

B2961A/B2962A 6.5 Digit Low Noise Power Source

Improve debug efficiency and avoid errors

The Keysight B2961A/62A's preview and waveform viewer functions help prevent errors and device damage and improve debug efficiency

Issues when using conventional voltage/current sources

- It is difficult to check the waveform you have specified before applying it, which can have unfortunate consequences:
 - DUTs may be damaged due to the application of improper current or voltage
 - Even if the DUT is not damaged, you have to waste time repeating the measurement
- On conventional power sources, it is not easy to check the actual voltage or current waveform. Verifying a waveform typically requires another instrument (such as an oscilloscope). The need for additional instrument to verify the waveform adds unwanted cost and complexity to your benchtop setup.



Preview function and waveform viewer

- The B2961A/62A has a preview function that allows you to verify the output waveform you are sourcing before applying it. This capability helps prevent the application of improper voltages or currents that might damage a sensitive DUT.
- The B2961A/62A has a 4.5 digit measurement resolution capability that allows voltage or current vs. time graphs to be displayed on its 4.3" color LCD both during and after sourcing. This graph works as a time domain waveform viewer, allowing both the voltage and current of applied waveform to be checked easily and quickly without the need for a PC or other instruments such as an oscilloscope.

Features of B2961A/62A Low Noise Power Source

A revolutionary power supply for precision low-noise voltage and current sourcing

- Superior 6.5 digit 100 nV/10 fA resolution
- Wide 210V/3 A (10.5 A pulse) bipolar range
- Outstanding 10 μ Vrms ultra low noise
- Innovative Source Functions
- Intuitive Graphical User Interface

Benefits

- More precision test & evaluation
- Reveals true DUT characteristics
- More efficient test & evaluation

Output: VOLTS
000.0000 mV
Limit: +100.0000 μ A

Function: LINEAR DOUBLE
Start: -2.000000 V Stop: +2.000000 V
Points: 11 Step: +0.400000 V

Show Preview

Show Options

Show Pulse

Show Trigger

More...

During and after sourcing

Y: V(V) LINEAR X: t(s) LINEAR

+2.00000 V

-2.00000 V, +100.000 μ s

+22.0000ms

Auto Scale

Show Cursors

Dump Screen

Show Source

Output: VOLTS
000.0000 mV
Limit (Compliance): +100.0000 μ A

Function: LINEAR DOUBLE
Start: -2.000000 V Stop: +2.000000 V
Points: 11 Step: +0.400000 V

Hide Preview

Show Options

Show Pulse

Show Trigger

More...

Enable preview function

Voltage vs. time graph as a waveform viewer

Example 1: Preview function helps you avoid errors



Figure1. Preview display (your target waveform)

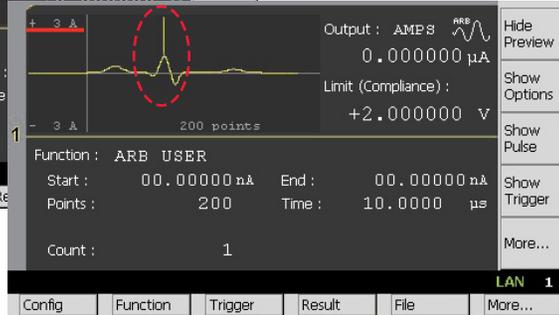


Figure2. Preview display (waveform set with errors)

If you accidentally configure waveform settings that apply higher current than intended, the result can be a damaged DUT. The Keysight Technologies, Inc. B2961A/62A's preview function can help you prevent these types of errors. You can easily detect an improper setting by checking the preview display before applying the signal. In this example, it is obvious that the waveform in Figure 2 includes an incorrect current (about 3 A output).

This example shows that the preview function is very useful to avoid sourcing unexpected waveforms that could damage your DUT.

Example 2: Improvement in debug efficiency



Figure 3. Preview display

If the time domain waveform viewer shows a discrepancy between the preview and actual output waveforms, then most likely something is wrong with the sourcing or instrument setup. In this example, it is obvious that the B2961A/62A cannot source higher current. Possible explanations for this are that the compliance value is not set correctly or a contact failure has occurred in your measurement system.

It is clear that the time domain waveform view capability is a very useful verification and debug tool to have during test and evaluation. In addition, the combination of the preview function and the waveform viewer greatly improve your checking and debug efficiency.

Keysight B2961A/B2962A Low Noise Power Source Key Specifications and Characteristics

Product Number	Number of channels	Option	Max output		Min source Resolution		Output Noise 10 to 20 MHz ¹	Source Functions
			DC	Pulse	Voltage	Current		
B2961A B2962A	1/2	210 V/3.03A	200 V / 10.5 A	100 nV	10 fA	3 mVrms	Arbitrary waveform generation
		LN1	42 V/105 mA	42 V / 105 mA	100 nV	10 pA	10 μVrms	Programmable output resistance
		LN2	210 V/3.03 A	200 V / 3.03 A ²	100 nV	10 pA	350 μVrms	Time domain waveform viewer

1. Supplemental characteristics

2. 10 A pulse range is not supported



Who can benefit from these capabilities?

- ✓ Electronics engineers and technicians that need to perform quick bench-top evaluation and debug of engineering samples

www.keysight.com/find/precisionSOURCE
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Product specifications and descriptions in this document subject to change without notice

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