Model 765

Fast Rise Time Pulse Generator

Datasheet v1.0

Features

- Up to 4 Independent Channels
- < 70 ps rise/fall time
- Adjustable Output Level from 10mVpp to 5 Vpp
- Adjustable Baseline Offset ± 2.5 V
- Maximum Repetition Rate 500 MHz
- < 27 ps Jitter RMS

BNC Berkeley Nucleonics Corp
Authorized Small Business Partner

NSCA TRA-CAL
SERVICE-DISABLED VETERAN-OWNED SMALL BUSINESS

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Introduction

Berkeley Nucleonics is the first to market an Analog edge converter with the ability to reach less than 70 ps edge (20-80%) at 5 volts @ 50 ohms with fully adjustable output voltage. The Model 765 also offers premium signal integrity with an easy to use, intuitive, and powerful touch screen display interface. The generation of precision pulses requires only a few touches of the screen GUI. The output voltage can be adjusted up to 5V peak to peak in a window of ±5V with 70 ps edge rate and transitions with minimal overshoot and ringing. Its innovative hardware architecture provides the possibility to generate advanced pulse sequences, such as double pulse or quad pulse, with fully independent timing parameters.

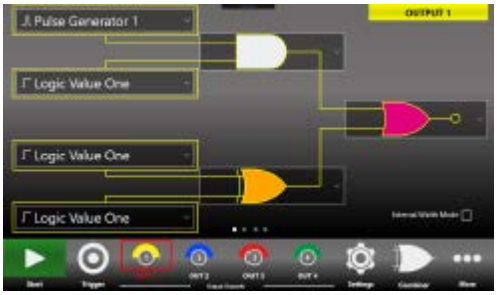
Technology

Model 765's Intuitive User Interface

Model 765's UI is designed for touch to drive simplicity in operating and programming, by optimizing the modern techniques and intuitive architecture, used on today's tablet or smart phones with capacitive touch screen display.

All-important instrument controls and settings are always one touch away: swipe gesture to change the channel, pulse selection with access to the modulation parameters, combine multiple pulses easily using the touch-combiner, swipe into the waveform gallery to import a signal in a glance, use the touch-friendly virtual numeric keyboard to change parameter values on the fly, and much more. Using advance design techniques you have the ability to easily produce advance or complex pulse trains.

Within just a few minutes of operation the UI will become familiar. Signals will be generated quickly, adjustments can be done in real-time, and set-up is completed with one touch. Via HDMI or USB interfaces the screen, controls, or added keyboard or mouse can easily be extended outside of the instrument.



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Model 765 Specifications

Channel Count	2	4
Amplitude Peak to Peak	200 mVpp to 5 Vpp Adj.	200 mVpp to 5 Vpp Adj.
Output Impedance	50 Ohm Nominal	50 Ohm Nominal
Baseline Offset	± 2.5 V Adj.	± 2.5 V Adj.
Baseline Offset Resolution	< 2 mV	< 2 mV
Amplitude Resolution	< 10 mV	< 10 mV
DC Amplitude Accuracy	± (1% of Setting + 10 mV)	± (1% of Setting + 10 mV)
Rise/Fall Time (10%-90%) Typ.	< 100 ps Fixed	< 100 ps Fixed
Rise/Fall Time (20%-80%) Typ.	< 70 ps Fixed	< 70 ps Fixed
Overshoot Typ.	< 10%	< 10%
Channel Count	2	4
*Repetition Rate**	*< 1 Hz to 120 Mhz*	*< 1 Hz to 240 Mhz*
*Period**	*8.33 ns to > 1 s*	*4.166 ns to > 1 s*
Period Resolution Typ.	10 ps	10 ps
Period Accuracy Typ. @ 25°C	± 5 ppm	± 5 ppm
Period Jitter, RMS Typ.	< 25 ps	< 25ps
Width	< 300 ps to > 1 s	< 300 ps to > 1 s
Width Resolution Typ.	10 ps	10 ps
Width Accuracy Typ.	± (0.01% + 20 ps)	± (0.01% + 20 ps)
Delay (Trigger out to Output)	0 to > 1 s	0 to > 1 s
Delay Resolution Typ.	10 ps	10 ps
Delay Accuracy Typ.	± (0,01% + 20 ps)	± (0,01% + 20 ps)
SE or Complementary Output	Both	Both
Trigger Mode	Continuous, Single, Burst, Gated, External	Continuous, Single, Burst, Gated, External
Trigger in Threshold	Programmable in 50 mV Steps	Programmable in 50 mV Steps
Trigger in Range	± 10 V	± 10 V
Trigger in Impedance	50 Ohm or 1K Ohm Programmable	50 Ohm or 1 K Ohm Programmable
Trigger in to Output Jitter, RMS Typ.	< 35 ps	< 35ps
Trigger Output Impedance	50 Ohm Nominal	50 Ohm Nominal
Trigger Output Range (Open Load)	1,8 V to 3,3 V	1,8 V to 3,3 V
Display Characteristics & OS	7 inch, 1024x600, Capacitive Touch LCD - Windows 10	7 inch, 1024x600, Capacitive Touch LCD - Windows 10
Dimensions & Weight	W 445 mm - H 135 mm - D 320 mm D (3U 19” Rackmount) - 11 Kg	W 445 mm - H 135 mm - D 320 mm D (3U 19” Rackmount) - 11 Kg

Note: These are the differentiating specifications in the 2 and 4 channel options of Model 765

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