PW9252A PathWave Advanced Power Control and Analysis Software for Advanced Power Supplies

Easily access your power supply's advanced sourcing and measurement features

Introduction

The Keysight PW9252A PathWave Advanced Power Control and Analysis software provides quick, easy access to advanced functions of N6705 DC power analyzers, RP7900 Series Regenerative Power Systems, and APS N7900 Series power supplies without programming. It controls any of the N6700 family's 36+ DC power modules in an N6705 mainframe, as well as the 23 models of the RP7900 Series and 12 models of the APS N7900 Series. When paired with an N6781A SMU, it supports advanced battery drain analysis.

The PW9252A also supports primary/secondary mode operation in the RP7900 Series, allowing for parallel configurations that enable higher output current. Each license covers one instrument, supporting up to 10 instruments simultaneously.

KEYSIGHT PATHWAVE

Compare Features

N6705 DC power analyzer	N7900 series advanced power system / RP7900 series regenerative power system
• Complements the N6705 DC power analyzer's front panel controls • Controls and analyzes data up to ten N6705 DC power analyzer mainframes and any installed modules at once – that's up to 40 power supplies simultaneously • Controls any of the more than 36 N6700 DC power modules when installed in the N6705 DC power analyzer	• Provides easy access to the advanced features of the N7900 or RP7900 without any programming • Controls and analyzes data up to ten N7900 Advanced Power System or RP7900 Series Regenerative Power System models

- Integrate software functions into the user's programming environment via API (Automation Programming Interface)
- Control any combination of four N6705, N7900 or RP7900 models
- Four modes of operation: scope (short-term waveform capture), data logger (long-term waveform capture), CCDF (statistical analysis), and ARB (waveform creation)
- Enhanced control and analysis of data – use familiar PC controls and a large display
- Graphical user software – no programming required
- Accurately capture current drain measurements from seconds to days at up to 200,000 measurements per second (in scope mode) directly to a PC
- Advanced marker readout (min, avg, max, RMS, peak-to-peak, charge/energy)
- Easily create complex waveforms to stimulate or load a DUT by inputting a formula, choosing from built-in waveforms, or importing waveform data
- Data log measurements directly to a PC
- Export data to a Microsoft Excel spreadsheet or text file
- Capture a waveform, then "play" it back – use a scope or data logger to capture a waveform, then use the power supply's source/sink function to reproduce it
- Apply mathematical functions to waveforms
- Name and choose colors for waveform traces for easy identification
- Perform statistical analysis (CCDF) of power consumption

Control

Access all the features of the power supply you are connected to via a virtual front panel of the instrument or the scope, data logger, CCDF, or ARB features of the software.

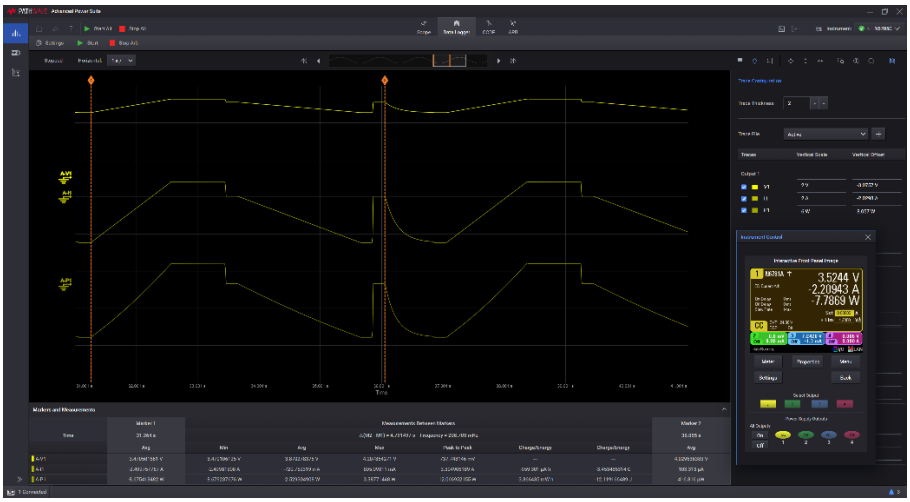

Figure 1. PW9252A connected to an N6781A

Measurements: Scope and data logger modes

Setup short-term measurements using scope mode or long-term measurements using data logger mode to gain insights into your device's power consumption quickly and easily. If you know how to use an oscilloscope, you'll find the software easy and intuitive to use.

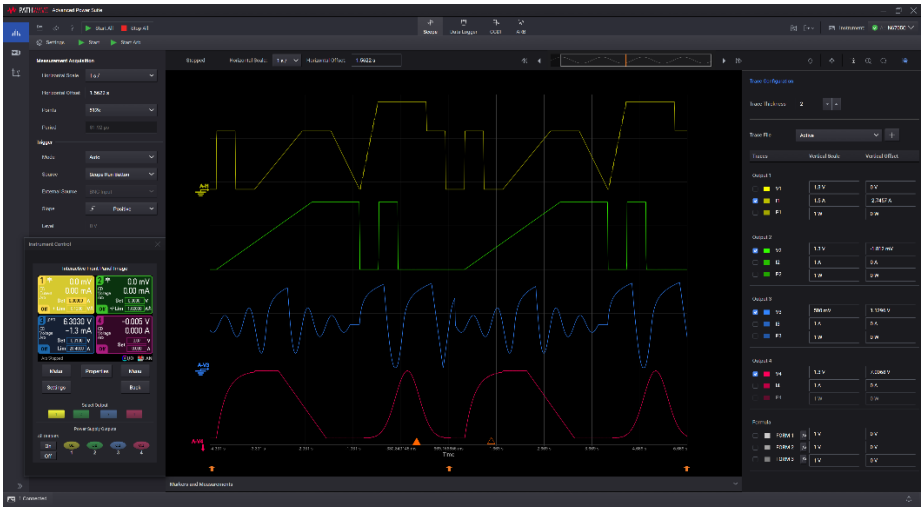

Figure 2. PW9252A connected to an N6705C with four DC power modules installed

Statistical analysis CCDF mode

To help you analyze distribution profiles, the PW9252A software includes a complementary cumulative distribution function (CCDF).[1]

This function provides a concise way to display long-term dynamic random current drain. It is also an effective way to quantify the impact of design changes—hardware, firmware or software— on current flows in your device.

Figure 3. This CCDF measurement reveals the key attributes of standby current in a smartphone.

[1] The CCDF value equals (1 – CDF) and the CDF is the area under the probability density function (PDF) curve. Because the CDF ranges from 0 to 100 percent probability, the CCDF ranges from 100 to 0 percent probability.

Arbitrary waveforms

Easily create complex waveforms to stimulate or load a DUT by inputting a formula, choosing from built-in or importing waveform data.

Waveform generation using the PW9252A

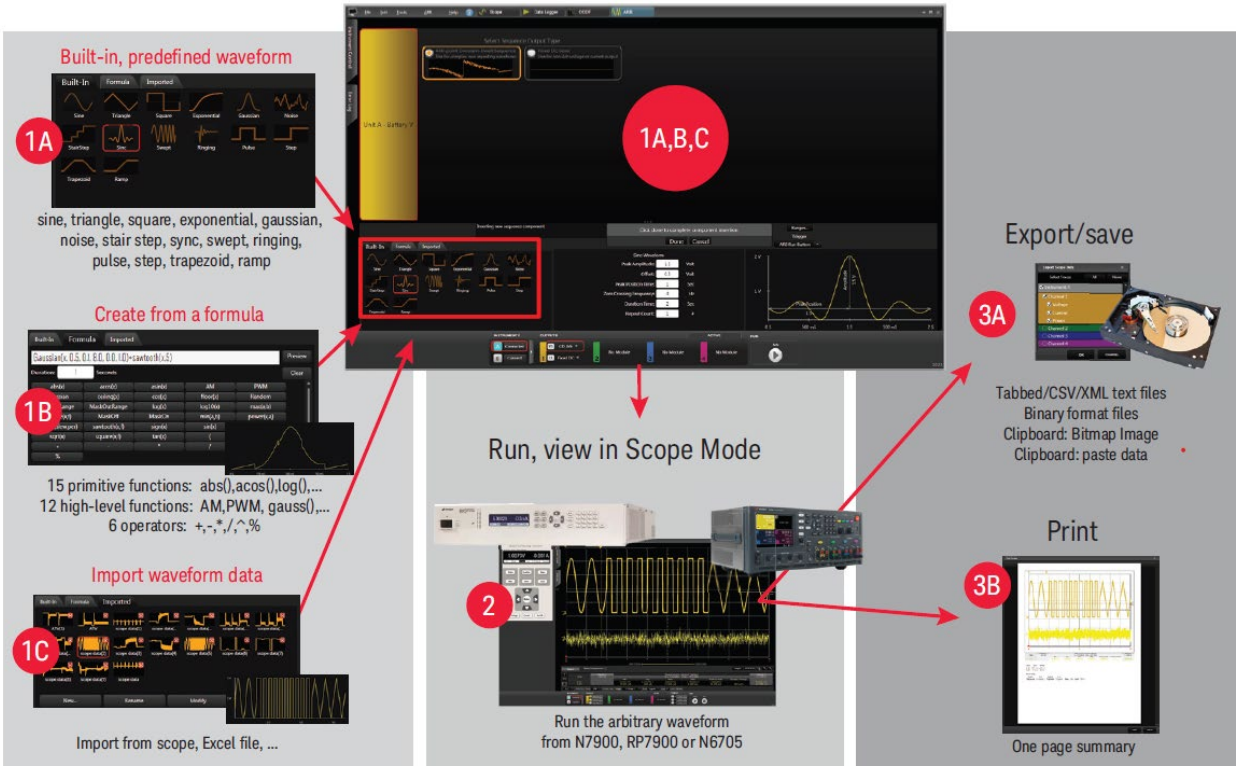

Figure 4. Easily create arbitrary waveforms with only a few clicks.

Record and playback – Combining the power of measurement and source/sink capabilities

Use the scope or data logger modes to capture a waveform and easily transfer the data to the software's ARB function. Once transferred, the data can be used to reproduce the waveform via the power supply's source or sink (electronic load) capabilities.

Capturing and "playing back" data

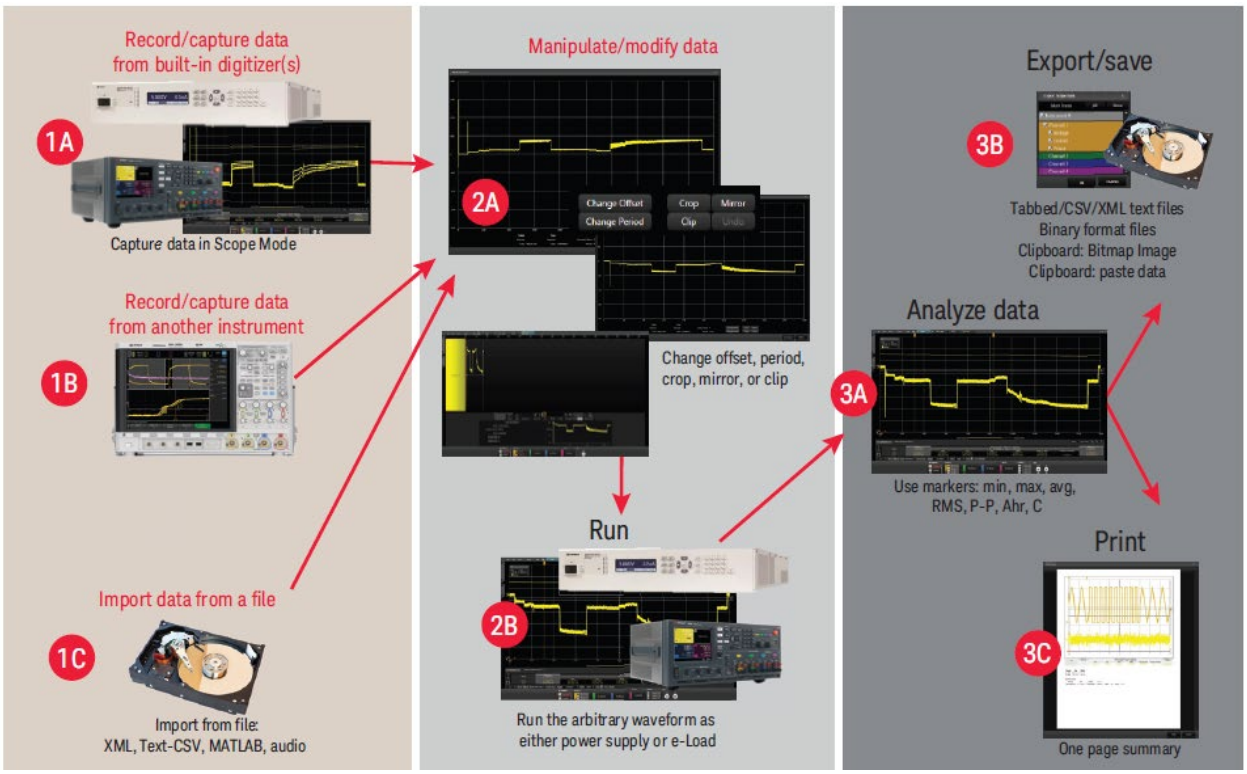

Figure 5. Record a waveform, then "play" it back.

Free Trial and Licensing

The PW9252A PathWave Advanced Power Control and Analysis software is available for download; however, a license is required to connect it to an N6705C DC power analyzer mainframe, RP7900 Series model, or APS N7900 Series model. Each license connects to one instrument and supports up to 10 instruments simultaneously.

Download PW9252A here: www.keysight.com/find/PW9252A

Get your 30-day trial: www.keysight.com/find/PW9252ATrial

System and Installation Requirements

Computer operating system	
Windows 10,11	64-bit (version 1809 or later)
Computer hardware	**Recommended processor:** Intel Core i5 (or equivalent) **RAM:** 16 GB **Storage:** 900 MB free space for Windows
Interfaces	USB, GPIB, LAN, RS-232
Display resolution	1280x1024 minimum recommended for single instrument view (higher resolution recommended for multiple instrument view) 1920 x 1080 minimum
Data exports to Excel or csv	Pathwave supports Microsoft Office 2003 and later

How to order a license :

Product	License type	License term		
		Perpetual		Subscription
		License	Support	License & support
E.g:BV0001B	Node-locked Transportable USB portable [1] Floating (single site, single region, worldwide)	SW1000-LIC-01	SW1000-SUP-01	SW1000-SUB-01

1. USB portable license requires a certified USB dongle (available for additional purchase, Keysight part number SW1000-D10).

Step 1
Determine the software model

Choose the right software model:

- PW9251A Pathwave IV Curve Measurement Software
- PW9252A PathWave Advanced Power Control and Analysis
- PW9253A PathWave Advanced Battery Test and Emulation
- PW9254A PathWave Advanced Power Application Suite Bundle License

Step 2
Choose License Term

- Perpetual
- Subscription

Step 3
Select License Type

- Node-locked
- Transportable
- USB portable
- Floating
  - Single site
  - Single region
  - Worldwide

Step 4
Select duration

- 12,24,36,60 months (Perpetual)
- 3,6,12,24,36 months (Subscription)

Step 5
Select USB HW Key

- Only applicable for USB portable licenses, and if the customer currently does not possess an existing USB dongle

Step 6
Select Delivery Method

- Paper Certificate
- Email and Paper Certificate
- Email Certificate

An Entitlement Certificate is delivered with each purchased software order. Follow the directions on the certificate to redeem your order for your license. License redemption requires an internet connection.