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Data Sheet

August 5, 2026

KEITHLEY

Keithley 3402-R Pulse/Pattern Generator, Dual-Channel

The Keithley 3402-R is a dual-channel pulse/pattern generator capable of creating a wide variety of digital signals. It offers programmable pulse width, delay, and amplitude, making it suitable for testing and characterizing digital circuits and systems. The dual-channel capability allows for generating complex waveforms and simulating various digital communication protocols.



MODEL

Keithley 3402-R

CALIBRATION

Available on request

CONDITION

Used

STATUS

In stock

RFQ / SKU

3402-R

LISTING

<https://aumictechlabs.com/products/3402-r-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 • 811210 • 541380

This unit

The Keithley 3402-R is a dual-channel pulse and pattern generator that produces complex digital signals for circuit characterization, semiconductor testing, and digital system verification. Each channel operates independently, enabling simultaneous generation of complementary or distinct waveforms across four operating modes: Pulse, Burst, Pattern, and External Width. The instrument delivers programmable control over amplitude, rise time, fall time, pulse width, and duty cycle, supporting pattern generation from 2 bits to 16 kbits with selectable NRZ and RZ formats. PRBS sequences range from 2^5-1 to $2^{14}-1$, accommodating both user-defined and preset patterns for serial data simulation. Technical Specifications Frequency & Timing Frequency range: 1 MHz to 165 MHz Period: 6.06 ns to 1000 seconds Period accuracy (PLL): $\pm 0.01\%$; (VCO): $\pm 0.5\%$

typical with self-calibration, $\pm 3\%$ without Period resolution (PLL): 4 digits, 1 ps best case; (VCO): 3.5 digits, 10 ps best case Period jitter (RMS): VCO 0.015% + 20 ps; PLL 0.001% + 15 ps Pulse Parameters Pulse width: 3.02 ns to (period – 3.02 ns) Pulse width accuracy: $\pm 0.5\% \pm 250$ ps typical with self-calibration; $\pm 3\% \pm 250$ ps without Pulse delay: 0 to (period – 3.02 ns) Pulse delay accuracy: $\pm 0.5\% \pm 0.5$ ns typical; $\pm 3\% \pm 0.5$ ns without self-calibration Delay and width resolution: 3.5 digits, 20 ps best case Delay and width jitter (RMS): 0.01% + 15 ps Fixed delay: 22 ns Rise/Fall time: Adjustable 2.5 ns to 200 ns minimum; 2.5 ns maximum at 10 V p-p; 2.3 ns typical at 5 V p-p; 2.1 ns typical at 2 V p-p Rise/Fall time accuracy: $\pm 10\% \pm 200$ ps

Key Features

- Dual-channel architecture for simultaneous complex waveform generation
- Four operating modes accommodate single pulses, burst sequences, programmable patterns, and external-triggered width modulation
- Pattern library supports PRBS and user-defined sequences up to 16 kbits
- Selectable NRZ and RZ encoding formats
- PLL and VCO timing engines with sub-picosecond resolution

Typical Applications

- Research and development of digital communication systems
- Semiconductor device and circuit characterization
- Digital protocol simulation and verification
- Serial data pattern generation and testing

Features & description

From manufacturer datasheet

Features

- Dual channel; all connectors on rear panel (-R)
- Frequency: 1 mHz to 165 MHz
- Amplitude: ± 10 V ($50\ \Omega$) / ± 20 V ($1\ \text{k}\Omega$)
- Pulse width: ~ 3.02 ns to (period – 3.02 ns)
- Edge times: 2.0 ns to 200 ms independent
- Modes: Pulse, Burst, Pattern, External Width
- Pattern memory/PRBS as Series 3400
- Channel add
- GPIB and USB; SCPI; 2U rack

3402R Characteristics / Specifications

PARAMETER	VALUE
Model	3402-R
Manufacturer	Keithley Instruments (Tektronix)
Instrument Type	Dual-Channel Pulse/Pattern Generator
Family	Series 3400
Alias	3402-R; Keithley 3402-R Frequency / Output
Frequency	1 mHz to 165 MHz
Amplitude	±10 V (50 Ω) / ±20 V (1 kΩ)
Pulse width	~3.02 ns to (period – 3.02 ns)
Edge times	2.0 ns to 200 ms independent
Modes	Pulse, Burst, Pattern, External Width

3402R Specifications

PARAMETER	VALUE
Technical Specifications	Model: 3402-R
Frequency / Output	Same as 3402-F: 1 mHz–165 MHz; ± 10 V / ± 20 V class
Operational Notes	Front-panel sibling is 3402-F. Prefer Keithley 3400S-900 user's manual.

Full OEM specifications

Complete technical content extracted from the manufacturer datasheet. Sparse OEM tables are reconstructed as tables below; other text is preserved as paragraphs.

performance matches the 3402-F: 1 mHz to 165 MHz, dual outputs, pulse/burst/pattern/external-width modes, independently adjustable edges, and channel-add. All signal connectors are on the rear panel for ATE rack cabling.

Applications

Rack/ATE dual-channel pulse and pattern stimulus; semiconductor and RF device characterization.

Key Features

- Dual channel; all connectors on rear panel (-R)
- Frequency: 1 mHz to 165 MHz
- Amplitude: $\pm 10\text{ V}$ ($50\ \Omega$) / $\pm 20\text{ V}$ ($1\text{ k}\Omega$)
- Pulse width: $\sim 3.02\text{ ns}$ to (period - 3.02 ns)
- Edge times: 2.0 ns to 200 ms independent
- Modes: Pulse, Burst, Pattern, External Width
- Pattern memory/PRBS as Series 3400
- Channel add
- GPIB and USB; SCPI; 2U rack

Technical Specifications

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PARAMETER	VALUE
Model	3402-R
Manufacturer	Keithley Instruments (Tektronix)
Instrument Type	Dual-Channel Pulse/Pattern Generator
Family	Series 3400
Alias	3402-R; Keithley 3402-R

Frequency / Output

Same as 3402-F: 1 mHz-165 MHz; $\pm 10\text{ V}$ / $\pm 20\text{ V}$ class

Operational Notes

Front-panel sibling is 3402-F. Prefer Keithley 3400S-900 user's manual.

Available from Aumictech

Used and refurbished unit evaluated in-house. Calibration: Available on request. Used · In stock.

Request a quote: sales@aumictech.com · +1 (484) 841-9341

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Technical content from manufacturer specifications. Unit photo/stock from Aumictech listing when available. Specifications subject to OEM documentation and unit condition.