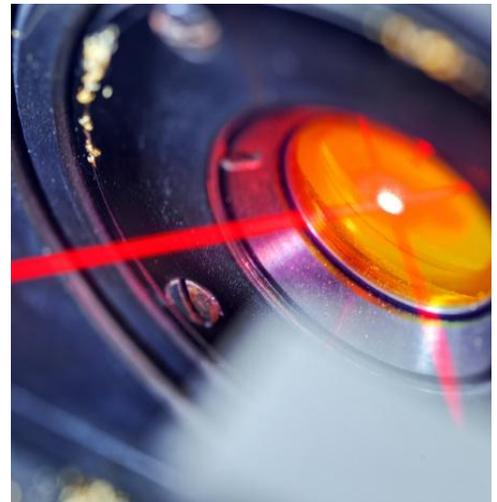
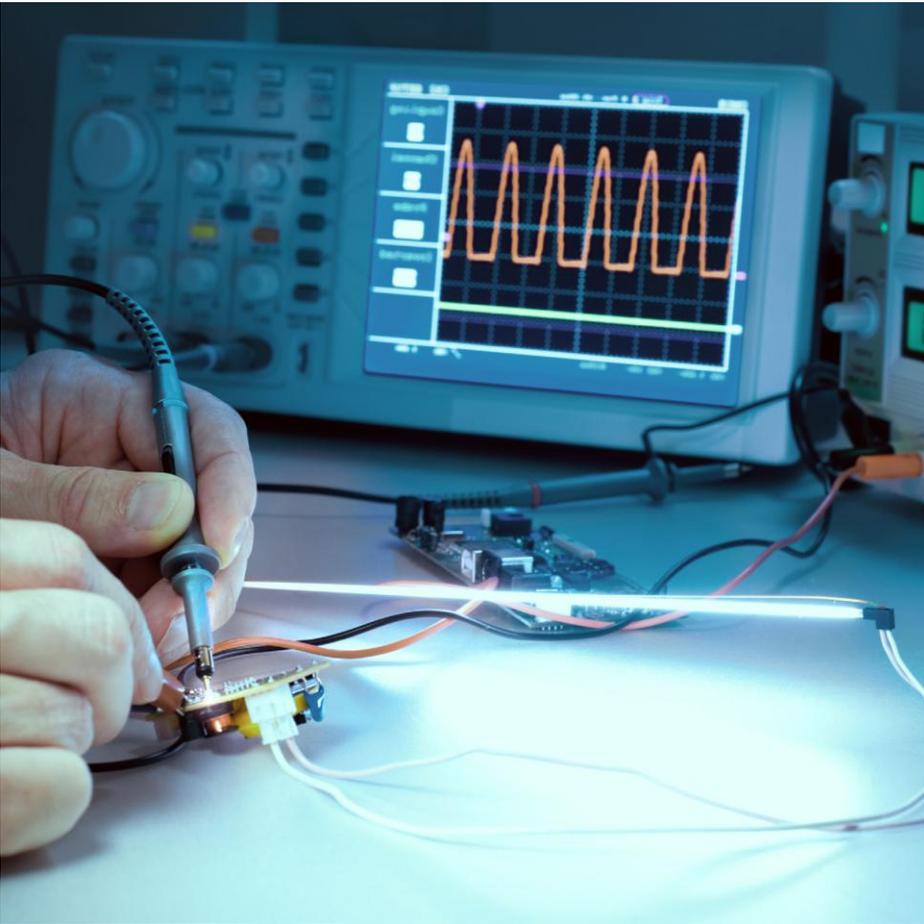


# Model 588B

## Rackmount Pulse Generator



### Features

- 250 ps Delay Resolution
- < 5 ps RMS Jitter
- 1 ns + .0001 x period Delay Accuracy
- USB / RS232 / Ethernet Communications

### Applications

- ICCD/PIV Testing
- Laser Triggering / Gating
- Pulse DUTs and Pump Lasers
- Radar / Sonar Simulation
- High Speed Photography



### Model 588B

12 or 24 Channels Pulse Generator

## INTRODUCTION

The Model 588B Pulse Generator has a powerful set of functions that serve various modes of operations and applications. Both the system timer and the channel timer combine to provide the ability to generate complex waveforms. BNC has the 1U units available for 12 channels or 2U units for 24 channels.

These units provide precision timing and synchronization to effectively trigger any series of events or necessary equipment with up to 36 independent outputs, dual inputs with gate/trigger or optional dual trigger, and external clock reference input.

## SPECIFICATIONS

### Internal Rate Generator

Rate (T <sub>0</sub> period)	50ns to 5,000s (0.0002 Hz to 20.000 MHz)
Resolution	5 ns
Accuracy	1 ns + .0001 x period
Jitter	< 5 ps RMS
Settling	1 period
Burst Mode Counter	1 to 4,000,000,000 pulses
Duty Cycle Mode Counters	1 to 4,000,000,000 pulses
Cycle Counter	1 to 10,000,000 cycles
Timebase	200 MHz, low jitter PLL
Oscillator	50 MHz, 25 ppm
System Output Modes	Single pulse, burst, duty cycle, external gate/trigger
Pulse Control Modes	Internal rate generator, external trigger/gate

### Channel Timing Generator

Channel Output Modes	Single shot, burst, duty cycle, normal
Control Modes	Internally triggered, externally triggered and external gate. Each channel may be independently set to any of the modes.
Burst Mode Counter	1 to 10,000,000 pulses
Duty Cycle Mode Counters	1 to 10,000,000 pulses
Wait Function Counter	0 to 10,000,000 pulses
Output Multiplexer	Up to five (5) channel timers may be routed to each output channel.
Timebase	Same as internal rate generator

### Delays

Delay Range	0 - 2,000 s
Width Range	10ns – 2,000s
Accuracy	1 ns + 0.0001 x Delay
Resolution	250 ps
Pulse Inhibit Delay	< 120 ns typical
Output Inhibit Delay	< 50 ns typical

## Output Module Specifications

TTL/Adjustable Dual Channel Output Module (Standard)

Output Impedance	50 ohm
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## TTL/CMOS Mode

Output Level	4.0 V typ into 1 kohm
Rise Time	3 ns typ (10% - 90%)
Slew Rate	> 0.5 V/ns
Jitter	50 ps RMS channel to channel

## Adjustable Mode

Output Level	2.0 to 20 VDC into 1 k ohm 1.0 to 10.0 VDC into 50 ohm
Output Resolution	10 mV
Current	200 mA typical, 400 mA (short pulses)
Rise Time	15 ns typ @ 20 V (high imp) 25 ns typ @ 10 V (50 ohms) (10% - 90%)
Slew Rate	>0.1 V/ns
Overshoot	<100 mV + 10% of pulse amplitude

## System External Trigger/Gate Input(s)

<b>Trigger Input</b>	
Type	Pulse 0.5 to 30v, switch closure (footswitch, safety interlock, etc.)
Function	Generate individual pulses, start a burst or continuous
Rate	DC to 1/ (200 ns + longest active pulse). Maximum of 5 MHz
Slope	Rising or Falling
<b>Gate Input</b>	
Mode	Pulse inhibit or output inhibit
Polarity	Active high/active low
Channel Behavior	Global w/Individual Channel Control

## Trigger/Gate Dual Input Module (Standard)

Standard dual channel input module, providing one trigger input, one gate input and one dual purpose input on the front panel.

Threshold	0.2 to 15 VDC
Maximum Input Voltage	30 V Peak
Impedance	5.3 K ohm + 10pF
Resolution	10 mV

## Trigger Input

Slope	Rising or Falling
Jitter	800 ps RMS

<b>Insertion Delay</b>	<160 ns
<b>Minimum Pulse Width</b>	10 ns

## Gate Input

<b>Pulse Inhibit Delay</b>	<160 ns
<b>Output Inhibit Delay</b>	<160 ns

## Standard Features

<b>Communications</b>	USB / RS232 / Ethernet
<b>External Clock In</b>	10 MHz, 20 MHz, 25 MHz, 30 MHz, 40 MHz, 50 MHz, 60 MHz, 80 MHz
<b>External Clock Out</b>	T <sub>0</sub> , 10 MHz, 20 MHz, 25 MHz, 30 MHz, 40 MHz, 50 MHz, 60 MHz, 80 MHz, 100 MHz

## General

<b>Storage</b>	12 ch = 12 storage bins 24 ch = 24 storage bins
<b>Dimensions</b>	19" x 10" x 3.50" 12/24 ch (standard 2U rack mount)
<b>Weight</b>	8 lbs
<b>Power</b>	100 - 240 VAC 50/60 Hz <3 A
<b>Fuse</b>	(Qty 2) 630 mA, 250 V Time-lag

