RIGOL

用户手册

User's Guide

T2R1000 有源探头适配器

T2R1000 Active Probe Adaptor

产品简介

T2R1000 有源探头适配器可将 Tektronix 公司的 TekProbe-BNC 2 级探头与 **RIGOL** DS6000 系列、MSO4000/DS4000 系列数字示波器连接使用。

T2R1000 将 TekProbe-BNC 接口转换为 RIGOL-Probe 接口，并为探头提供必要的探头电源、校准和偏移调整功能。

匹配 TekProbe-BNC 接口

匹配 RIGOL-Probe 接口

连接方法

首先将带有 TekProbe-BNC 接口的探头插入 T2R1000 适配器，然后将适配器的另一端插入带有 RIGOL-Probe 接口的示波器的模拟输入端，如右图所示。

通过操作示波器菜单，可选择对应的探头型号、探头比及探头前端。此外，可为部分型号的探头提供校准功能和偏移电压调节功能。

菜单操作

本节以 MSO4000 的 CH1 为例介绍菜单操作。将 T2R1000 和泰克探头正确连接到示波器输入端后，按 **CH1** → **探头** 打开右图所示菜单。此时，**探头类型** 自动识别为“泰克探头”。按下相应的菜单可选择探头型号、探头比和探头前端。对于型号为 P6241、P6245、P6246、P6247、P6248、P6249、P6250 和 P6251 的探头，还包含 **探头校准** 和 **偏置电压** 菜单。

1. 对于具有固定探头比或只有一种探头前端的探头，示波器自动识别探头比或探头前端，不允许选择。
2. 探头校准：将 T2R1000 和泰克探头正确连接到示波器输入端，选择对应的探头型号。然后，按下 **探头校准** 菜单。此时，示波器弹出探头校准提示信息“请将探头输入接地”。按提示将探头输入端接地，并按下 **确定**，开始执行探头校准程序，对探头的偏移进行自动校准。

3. 偏置电压：该功能用于将超出探头放大器输入动态范围的被测信号调整至适当的范围，以保证被测信号的完整性。按下 **偏置电压** 菜单，旋转多功能旋钮  调节偏移电压值，可调范围由当前探头的直流偏置电压决定。

T2R1000 支持的 Tektronix 有源探头

单端有源电压探头

型号	带宽	增益	是否带直流偏移调整功能
P6205	750MHz	10:1	不带
P6243	1GHz	10:1	不带
P6245	1.5GHz	10:1	带
P6241	4GHz	10:1	带
P6249	4GHz	5:1	带

差分有源电压探头

型号	带宽	增益	是否带直流偏移调整功能
P5205	100MHz	50:1/500:1 增益可选	不带
P5210	50MHz	100:1/1000:1 增益可选	不带
P6246	400MHz	10:1/1:1 增益可选	带
P6247	1GHz	10:1/1:1 增益可选	带
P6248	1.5GHz	10:1/1:1 增益可选	带
P6250	500MHz	50:1/5:1 增益可选	带
P6251	1GHz	50:1/5:1 增益可选	带

电流探头

型号	带宽	增益	说明
TCP202	50MHz	10A/V	交直流电流探头

光电探头

型号	带宽	增益
P6701B	1GHz	0.001W/V
P6703B	1.2GHz	0.001W/V
P6711	250MHz	0.0002W/V
P6713	300MHz	0.0002W/V

T2R1000 支持的 RIGOL 示波器

若您已购买 DS6000、MSO4000/DS4000 系列数字示波器，使用 T2R1000 之前，请将软件版本升级到下表所示版本或以上。

系列	型号	软件版本
DS6000	DS6062/DS6064/DS6102/DS6104	00.01.05.00.00 及以上
DS4000	DS4014/DS4024/DS4034/DS4054/ DS4012/DS4022/DS4032/DS4052	00.02.01.00.04 及以上
MSO4000	MSO4014/MSO4024/MSO4034/MSO4054/ MSO4012/MSO4022/MSO4032/MSO4052	

性能指标

带宽	>4GHz（仅 T2R1000）
电源电压	±5V，±15V
输出电流	150mA
直流偏移范围	<±1V（T2R1000 输出端电压）
最大输入电压	42Vpk，30Vrms
温度	操作：0℃-50℃；非操作：-40℃-70℃
湿度	50℃时，95%RH
海拔	4000m
尺寸	60mm（长）×33.7mm（宽）×29.5mm（深）
重量	132g（含包装）；41g（不含包装）

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

Product Overview

T2R1000 active probe adaptor can be used to connect the TekProbe-BNC level II probe with **RIGOL** DS6000 series or MSO4000/DS4000 series digital oscilloscope.

T2R1000 converts the TekProbe-BNC interface to RIGOL-Probe interface and supplies power, calibration and DC offset adjustment function for probe.

To TekProbe-BNC Interface

To RIGOL-Probe Interface

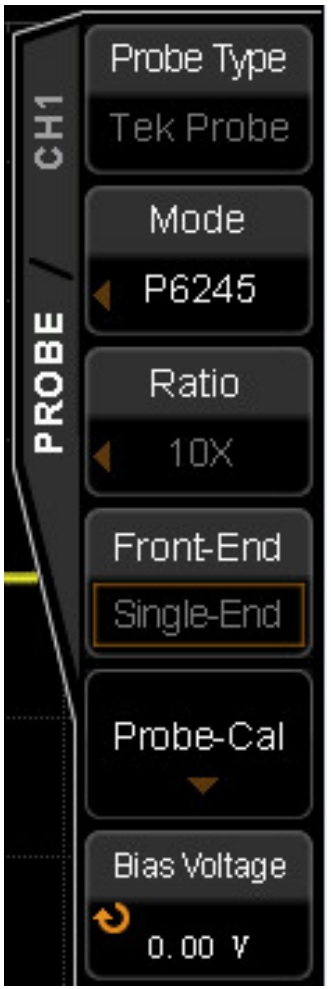
Connection Method

Firstly, connect the probe with TekProbe-BNC interface to T2R1000. Then, connect the other terminal of T2R1000 to the analog input terminal of the oscilloscope with RIGOL-Probe, as shown in the right figure.

By operating the oscilloscope menu, you can select the correspoding probe model, the probe ratio and the type of the probe front end. In additional, the calibration function and the bias voltage adjustment function are provided for some probes.

Menu Operation

In this section, CH1 of MSO4000 is taken as an example to illustrate the menu operation. After connecting T2R1000 and Tektronix probe to the input terminal of the oscilloscope, press **CH1** → **Probe** to open the menu as shown in the figure on the right side. At this point, **Probe Type** shows “Tek Probe”. You can set the probe model, the probe ratio and the type of the probe front end by pressing the corresponding menu. For P6241, P6245, P6246, P6247, P6248, P6249, P6250 and P6251, **Probe-Cal** and **Bias Voltage** are also provided.



1. For a probe with fixed probe ratio or with a single type of probe front end, the oscilloscope identifies the probe ratio or the type of the probe front end automatically. You cannot set the probe ratio or the

type of the probe front end.

2. Probe-Cal: connect T2R1000 and Tektronix probe to the input terminal of the oscilloscope and select the corresponding probe model. Then, press **Probe-Cal**. At this point, “Please connect the probe to the GND” is displayed. Ground the input terminal of the probe according to the prompt message and press **OK**; the oscilloscope executes the probe calibration program to perform self-calibration on the probe offset.
3. Bias Voltage: this function is used to adjust the signal under test that exceeds the input dynamic range of the probe amplifier to a proper range to ensure the integrity of the signal under test. Press **Bias Voltage** and rotate  to adjust the bias voltage. The range available is determined by the DC offset voltage of the probe.

Tektronix Active Probes Supported by T2R1000

Single Ended Active Voltage Probes

Model	Bandwidth	Attenuation	Support DC offset adjustment?
P6205	750MHz	10:1	No
P6243	1GHz	10:1	No
P6245	1.5GHz	10:1	Yes
P6241	4GHz	10:1	Yes
P6249	4GHz	5:1	Yes

Differential Active Voltage Probes

Model	Bandwidth	Attenuation	Support DC offset adjustment?
P5205	100MHz	50:1/500:1 optional	No
P5210	50MHz	100:1/1000:1 optional	No
P6246	400MHz	10:1/1:1 optional	Yes
P6247	1GHz	10:1/1:1 optional	Yes
P6248	1.5GHz	10:1/1:1 optional	Yes
P6250	500MHz	50:1/5:1 optional	Yes
P6251	1GHz	50:1/5:1 optional	Yes

Current Probes

Model	Bandwidth	Attenuation	Description
TCP202	50MHz	10A/V	AC/DC current probe

Optical Probes

Model	Bandwidth	Attenuation
P6701B	1GHz	0.001W/V
P6703B	1.2GHz	0.001W/V
P6711	250MHz	0.0002W/V
P6713	300MHz	0.0002W/V

RIGOL Oscilloscope Supported by T2R1000

If you have purchased DS6000 or MSO4000/DS4000 series digital oscilloscope, before using T2R1000, you need to update your software to or above the version listed in the table below.

Series	Model	Software Version
DS6000	DS6062/DS6064/DS6102/DS6104	00.01.05.00.00 or above
DS4000	DS4014/DS4024/DS4034/DS4054/ DS4012/DS4022/DS4032/DS4052	00.02.01.00.04 or above
MSO4000	MSO4014/MSO4024/MSO4034/ MSO4054/MSO4012/MSO4022/ MSO4032/MSO4052	

Specifications

Bandwidth	>4GHz (T2R1000 only)
Power Supplies	±5V, ±15V
Max Output Current	150mA
DC Offset Range	<±1V (from the output terminal of T2R1000)
Max Input Voltage	42Vpk, 30Vrms
Temperature	Operation: 0℃-50℃; Non-operation: -40℃-70℃
Humidity	95%RH at 50℃
Altitude	4000m
Size	60mm (length)×33.7mm (width)×29.5mm (depth)
Weight	132g (with package); 41g (without package)

Contact Us

If you have any problem or requirement when using our products or this manual, please contact RIGOL Technologies, Inc.

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Website: www.rigol.com

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