

Specifications

DIGITAL DELAY GENERATOR SHALL MEET THE FOLLOWING SPECIFICATIONS:

Delays

Channels 4 independent pulses controlled in position and width + 8 delay channels
Range 0 to 2000 seconds
Resolution 5 ps
Accuracy 1 ns + (timebase error × delay)
Jitter (rms)
Ext. trig. to any output
T0 to any output
25 ps + (timebase jitter × delay)
15 ps + (timebase jitter × delay)
Trigger delay 85 ns (ext. trigger to T0 output)

Timebases

Std. (crystal)
Jitter (s/s) $10e-8$
Stability (20 to 30 °C) $2 \times 10e-6$
Aging (ppm/yr) 5
External input 10 MHz ± 10 ppm, sine >0.5 Vpp, 1 kΩ impedance
Output 10 MHz, 2 Vpp sine into 50 Ω

External Trigger

Rate DC to $1/(100 \text{ ns} + \text{longest delay})$. Maximum of 10 MHz
Threshold ±3.50 VDC
Slope Trigger on rising or falling edge
Impedance 1 MΩ + 15 pF

Internal Rate Generator

Trigger modes Continuous, line or single shot
Rate 100 μHz to 10 MHz
Resolution 1 μHz
Accuracy Same as timebase
Jitter (rms) <25 ps (10 MHz/N trigger rate), <100 ps (other trigger rates)

Burst Generator

Trigger to first T0

Range 0 to 2000 s

Resolution 5 ps

Period between pulses

Range 100 ns to 42.9 s

Resolution 10 ns

Delay cycles per burst 1 to 232 - 1

Outputs (T0, AB, CD, EF and GH)

Source impedance 50 Ω

Transition time <2 ns

Overshoot <100 mV + 10 % of pulse amplitude

Offset ± 2 V

Amplitude 0.5 to 5.0 V (level + offset <6.0 V)

Accuracy 100 mV + 5 % of pulse amplitude

General

Computer interfaces GPIB (IEEE-488.2), RS-232 and Ethernet. All instrument functions can be controlled through the interfaces.

Non-volatile memory Nine sets of instrument configurations can be stored and recalled.