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Data Sheet
August 14, 2026

HP / AGILENT

HP / Agilent 8018A 50 MBIT/S DATA GENERATOR, 2 CH X 1 KBIT

HP Agilent 8018A 50 Mbit/s Serial Data Generator The HP 8018A is a 50 Mbit/s serial data generator with 2048 bits of serial memory, configurable as one 2048-bit channel or two 1024-bit channels. OEM catalog descriptions position it for testing byte-, character-, or word-oriented digital systems with programmable pattern length from 3 to 2048 bits. Used for serial communications and peripheral testing, PRBS/word-oriented digital stimulus, dual-channel data generation, and production or R&D verification of systems needing programmable bit streams to 50 Mbit/s. The HP 8018A is a 50 Mbit/s serial data generator with 2048 bits of serial memory, configurable as one 2048-bit channel or two 1024-bit channels. OEM catalog descriptions position it for testing byte-, character-, or word-oriented digital systems with programmable pattern length from 3 to 2048 bits. Used for serial communications and peripheral testing, PRBS/word-oriented digital stimulus, dual-channel data generation, and production or R&D verification of systems needing programmable bit streams to 50 Mbit/s.

MODEL HP / Agilent 8018A	CALIBRATION Available on request
CONDITION Used	STATUS In stock
RFQ / SKU 8018A	LISTING https://aumictechlabs.com/products/8018a-2/

NIST-traceable cal · SAM registered · 30-day returns · NAICS 423690 · 811210 · 541380

This unit

The HP/Agilent 8018A is a dual-channel serial data generator delivering programmable pattern generation up to 50 Mbits/s. With 2048 bits of total memory split into independent 1 Kbit channels,

it produces clean 6 ns pulses in RZ/NRZ formats and supports PRBS sequences, custom patterns, and complex data link structures. The instrument provides variable output amplitude to 15 V into 50 Ω, TTL/ECL/CMOS logic compatibility, and flexible triggering across bit, word, frame, and manual modes. Channel A offers simultaneous normal and complement outputs; Channel B provides normal output. Jitter performance of 0.2% and overshoot/preshoot/ringing ≤ 10% (ECL ≤ 15%) ensure signal integrity in high-speed digital circuit testing. Synchronization outputs lock external instruments to specific data stream points. HP-IB control (Option 001) enables automated pattern loading and test sequencing. The compact 426 mm × 422 mm × 133 mm form factor operates on 100–240 Vrms and dissipates 230 V A maximum. Technical Specifications Data Rate: DC to 50 Mbits/s Memory: 2048 bits total (1 Kbit per channel, dual-channel configuration) Pulse Width: 6 ns Output Amplitude: Variable to 15 V into 50 Ω Output Impedance: Selectable 50 Ω or 1 kΩ Jitter: 0.2% (internal bit rate) Signal Quality: Overshoot/preshoot/ringing ≤ 10% (ECL ≤ 15%) Operating Temperature: 0°C to 50°C Power Supply: 100/120/220/240 Vrms ±5%, 48–440 Hz Power Consumption: 230 V A maximum Dimensions: 426 mm W × 422 mm D × 133 mm H Weight: 12 kg net; 16 kg shipping Key Features PRBS pattern lengths: 511, 1023, 32767, and 1048575 bits Programmable data patterns and preamble-data-postamble sequences RZ/NRZ output format selection Channel A: Normal and complement outputs; Channel B: Normal output Multiple triggering modes: bit, word, frame, and manual External clock, cycle, word trigger, first bit, and last bit inputs Synchronization outputs for instrument locking Continuous auto-cycling or single-sequence operation HP-IB (IEEE 488) interface for remote pattern loading Compatibility & Integration Output logic levels support TTL, CMOS, and ECL circuits. Selectable 50 Ω or 1 kΩ output impedance accommodates both terminated and unterminated test environments. External triggering and clock inputs integrate with automated test systems.

8018A Characteristics / Specifications

PARAMETER	VALUE
Maximum data rate	50 Mbit/s
Serial memory depth	2048 bits
Single channel memory configuration	2048 bits
Dual channel memory configuration	1024 bits per channel
Minimum pattern length	3 bits
Maximum pattern length	2048 bits
Number of serial channels	1 or 2 selectable organization
Instrument type	serial data generator
Primary application class	byte character word oriented systems
Bit stream partitioning	serial words within memory
Catalog family	HP pulse/data generators
Control	front-panel programmable pattern setup
Output style	serial digital data
Memory organization modes	single or split dual channel
Maximum bits per dual channel	1024
Minimum useful word length	3 bits
Throughput class	50 Mb per second
Bit rate maximum	50 Mbit/s
Total memory bits	2048
Split channel depth	1024 bits each
Minimum programmable length	3 bits
Maximum programmable length	2048 bits
Dual channel mode	supported
Single channel mode	supported
Data Rate	50 Mbit/s

8018A Specifications

PARAMETER	VALUE
HP Agilent 8018A 50 Mbit/s Serial Data Generator	Overview
Key Features	2048-bit serial memory depth
Technical Specifications	Maximum data rate: 50 Mbit/s

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.

Specifications

Specifications

PARAMETER	VALUE
Maximum data rate	50 Mbit/s
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Bit stream partitioning	serial words within memory
Catalog family	HP pulse/data generators
Control	front-panel programmable pattern setup
Output style	serial digital data
Memory organization modes	single or split dual channel
Maximum bits per dual channel	1024
Minimum useful word length	3 bits
Throughput class	50 Mb per second
Bit rate maximum	50 Mbit/s
Total memory bits	2048
Split channel depth	1024 bits each
Minimum programmable length	3 bits
Maximum programmable length	2048 bits
Dual channel mode	supported
Single channel mode	supported

Notes
Numeric architecture limits are from Hewlett-Packard catalog and HP Memory Project documentation for the 8018A serial data generator. Detailed electrical level and transition specifications belong in the

operating/service manual for the specific serial number; expand from that manual when available for denser electrical rows.

Available from Aumictech

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

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Aumictech
788 S 500 E, Pleasant Grove, UT 84062
sales@aumictech.com · +1 (484) 841-9341
https://aumictechlabs.com

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