

# RIGOL

## 用户手册 User's Guide



## T2R1000 有源探头适配器 T2R1000 Active Probe Adaptor

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## 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。

在示波器菜单上选择对应的探头型号,示波器可自动设置所需的输入阻抗、衰减比及单位。此外,将探头输入端短路到地,可以在示波器菜单上选择自校正功能,可为支持校准功能的探头提供零点偏移校准功能。



## 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   | 10:1 | 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   | 带           |
| P5210 | 50MHz  | 100:1/1000:1 增益可选 | 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/<br>DS4012/DS4022/DS4032/DS4052         | 00.02.01.00.04 及以上 |
| MSO4000 | MSO4014/MSO4024/MSO4034/MSO4054/<br>MSO4012/MSO4022/MSO4032/MSO4052 |                    |

## 性能指标

|        |                                    |
|--------|------------------------------------|
| 带宽     | >4GHz（仅 T2R1000）                   |
| 电源电压   | $\pm 5\text{V}$ , $\pm 15\text{V}$ |
| 输出电流   | 150mA                              |
| 直流偏移范围 | $< \pm 1\text{V}$ （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）                |

## 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.

Selecting the corresponding probe model from the oscilloscope menu, the scope will automatically set the input impedance, attention ratio and unit. In addition, connecting the probe input terminal to ground and selecting self-calibration function from the oscilloscope menu can provide zero offset calibration function for the probes which support calibration function.



## 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      | 10:1        | Yes                           |

## Differential Active Voltage Probes

| Model | Bandwidth | Attenuation           | Support DC offset adjustment? |
|-------|-----------|-----------------------|-------------------------------|
| P5205 | 100MHz    | 50:1/500:1 optional   | Yes                           |
| P5210 | 50MHz     | 100:1/1000:1 optional | Yes                           |
| 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.

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

## Specifications

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

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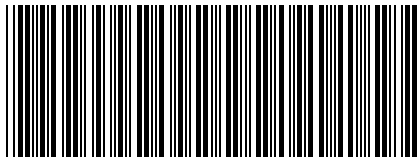
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