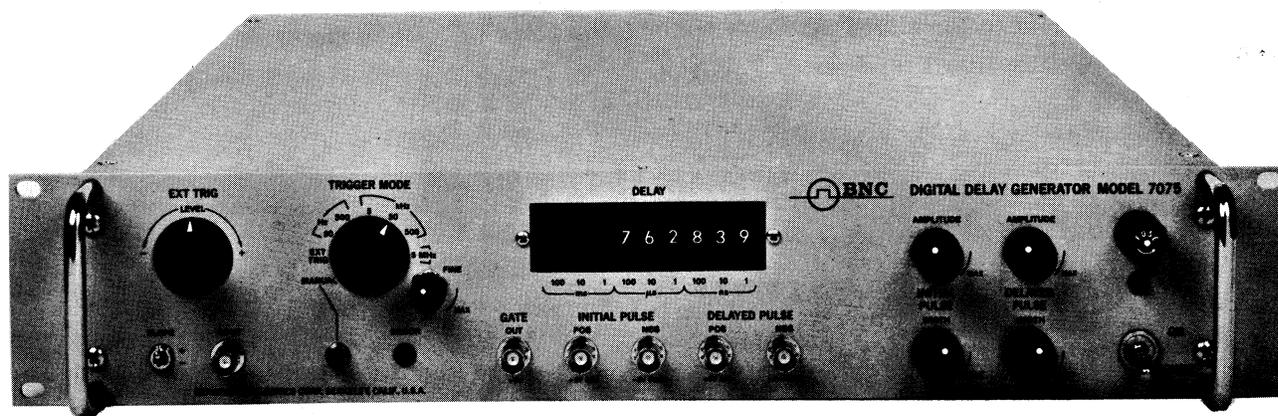


Digital Delay Generator Models 7065/7075



The Models 7065 and 7075 are precision instruments that provide time delays from 0 to 999.999 μs or, with Option A, to 999.999999 ms. Delays are selectable in 1 ns increments. A gate output equal to the delay time is also provided.

The Model 7065's Initial and Delayed Pulse outputs are fixed in amplitude and width, while the Model 7075 includes continuously variable width and amplitude controls as well as self-triggering up to 5 MHz. External triggering is accomplished with the ± 2 volt threshold range selector for both positive or negative-going slopes. A \pm one-half clock period indeterminacy between the trigger and output pulses is automatically eliminated by trigger synchronizing circuitry that reduces indeterminacy to zero.

Both instruments have an error warning light to signal excessive (error producing) triggering rates relative to the time settings. Remote programming and external time base connection are optionally available.

SECTION 1

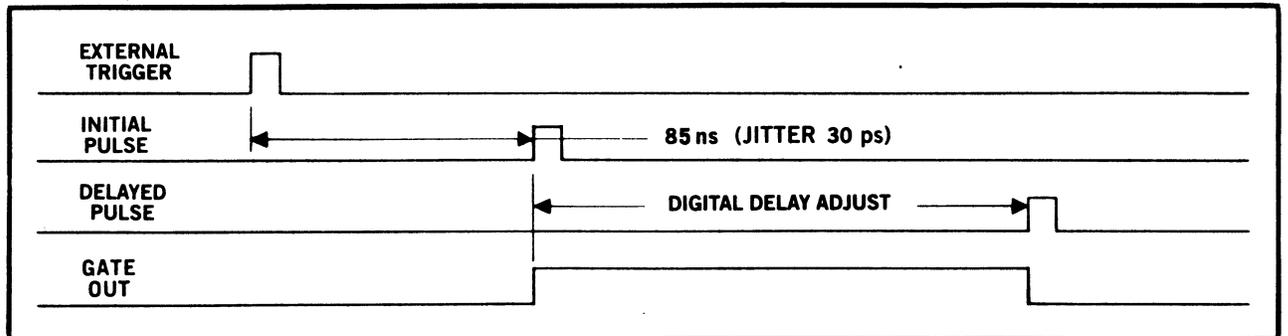
SPECIFICATIONS

<p>DELAY AND GATE SELECTION</p>	<p>(Gate min. 10 ns) 0 to 999.999 μs in 1 ns increments. See Option A for extension up to 1 second.</p>
<p>ACCURACY</p> <p>Delay:</p> <p>Gate:</p>	<p>1 - 9 ns, ± 0.1 ns; 10 - 99 ns, ± 0.3 ns; 100 ns to full range, ± 0.5 ns \pm time setting \times time base error.</p> <p>Delay interval ± 2 ns (fixed).</p>
<p>TIME BASE STABILITY</p> <p>Aging:</p> <p>Temperature:</p>	<p>± 100 ps $\pm 2 \times 10^{-7}$ per week.</p> <p>$< 1 \times 10^{-6}$, 0 - 50$^{\circ}$ C.</p>
<p>INSERTION DELAY</p>	<p>Between Trigger and Initial Pulse: 85 ns.</p>
<p>INDETERMINACY</p>	<p>None.</p>
<p>JITTER</p> <p>Between External Trigger and Initial Pulse:</p> <p>Between Initial and Delayed Pulses:</p>	<p>30 ps rms max.</p> <p>1 to 999 ns, 100 ps rms max; 1 to 999 μs, 150 ps rms max; 1 ms to 999 ms (Option A), 250 ps rms max $\pm 1 \times 10^{-8}$ \times delay.</p>
<p>TRIGGER MODES</p> <p>External:</p> <p>Manual:</p> <p>Internal (Model 7075 only):</p>	<p>Rate 0 to 5 MHz; 10 ns minimum width; 200 mV minimum amplitude; 50 Ω nominal input impedance. Trigger level control ± 2 V, continuously adjustable. Positive or negative slope selection switch.</p> <p>Panel pushbutton.</p> <p>5 Hz to 5 MHz continuously adjustable through five ranges.</p>
<p>OUTPUT PULSES</p> <p>Initial and Delayed: (Model 7065)</p> <p>Initial and Delayed: (Model 7075)</p> <p>Gate:</p>	<p>Positive, +5 V into 50 Ω; Negative, -2 V from 50 Ω; 3 ns rise and fall times; 40 ns width, may be altered.</p> <p>Positive, +0.1 to +5 V into 50 Ω, continuously adjustable; Negative, -2 V from 50 Ω; 3 ns rise and fall times; 15 ns to 1 μs width, continuously adjustable.</p> <p>+5 V into 50 Ω; 3 ns rise and fall times.</p>
<p>CLOCK MODES</p> <p>Internal:</p> <p>External:</p>	<p>Operates from internal oscillator.</p> <p>See Option B for operation from an external frequency standard.</p>

. . . continued

- SPECIFICATIONS -

<p>DIMENSIONS Rack Mount:</p>	<p>19" W x 3-1/2" H x 19-3/4" D (483 x 89 x 502 mm).</p>
<p>WEIGHT Model 7065: Model 7075:</p>	<p>18 lbs net (8.2 kg); 24 lbs (11 kg) shipping. 19 lbs net (8.6 kg); 24 lbs (11 kg) shipping.</p>
<p>AMBIENT</p>	<p>0° C to 50° C (32° F to 122° F).</p>
<p>POWER Model 7065: Model 7075:</p>	<p>115/230 V ± 10%, 50/60 Hz, 85 W. 115/230 V ± 10%, 50/60 Hz, 90 W.</p>
<p>OPTIONS A: Extended Range B: External Clock P1: BCD Remote Programming P2: GPIB Remote Programming</p>	<p>Three additional decades extend Delay and Gate range to 999.999999 ms. Instrument may be phase locked to an external frequency standard. TTL input of 40 ns minimum width, either 1 MHz or 10 MHz. Time settings are remotely selectable. Coding is TTL/DTL compatible, V(High) = 0, V(Low) = 1. Buffer storage provided. Data Strobe, V(Low) = Strobe. Remote/Local, V(High) = Local; V(Low) = Remote. Programming Time: 1 μs max. Chassis connector: Amphenol 57-40500. For automatic selection of time settings. Complies with IEEE Std. 488-1978. Non-pollable. Includes internal RAM for bus-storing locally up to sixteen 6 or 9-digit (Option A) settings.</p>



Relationship between waveforms

FIG. 1-1. Time Delay Setting.