9420 Series

Digital Delay Pulse Generator

The 9420 series pulse generator was designed to meet the growing demand for an affordable yet flexible system synchronizer. This bench-top, lab ready, delay generator comes standard with a 10ns timing resolution and a low jitter of less than 400ps. The simple programming, high functionality, and easy memory recall makes this model ideal for multiple projects and a wide variety of applications.

- **2, 4, or 8 Independent Channel Outputs**
- **10 ns Timing Resolution**
- **< 400 ps RMS Jitter**
- **RS232, USB, and GPIB**
- **12 Memory Recall Slots**
- **Full Customer Support**
- **2 Year Warranty**

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SPECIFICATIONS

9420 Series

MODEL 9422 2 independent channel outputs
9424 4 independent channel outputs
9428 8 independent channel outputs

Standard Communications: GPIB, USB, & RS232 ports
Configurations: 12 Memory Slots
Inputs: 2 Inputs (1 Trigger & 1 Gate Input)

INTERNAL RATE GENERATOR	
Rate (T0 period)	0.0002 Hz to 5Mhz
Resolution	10 ns
Accuracy	1ns + (0.0001 x Period)
T0 Period Jitter (RMS)	< 250 ps
Timebase	100 MHz, low jitter PLL
Oscillator	50 MHz, 20 ppm crystal oscillator
System Output Modes	Single, continuous, burst, duty cycle, external gate/trigger
Burst Mode	1 to 1,000,000 pulses
Duty Cycle Mode	1 to 1,000,000 pulses
Pulse Control Modes	Internal rate generator, external trigger/gate
CHANNEL TIMING GENERATOR	
Pulse Width Range	10 n-1,000 s
Width Accuracy	1.5 ns + [0.0001 x (width+delay)]
Width Resolution	1 ns
Pulse Delay Range	-999.999999999 to 1000 s
Delay Accuracy	1.5 ns + (0.0001 x delay)
Delay Resolution	1 ns
Jitter (Channel to Channel RMS)	< 400 ps
Channel Modes	Single Shot, normal, burst, duty cycle
Control Modes	Internally triggered or externally gated. Each channel may be independently set.
Trigger Edge	Rising/Falling
Threshold	0.2 to 15 V
Max Input Voltage	30 V
Resolution	10 mV
Trigger Rate	DC to 5 MHz
Trigger Input Jitter (RMS)	2.5 ns
Trigger Input Insertion Delay	180 ns
Trigger Input Minimum Pulse Width	2 ns
Gate Pulse Inhibit Delay	120 ns
Gate Output Inhibit Delay	50 ns
OUTPUT MODULE	
TTL/CMOS MODE	
Output Impedance	50 Ohms
Output Level	4.0 VDC into ≥ 1 K ohm
Rise Time (10%-90%)	< 3ns typical into ≥ 1 K ohm
Output Current	5 mA typical into 1 K ohm
	50 mA typical into 50 ohm
ADJUSTABLE MODE	
Output Level	2.0 to 20 VDC into ≥ 1 K ohm, 1.0 to 10 VDC into ≥ 50 ohms
Resolution	10 mV
Output Current	200 mA typical, 400 mA (short pulses)
Rise Time (10%-90%)	15 ns typical @ 20 V (High Imp)
	25 ns typical @ 10 V (50 ohm)
Overshoot	< 100 mV + 10% of pulse amplitude
GENERAL	
Communications	GPIB, USB 2.0, RS232
Dimensions	10.5 x 8.25 x 5.5 inches (25.7 x 21 x 14 cm)
Weight	8 lbs
Power	Power is provided by an external wall adapter power supply (included)
Voltage	100 to 240 VAC
Current	3A
Memory	12 Slot

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