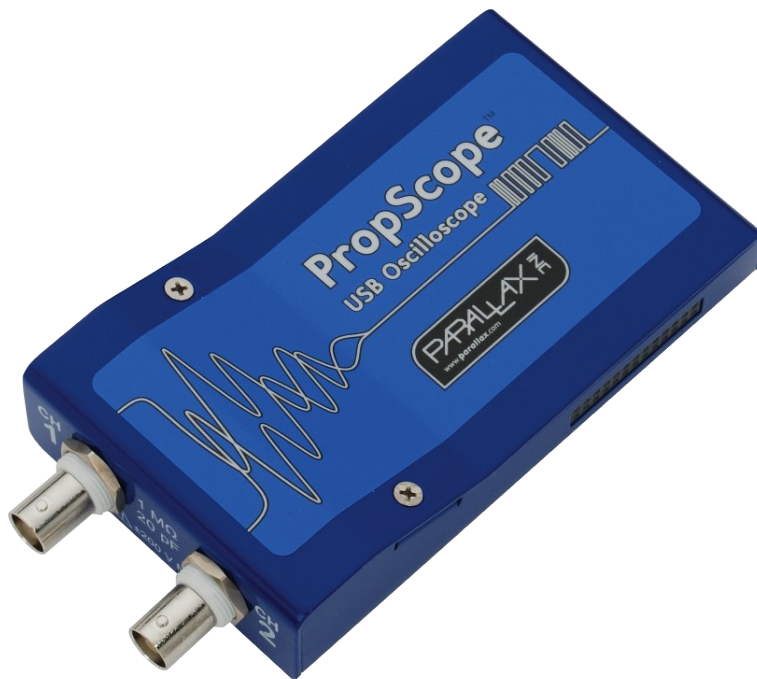


Getting Started with the **PropScope™** USB Oscilloscope



**USB Oscilloscope, Function Generator,
Logic Analyzer and Spectrum Analyzer**

Your PropScope includes



PropScope Specifications

- 2 input channels
- 25 Msps maximum sample rate
- 20 Vpp maximum input range (-10 V to +10 V when DC-coupled)
- 10-bit input resolution over either the entire 20 Vpp range, or selectable 10, 2, and 1 Vpp ranges.
- 1x/10x selectable probes for 200 Vpp maximum input range (-100 V to +100 V when DC-coupled)

PropScope DAC card specifications

- 8-bit 25 Msps DAC, up to 25Msps with -1.5 to 1.5 and 0 to 5 volt ranges
- External trigger input configurable from -10 to 10 volts
- Four-bit logic analyzer, up to 25 Msps
- Four-bit NTSC/PAL output

Note

The card must be plugged in before starting the PropScope software. When using the DAC, logic analyzer, or NTSC/PAL outputs, channel 2 will be disabled.

Warning

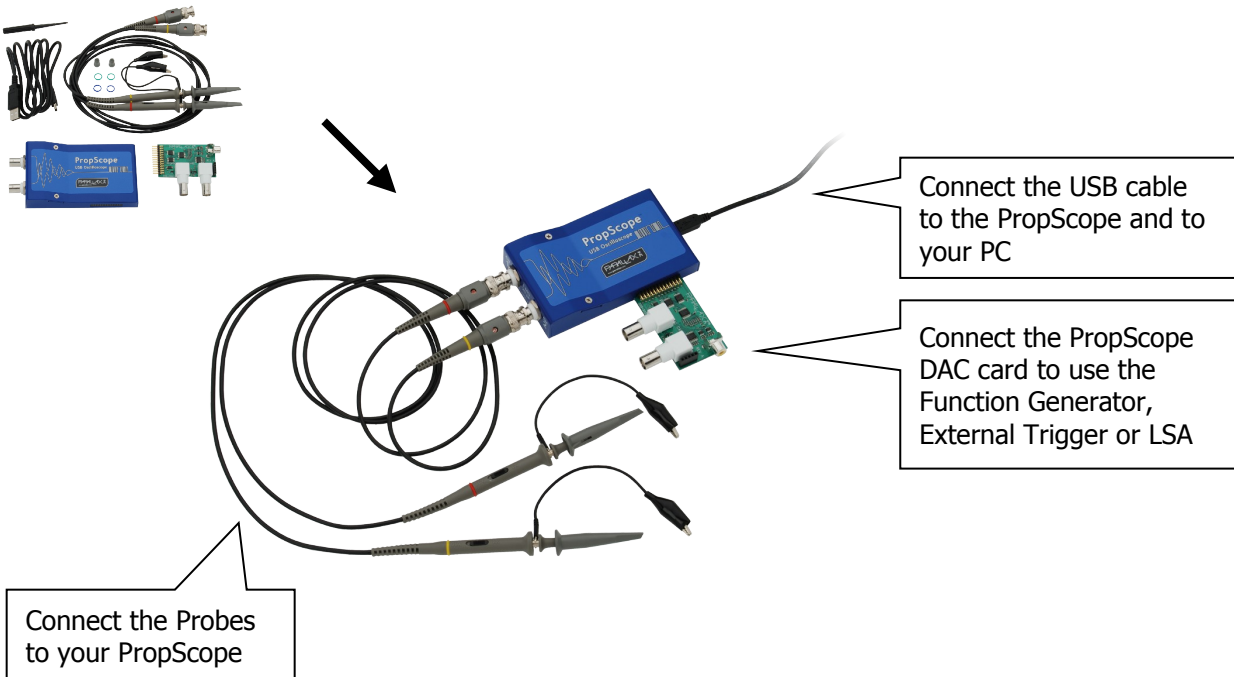
Do not apply more than +200 or less than -200 VDC to the input of the PropScope, otherwise permanent damage may occur.

Step 1: Install Software

Download your PropScope software from: <http://www.parallax.com/go/propscope> and follow the instructions to install the USB driver and PropScope software.

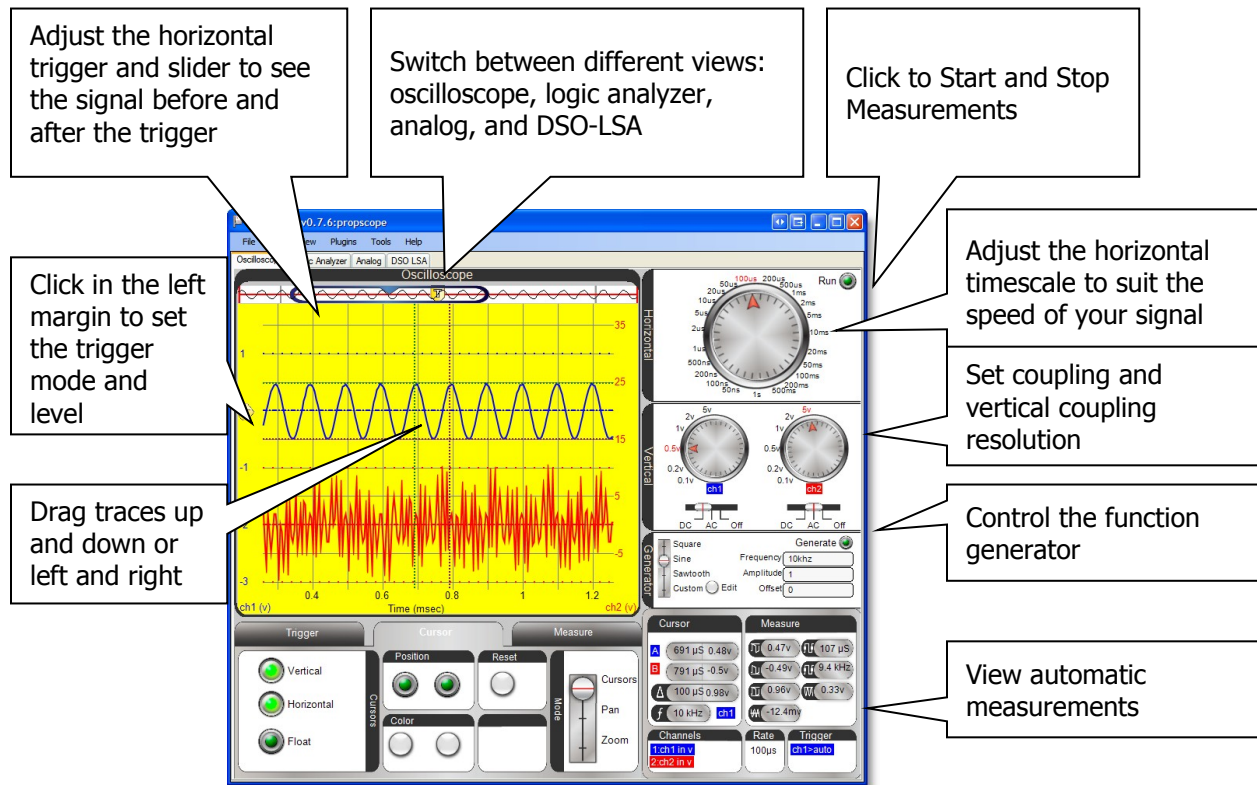


Step 2: Connect your PropScope



Step 3: Measure

Start the PropScope software by clicking on PropScope shortcut on your desktop. PropScope will start in the Oscilloscope view and show measurements taken by the two probes- see the next pages for detail on the other views.



Tips:

- **Select the right timescale**
Digital oscilloscopes sample the input signal at configurable rates. (The PropScope samples up to 25 Million times/second) Sampling a signal too slowly will yield artifacts- so always look at a new signal with a faster timescale first.
- **Use a trigger**
Click the Trigger tab to configure the trigger to stabilize the signal. You can adjust the horizontal slider on top of the graph to show data before or after the trigger fired
- **Use AC/DC mode**
If you are not interested in the DC offset of your signal, switch to AC coupling.
- **Make sure the probe's 1X/10X switch is correct**
Your PropScope comes with two 1X/10X probes. Switch the probe to 10X and select 10X in the "Tools/Probe" dialog of the PropScope software to measure larger signals.
- **Get Help when you're stuck**
For more information about the PropScope software controls, choose "Help" from the menu in the PropScope software.

Logic Analyzer

Use the Logic Analyzer with the IO Expander to measure multiple logic signals.

Select between Bit and Pattern trigger modes.

In Bit mode, click on a trace label to select rising or falling edge trigger for that bit

In Pattern mode, click on any combination of trace labels to select between rise, fall, high, or low for each bit

Click to Start and Stop Measurements

Adjust the horizontal timescale to suit the speed of your signal

Analog View

Use the Analog View to view your signal in XY mode and with the Spectrum Analyzer.

Click to Start and Stop Measurements

Explore relationships between your signals with the x-y graph

Control the function generator with these controls

Explore the frequency component of your signal with the spectrum analyzer. Adjust the timescale to control the frequencies graphed.

DSO LSA View

Use the DSO LSA View to control both the oscilloscope and logic state analyzer on one screen.

Oscilloscope view of analog signals

Adjust timescale of both graphs

Set Vertical resolution and coupling

View measurements

Logic Analyzer view of digital signals

The screenshot shows the PropScope v0.7.6 interface. The top window is the Oscilloscope, displaying two channels of analog signals (blue and red) with a time scale of 1.2 ms. The bottom window is the Logic State Analyzer, showing digital signals for two channels (green and purple) over the same time period. The right side of the interface contains control panels for timebase (100 μs), vertical resolution (5V, 1V, 0.5V, 0.2V, 0.1V), and coupling (DC, AC, OFF). A measurement table is visible at the bottom right, listing parameters like cursor width (692 μs), peak-to-peak voltage (0.47V), and frequency (10.3 kHz).

PropScope DAC Card Details

RCA output for TV

Four-bit logic input, labeled 3 through 0 and ground

Function generator outputs configurable waveforms between -1.5 to 1.5V and 0 to 5V

External trigger input configurable from -10 to +10V

The photograph shows a green PCB labeled 'PARALLAX 7™ PROPSCOPE DAC CARD REV A'. It features a gold-plated edge connector on the left, an RCA output jack on the right, and two BNC connectors at the bottom. The PCB is populated with various electronic components including integrated circuits and resistors.