备信息**
   按 **Utility** → **系统** → **系统信息**，即可获取设备信息，包括厂商、型号、序列号以及软件和硬件版本号。

2. **查看选件安装状态**
   按 **Utility** → **选件** → **当前选件**，即可查看当前选件的安装状态。

欲了解本产品更多信息，请查阅相关手册（可登录**RIGOL**官网（www.rigol.com）下载）。

《DS4000E用户手册》	提供本产品的功能介绍及操作方法、远程控制方法、在使用过程中可能出现的故障及处理方法、性能指标以及订货信息；
《DS4000E编程手册》	提供本产品的SCPI命令集以及编程实例；
《DS4000E数据手册》	提供本产品的主要特色和技术指标。