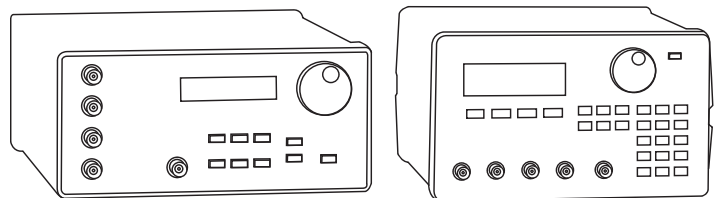


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B N C | models | 505/565



Performance • Versatility • Affordability

BNC models 505/565

505 AND 565 LOW JITTER DIGITAL DELAY AND PULSE GENERATORS

Models 565 and 505 expand the boundaries of pulse generator and digital delay capabilities. They provide up to eight independent pulse generator outputs or up to 16 digital delay generator edges in one instrument. As a pulse generator they provide rate, delay, width, and output adjustability with each of the channels. As a digital delay generator with fine resolution timing they provide multiple pulses from an external, internal, or software trigger.

The outputs are synchronized to one another with a coherence of 250 ps and 5 ns respectively. A channel's timing can be referenced to any other channel or the zero delay point (T_0). These edges are adjustable in 500 ps steps or 100 ns respectively. Channels can be selectively gated and enabled/disabled. Any channel can be a submultiple (divide by n) of any other channel. The burst mode allows an independent number of bursts for any channel. Each channel possesses separate output level and polarity characteristics. The units come with RS232, GPIB, USB and/or Ethernet programming and the ability to store several complete sets of parameter settings for future recall. The 565 can combine the timing of several channels so complex patterns such as barcodes and complex control signals can be generated.

505 AND 565 >>> KEY FEATURES

- Single cycle by pushbutton or trigger >>> One pulse with each pushbutton, internal, external or software trigger
- Internal rate generator >>> Period adjustment provides finer resolution than pure rate
- Delay and width for each channel >>> No longer need to combine two channels to generate widths
- Complete setup stored inside the instrument >>> Recall frequently applied testing configurations
- Programmability >>> The 505 has RS232 and GPIB.

The 565 has RS232, GPIB, and USB standard with optional Ethernet communication.

CHANNEL PROPERTIES >>> PROVIDES NEW OPERATING MODES

- Burst – each channel can have a separate number >>> Burst is selectable on a channel-by-channel basis
- Duty cycle – N pulses on, M pulses off >>> Duty cycle is selectable on a channel-by-channel basis
- Divide by N – a pulse every N master pulses >>> By using the duty cycle mode
- Gate – an external signal enables pulses >>> Channels can be selected to respond to or ignore the gate
- Combine – several channels >>> Selectively sum the timing of several channels onto one channel



M O D E L 505

100NS RESOLUTION • 5 NS CHANNEL-TO-CHANNEL JITTER

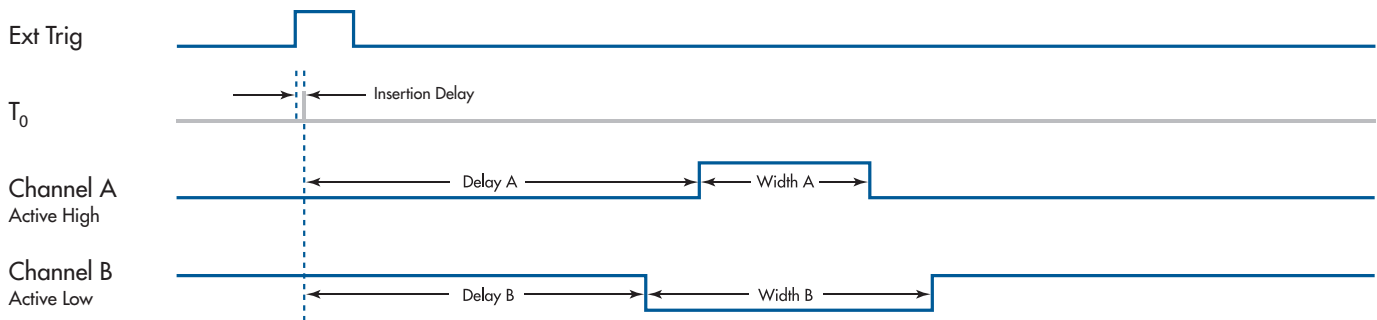


M O D E L 565

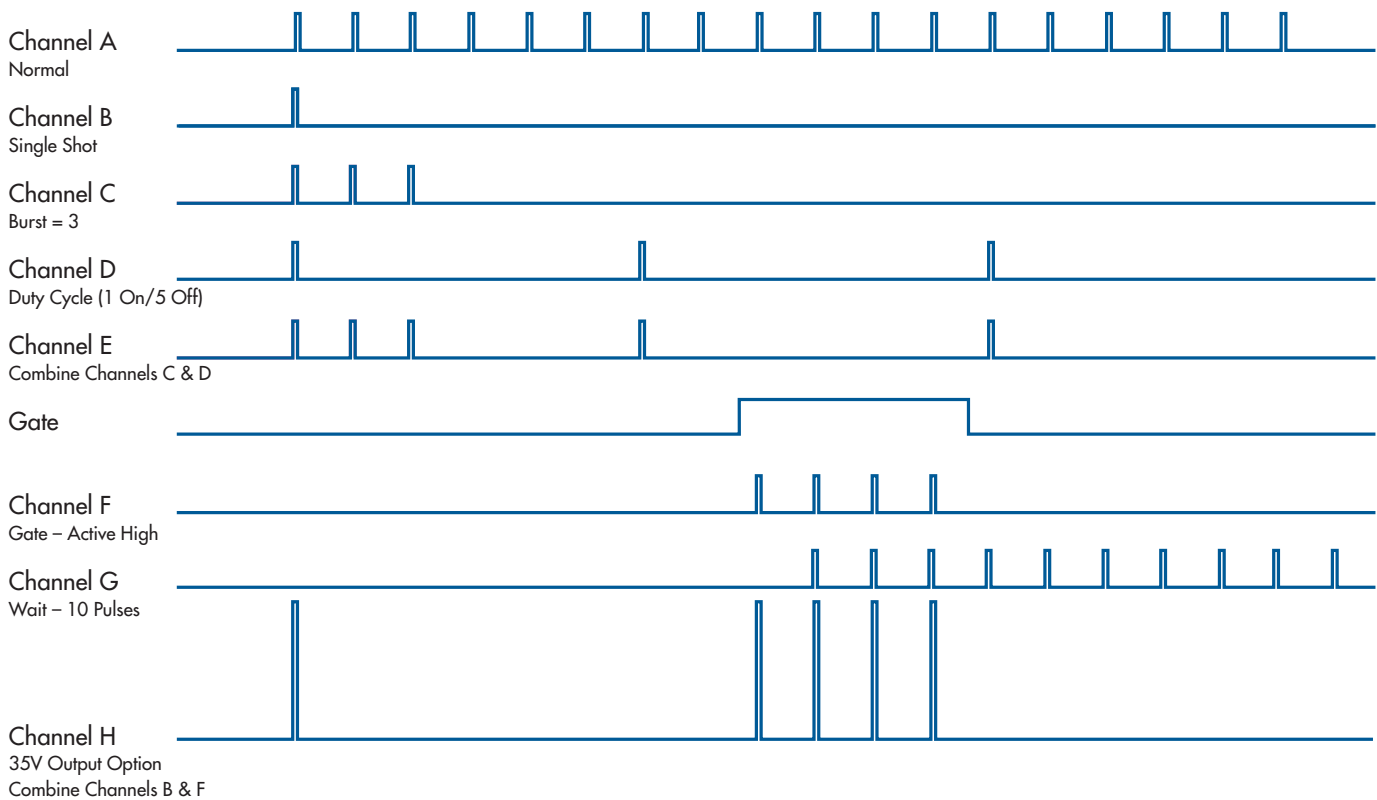
500PS RESOLUTION • 250 PS CHANNEL-TO-CHANNEL JITTER

- SYNCHRONIZE, TRIGGER, DELAY, AND GATE MULTIPLE EVENTS
- INDEPENDENT CHANNEL PROPERTIES FOR UP TO EIGHT CHANNELS
- INDEPENDENT BURST, GATE, OUTPUT CHARACTERISTICS
- DELAY AND WIDTH CONTROL FOR EACH CHANNEL

DIGITAL DELAY USING EXTERNAL TRIGGER



CONTINUOUS RATE CHANNELS IN SEPARATE MODES



CONFIGURATION 2, 4, or 8 channels of delays and widths per instrument 2, 4, or 8 channels of delays and widths per instrument

TIMING DELAYS AND WIDTHS

delay	0 to 1000 seconds with 500 ps resolution	0 to 1000 seconds with 100 ns resolution
width	10 ns to 1000 seconds with 500 ps resolution	100 ns to 1000 seconds with 100 ns resolution
accuracy	1 ns + 0.0001 x time	10 ns + .0001 delay
time base	100 MHz, 25 ppm crystal oscillator	50 MHz, 50 ppm crystal oscillator
RMS jitter	250 ps	< 5 ns

TRIGGER MODES Continuous, External Trigger, External Gate, Single Shot, Burst, Duty Cycle

EXTERNAL TRIGGER/GATE

rate	0 to 5 MHz	0 to 2 MHz
insertion delay	< 150ns	< 250ns
threshold	200 mV - 15 V	200 mV - 15 V
trigger slope	Rising or falling edge, selectable	Rising or falling edge, selectable
gate	Active low or active high, selectable	Active low or active high, selectable
impedance	1000 ohms	1000 ohms

INTERNAL REP RATE GENERATOR

rate	0.0002 Hz to 5 MHz	0.001 Hz to 2 MHz
accuracy	1 ns + 0.0001 x period	5 ns + 0.0001 x period
RMS jitter	250 ps	< 500 ps
burst mode	1 to 1000000 pulses	1 to 1000000 pulses

SINGLE SHOT Pushbutton provides a single trigger Pushbutton provides a single trigger

BURST Any channel may provide a burst of pulses at the internal rate. The number of pulses may differ from channel to channel.

DUTY CYCLE Set timing events at ON for M pulses and then OFF for N pulses.
Set M to 1 and N to (n-1) to get "divide by N" operation.

OUTPUTS Selectable, a fixed amplitude TTL/CMOS or adjustable level to 12 V, Optional 35 V output with limited widths Adjustable to 20 V

IMPEDANCE 50 ohm 50 ohm

ADJUSTABLE AMPLITUDE

slew rate	>.2 V/ns	>.2 V/ns
amplitude	1 V - 6 V into 50 ohm load 2 V - 12 V into high impedance	1 V - 10 V into 50 ohm load 2 V - 20 V into high impedance
peak current	150 mA per channel	150 mA per channel
average current	200 mA ave. (total for all channels)	200 mA ave. (total for all channels)
polarity	Positive (active high) or Negative (active low)	Positive (active high) or Negative (active low)

TTL / CMOS

transition time	< 5 ns	n/a
amplitude	4 V nominal	n/a

COMPUTER INTERFACE

RS232	4800, 9600, 19200 & 38400	4800, 9600, 19200 & 38400
IEEE 488	Standard	Standard
USB	Standard	n/a
Ethernet	Optional	n/a

MODEL SELECTION

model 565-2C/505-2C	2 Channels	2 Channels
model 565-4C/505-4C	4 Channels	4 Channels
model 565-8C/505-8C	8 Channels	8 Channels

OPTIONS 35 V High Voltage Outputs n/a

ACCESSORIES 19" Rack Mount
Extended service/calibration agreements available 19" Rack Mount
Extended service/calibration agreements available