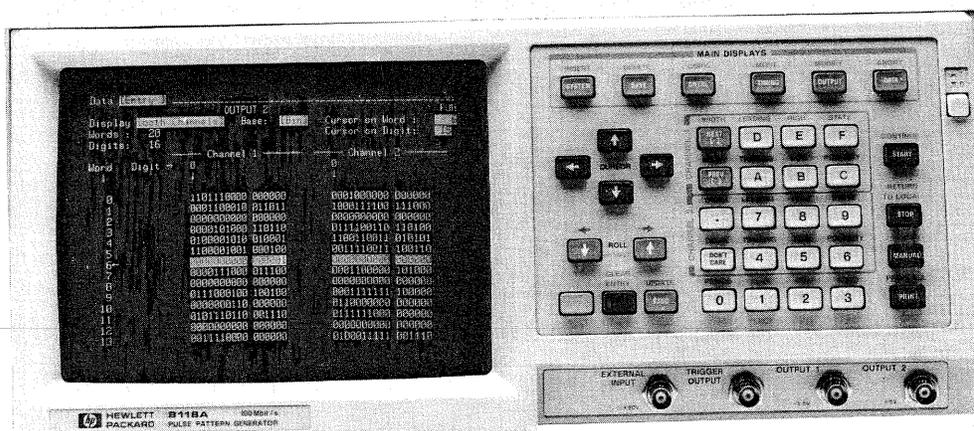- 2 channels / 16 kbit ea / 100 Mbit/s ea
- Strobe channel (bit, word, or frame trigger)
- Variable word and frame length

- Variable width and delay
- Rise/fall time separately programmable
- Var. high and low level; channel addition

DESIGNED FOR
HP-IB
SYSTEMS

HP 8118A

HP 8118A Pulse Pattern Generator

The HP 8118A is a two channel serial data generator for pattern lengths up to 16 kbit for each channel with programmable word and frame length, and data rates up to 100 Mbit/s. Furthermore, it provides full control over levels, timing, and transition times.

The HP 8118A is an excellent combination of a fully programmable serial data generator and a pulse generator in one product. It offers functional test capabilities for testing ICs, modules, and boards. With the built-in parametric capabilities, it is possible to combine the digital information with the signal degradation that occurs in practice, and so, testing the DUT with the real-life signal is feasible; thus, the worst case conditions can be evaluated.

For data entry, the HP 8118A offers a convenient and comprehensive set of editing capabilities; thus, the required serial data can be achieved to match the test signal demands of a wide variety of applications. The digital patterns can be combined with PRBS (pseudo-random-binary-sequence), either to just create scrambled data or to generate a true PRBS. Setting the instrument in "Word Mode", it is possible to create word and frame oriented data pattern. Wordlengths from 3 bit up to 256 bit and the number of words up to 3640 are allowed. Protocols with preamble-data-postamble structure and a certain word and frame length, as it is used for data transmission in serial data networks, can be rapidly created.

Specifications

Specifications describe the instrument's warranted performance (30 minutes warm-up, 50-ohm load) at 0°C to 55°C [20°C to 30°C] ambient temperature.

Timing Parameters

(measured at 50% of amplitude with fastest edges).
Common Specifications:
 Resolution 3 digits (best case, 100 ps)
 Repeatability factor 4 better than accuracy
 RMS-jitter* 0.05% of programmed value + 30 ps
Period (PER) 20(10)**ns to 950 ms
 Accuracy ±5% of progr. value ±2 ns [±2% ±1 ns]
Delay 75 ns to 950 ms (max: PER +55 ns)
 Accuracy ±5% of progr. value ±4 ns [±2% ±4 ns]
Double Pulse 20 ns to 950 ms (max: PER - WID)
 Accuracy ±5% of progr. value ±2 ns [±2% ±2 ns]
      DEL and DOUB are mutually exclusive
Width (WID) 10 ns to 950 ms (max: PER - 10 ns)
 Accuracy ±5% of progr. value ±2 ns [±2% ±2 ns]
Linear Transitions (between 10% and 90% of amplitude)
 Range 6.5 ns to 95 ms
 Accuracy ±5% of progr. value ±2 ns [±5% ±2 ns]
Output (voltages double when driving into open)
High Level −7.90 V to +8.00 V
*see page 433
**10 ns with NRZ data format

Low Level −8.00 V to +7.90 V
 Resolution 3 digits, (10 mV)
 Level-Accuracy ±1% of progr. value ±3% of ampl. ±40 mV
      [±1% ±1% ±20 mV]
 Repeatability factor 4 better than accuracy

Pattern

Data Capacity 16384 bits per channel. (In bit mode: max No of bits)
Data Formats RZ with programmable Delay and Width up to 50 Mbit/s DNRZ with programmable Delay up to 50 Mbit/s NRZ up to 100 Mbit/s
Word length 3 to 256 bits, common for both channels (word mode only)
No of words Number of words * Word length < 16384 bits, common for both channels (word mode only)
Random Pattern up to 16384 bits long, PRBS sequence if blocklength is 2(exp n)-1.

Supplemental Specifications

Trigger Mode Manual, Auto, Trigger, Gate
Addition Adds up channel 2 to channel 1.
Operating Modes Bit Mode, Word Mode, Break, Start/Stop, Continue, Autocycle, Single Cycle
Strobe Output Fixed TTL levels; Delay, Width independently programmable; bit, word, or frame trigger
Control Modes High level, Period, Delay, Width

General

Storage Temperature −40°C to +65°C
Operating Temperature 0°C to 55°C
Power 100-120/220-240 Vrms, ±10%, 450 VA max., 48-66 Hz
Weight 17 kg (38.8 lb)
Dimensions (H*W*D) 190 mm * 426 mm * 584 mm, [7.5 in * 16.75 in * 23 in]
Recalibration Period 1 year recommended

Ordering Information

HP 8118A 100 Mbit/s Pulse Pattern Generator

Options
908 Rack Flange Kit (P/N 5061-9678)
910 Set of Operating/Programming and Service Manual
915 Service Manual (P/N 08118-90001)
916 Additional Operating and Programming Manual (P/N 08118-90011)
W30 Two additional years of HP service

Accessories
P/N **1494-0059** Rack Slide Kit (requires HP 8118A #H01)
Fast-Ship product—see page 734.