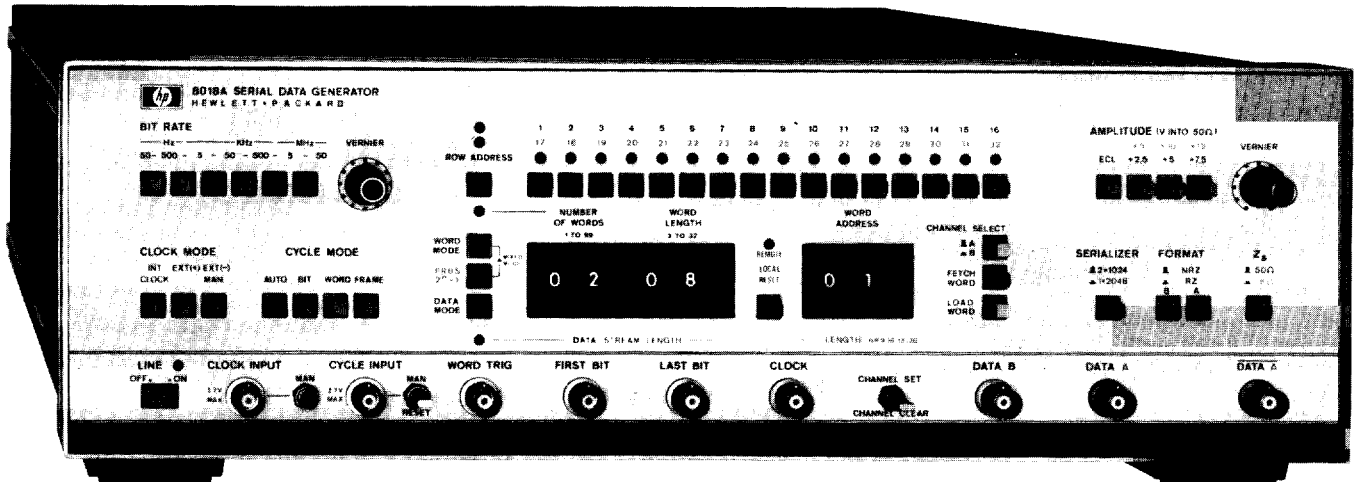# DATA GENERATORS & DATA ANALYZERS
50 MHz Serial Data/PRBS Generator
Model 8018A

- 2048 bit, dual channel memory
- Variable word and pattern length

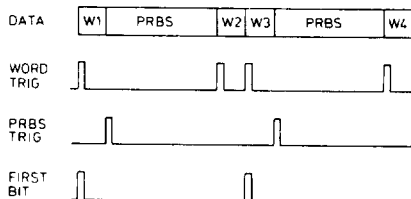- TTL, ECL, CMOS compatible
- Programmable, prbs and mixed data

HP 8018A   **HP-IB** SYSTEMS DESIGNED FOR   with Option 001

With 2048 programmable bits, and a choice of pseudo-random binary sequences (prbs) ranging to over 1 Mbits, the HP 8018A is a powerful stimulator for serial digital systems and devices requiring high bit rate and fast pulses. Even preamble-data-post-amble data link patterns are feasible by combining prbs and programmed data. Useful synch outputs simplify testing by locking scope or analyzer to unique points in the data stream.

For data link patterns, mixed mode inserts a prbs after each odd word.

For dual-channel applications, the memory splits so that the outputs have independent 1 Kbits of data.

A high performance output amplifier adds to the HP 8018A's wide applicability. It delivers clean, 6 ns pulses with repetition rates from dc to 50 Mbits/s. Output amplitude is variable up to 15 volts into 50 Ω. This enables you to directly drive logic circuits ranging from TTL to CMOS. Output levels for emitter-coupled-logic (ECL) are also provided.

To handle patterns for repetitive tests more conveniently, data can be loaded via HP-IB (Option 001).

Specifications

Data Capacity and Modes
Programmable memory: 2 channels, each 1 kbit, serializable. Thumbwheel switches define data stream length or frame length (N words of Mbits), and set up synch signals accordingly.
Prbs: pseudo-random binary sequences of 511, 1023, 32767 and 1048575 bits. Synch pulse at beginning of sequence.
Mixed: prbs is inserted after every odd-numbered programmable word.

Data Outputs

Channel A: simultaneous normal and complement outputs. ECL levels or variable +15 V amplitude. Selectable 50 Ω/1 kΩ output impedance, RZ/NRZ format.
   Data length: up to 1024 bit or (serialized with B data) 1025 to 2048 bit.
   Transitions (50 Ω into 50 Ω): ≤ 6 ns (ECL ≤ 5 ns)
   Preshoot, overshoot, ringing: ≤ 10% (ECL ≤ 15%)
Channel B: normal output, 2.4 V (50 Ω into 50 Ω), up to 1024 bits, RZ/NRZ selectable.

Bit Rate
Internal: 50 Hz to 50 MHz (40 MHz in Mixed mode), jitter 0.2%
External: dc to 50 MHz (40 MHz in Mixed mode) or manual.

Data Cycling
Auto: sequence recycles continuously.
Bit: bits are triggered/gated by external pulses/level.
Word: words are triggered/gated by external pulses/level.
Frame: sequence is triggered/gated by external pulses/level.
Manual: switch triggers single bits/words/frame.

General

Power: 100/120/220/240 V rms; +5%, −10%; 48 to 440 Hz. 230 V A max.
Temperature range: 0°C to 50°C.
Weight: net 12 kg (26.5 lbs). Shipping 16 kg (35.3 lbs).
Size: 133 H x 426 W x 422 mm D (5.2″ x 16.8″ x 16.6″).

Ordering Information

	Price
HP 8018A Serial Data Generator	$5900
Opt. 001: HP-IB for data loading*	add $815
Opt. 907: Front Handle Kit (Part No. HP 5061-9689)	add $56 ☎
Opt. 908: Rack Flange Kit (Part No. HP 5061-9677)	add $33 ☎
Opt. 909: Opt. 907, 908 combined (Part No. HP 5061-9683)	add $82 ☎
Opt. 910: Extra Operating and Service Manual	add $39

* HP-IB cables: refer to page 561.

☎ Fast-Ship product—see page 766