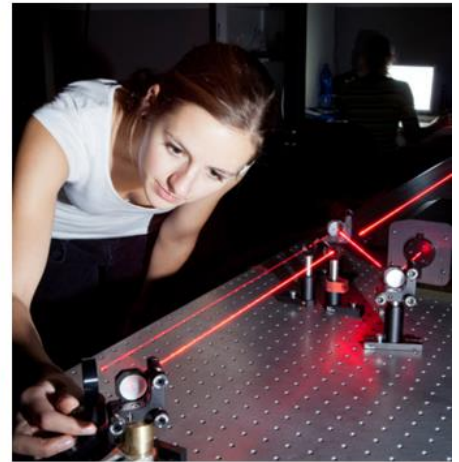
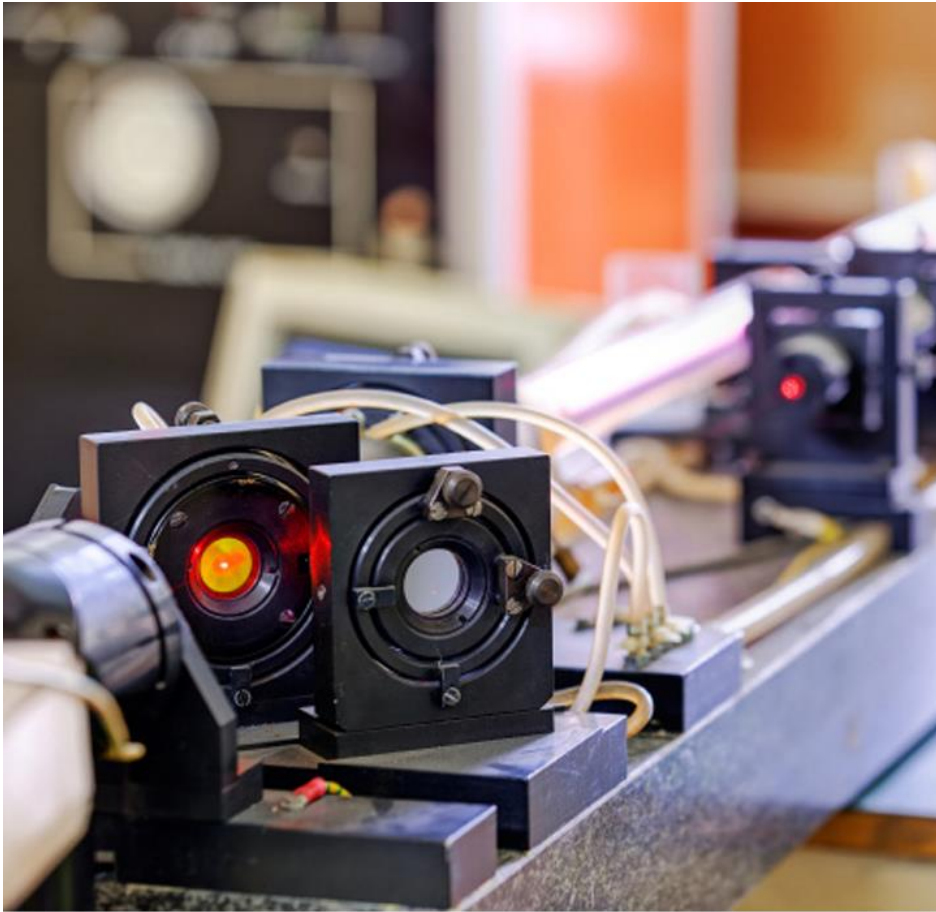


Model 575

Digital Delay / Pulse Generator



Features

- 50pS jitter internal, 800pS external trigger
- Programmable (ethernet/USB/RS-232/GPIB)
- Independent clock rates for each channel
- 250pS delay & width resolution

Applications

- Imaging
- Fluid dynamics
- Laser-induced breakdown spectroscopy
- Laser triggering/synchronization
- Laser gating



Model 575

0.001 Hz to 10 MHz

INTRODUCTION

The Model 575 Digital Delay / Pulse Generator represents the latest in timing capabilities. With up to 8 output configurations that are as varied as the applications the product serves, the Model 575 is clearly one of our most versatile instruments. We have combined advanced features such as a Labview/USB interface, complex burst sequences, Divide-by-N, Setting Profiles, Dual Triggers, Clock Divider, Pulse Picking and Negative Delay with core technology in precision timing. Our 250pS Delay & Width resolution, and 50pS internal jitter, allow users great confidence in setting up an experiment or synchronizing multiple events.

New Features:

Illuminated Channel Enable Buttons

Each channel has a designated enable/disable button. When individual channels are active or enabled the buttons are illuminated. This allows for easy reference and avoids any confusion of output operability. The run/stop indicator on the front panel LCD display as well as an illuminated run/stop button further simplify setup.

Selectable Clock Reference

The Model 575 offers additional inputs and outputs for external clock syncing. Specify frequency (10MHz to 100MHz). Sync with the Mode Lock Oscillator of a laser, or phase lock multiple units with one clock.

Flexible Gating Options

The Model 575 is packed with gating options for almost any setup. You may gate with a channel or on any input. You may gate individual channels or gate all. Gate immediately (output inhibit) or gate after a pulse (pulse inhibit).

Individual Rates

Each channel can have individual channel rates (either To or any of the other channels...) This is similar to having a separate clock for each output.

Auto-Save

Forgot to save your settings? The Model 575 stores your setup configurations while powering down. Recall is automatic on power-up.

Dual Input Panel Connectors

The Model 575 offers two inputs for triggering or gating. User may specify electrical or optical input signals, and configure any trigger/gate combination. Use Trigger #2 to disable a triggered pulse train.

Front Panel Optical

Many applications benefit from optical signals. For noisy environments, or communications applications, we offer an LED output stage at the front panel. This modular option can be configured for 2, 4, or 8 outputs at 820nm or 1300nm.

Front Panel High Voltage

Our modular architecture allows us to offer expanded functionality on user-selected front panel outputs. We offer a front panel High Voltage option (adjustable from 5V to 35V, 200 mV steps) on 2, 4, or all 8 channels.

Combined Output Types

The outputs are configured in modules and output types are combined in pairs. Thus one may select optical, standard electrical or high voltage electrical in pairs for their instrument. For example, a 8 channel unit may have optical, standard electrical and high voltage outputs all in one instrument. Custom or additional output modules may be added as the need arises.

Field Programmability:

Field Programmability

The instrument can now have functions upgraded in the field, such as a special or custom feature upgrade via a fully programmable FPGA.

Pulse Picking

Using an external modulation up to 100 MHz, you may select 1 out of every X pulses for a given channel.

Customer Output Modes

Custom Modules such as the TZ-50 give users an expanded list of capabilities with the Model 575. One example is out TZ-50 option, which allows customers a TTL signal into 50 ohms.

Negative Delay

Use the handy negative delay feature to reference one channel with respect to another channel into positive or negative time increments. By allowing a channel to reference another channel as its trigger, you can synchronize the channels with respect to each other.

SPECIFICATIONS

Delays

Range	0-1000 s
Resolution	250 ps
Timebase	25 ppm
RMS Jitter	200 ps
Pulse Inhibit Delay	120 ns
Output Inhibit Delay	50 ns

System External Trigger Input(s)

Number	2 1
Rate	DC to 1/(200ns + longest delay); maximum of 5MHz
Threshold	0.2 to 15 VDC
Max. Input Voltage	60 V Peak
Resolution	10 mV
Slope	Rising or Falling
Impedance	1 M ohm + 40 pF or 50 ohm
Jitter	800 ps RMS
Insertion Delay	180 ns Max

Gate Input(s)

Number	0 1
Threshold	0.2 to 15 VDC
Max Input Voltage	60 V Peak
Resolution	10 mV
Polarity	Active High/Active Low
Function	Pulse Inhibit or Output Inhibit
Channel Behavior	Global w/ Individual Channel Enables

Internal Rate Generator

Number	0.001 Hz to 10.000 MHz
Resolution	5 ns
Accuracy	Same as timebase
Jitter	50 ps
Setting	1 cycle
Burst Mode	1 to 10,000,000

TTL/Adjustable Outputs

Number	2, 4 or 8 Channel Outputs
Impedance	50 ohm
Pulse Width Range (TTL)	10 ns - 1000 s
Rise Time (TTL)	3 ns typ
Slew rate (adjustable)	0.1 V/ns
Overshoot	< 100 mV +10% of pulse amplitude
Levels	TTL 0 to 4 VDC into high impedance *VAR adjustable amplitude, 2.0 to

	20.0 VDC with 10 mV res, 20.0 VDC max transition into high impedance
--	---

Electrical Inputs

Number	0 or 2
Rate	DC to 1(0.2 us + longest delay)
Threshold	0.2 to 15 VDC
Max Input Voltage	60 V Peak
Resolution	10 mV
Impedance	1 M ohm + 40 pF or 50 ohm
Function(s)	Individual Channel Trigger Gate/Follower
Trigger Slope	Rising or Falling
Gate Polarity	Active High or Active Low
Trigger Jitter	< 2 ns

Optical Outputs

Number	2, 4, 8
Wavelength	820 nm or 1300 nm
Max Signal Rate	5 M Bd
Max Link Distance	1.5 km
Connector Type	ST
Resolution	500 ps
Accuracy	1 ns + .0001 x delay

Optical Inputs

Number	0 or 2
Wavelength	820 nm or 1300 nm
Max Signal Rate	5 Mbd
Max Link Distance	1.5 km
Connector Type	ST
Resolution	500 ps
Accuracy	2 ns + .001 x delay
Optical Trigger	2412
Trigger Delay	< 300 ns
Jitter	< 15 ns

Standard Features/Functions

Communications	USB/RS232
Global Gates/Triggers	2 Global Gate/Trigger Inputs
Channel Gates/Triggers	Optical/Electrical available (5 ns Jitter)
External Clock In	10 MHz - 100 MHz User Selectable in discrete values
External Clock Out	10 MHz - 100 Mhz User Selectable in discrete values
Command Set Compatibility	Backwards Compatible

