

Model 6040 Pulse Generator



The Model 6040 pulse generator provides superior performance characteristics. For example, the timing accuracies of 0.01% for frequency and 0.2% for delay and width are unusual for a pulse generator. The triggering jitter of 25ps provides synchronizing capabilities usually associated with only the very best digital delay systems. Plug-in modules let you select the output configuration you currently need. Even the mainframe 6040 without any module provides capable positive and negative outputs.

Capabilities of the mainframe with its modules include: single pulse, double pulse, impulse, external drive, external modulation and CW. The modules themselves determine which of these capabilities are available. Some modules can operate to full repetition rate of the mainframe; others are limited to a smaller number.

Electrical Modules

These interchangeable modules provide electrical signals from 5V, 180ps risetimes to 800V, 10 ns risetimes. The higher amplitudes have slower risetimes and the slower risetimes result in reduced maximum rep rates.

Optical Modules

These interchangeable modules provide wavelengths of 650 nm, 650 nm, 850 nm, 904 nm, 1064 nm, 1300 nm and 1550 nm. Other wavelength options may be available so check with the factory if you have special needs. The optical modules offer rep rate, delay and width control as well as amplitude adjust – essentially providing the optical equivalent of an electrical pulse generator. For all the modules, light is conveniently provided at end of an optical fiber for easy routing on an optical bench or to a test system.

SPECIFICATIONS:

Internal Trigger 0.01Hz to 100 MHz, Accuracy: 0.01% of setting

Pulse Width 3 ns to 640 S, resolution of 1 ns or 5 digits, accuracy 0.2%, jitter 25 ps or 0.005%

Delay 0 ns to 640 S, resolution of 1 ns or 5 digits, accuracy 0.2%, jitter 25 ps or 0.005%

Trig Out A 3 ns wide, 2V high T0 pulse into 50 ohms

Pulse Out A positive 4V pulse into 50 ohms. 1 ns risetime

ECL Out An ECL level output into 50 ohms. 700 ps risetime

External Trigger 0 to 100 MHz, slope select and threshold adjust, 50 ohm input impedance

Single Cycle A push button initiates a single pulse cycle

Double Pulse A pair of identical width pulses separated by the delay for each event

Impulse A sub-ns impulse is provided for each event. (optical only)

External Drive An incoming waveform drives a module's output between two selected levels.

External Modulation Analog or digital signals modulate the output of an optical module with high bandwidths. (optical only)

CW Constant light level outputs. (optical only)

Model 6040 Pulse Generator

Electrical Modules

These interchangeable modules provide electrical signals from 5V, 180ps risetimes to 800V, 10 ns risetimes. The higher amplitudes have slower risetimes and the slower risetimes result in reduced maximum rep rates.

ELECTRICAL MODULE	CHARACTERISTICS	AMPLITUDE INTO 50 OHMS	OFFSET	MAX RATE	RISETIME	MIN WIDTH	MAX WIDTH
201E	fast risetime high rep rate	5 V	+/- 5 V	180 ps	100 MHz	1 ns	640 S
202H	high pulse power	300 V	None	500 KHz	5 ns	12 ns	.005%/us droop
310H	high pulse power	800 V	None	40 KHz	15 ns	25 ns	1%/us droop

Optical Modules

These interchangeable modules provide wavelengths of 635 nm, 650 nm, 660 nm, 850 nm, 904 nm, 1064 nm, 1300 nm and 1550 nm. Other wavelength options may be available so check with the factory if you have special needs. The optical modules offer rep rate, delay and width control as well as amplitude adjust – essentially providing the optical equivalent of an electrical pulse generator. For all the modules, light is conveniently provided at end of an optical fiber for easy routing on an optical bench or to a test system.

OPTICAL MODULE	WAVE LENGHT	PEAK POWER	MODE	MAX RATE	MIN WIDTH	MAX WIDTH	IMPULSE	CW	EXT MOD	EXT DR
65	650 nm 635, 660 available	2 mW higher available	multi	100 MHz	3 ns	640 S	yes	yes	yes	yes
85	850 nm	2 mW	multi	100 MHz	3 ns	640 S	yes	yes	yes	yes
90	904 nm	1 mW	single	100 MHz	3 ns	640 S	yes	yes	yes	yes
106C	1064 nm	1 mw	single	100 MHz	3ns	640 S	yes	yes	yes	yes
106H	1064 nm	50 mW (*100mW)	multi	2 kHz	10 ns	25 ns*	contact factory	yes	yes	yes
130	1300 nm	1 mW	single	100 MHz	3 ns	640 S	yes	yes	yes	yes
155	1550 nm	1 mW	single	100 MHz	3 ns	640 S	yes	yes	yes	yes
155H	1550 nm	40 mW	multi	2 kHz	10	25 ns	contact factory	pulse only	yes	yes



306 INDUSTRIAL PARK ROAD SUITE #202 • MIDDLETOWN, CT 06057, USA
PHONE: +1-860-635-6820 • FAX: 1-860-635-4962
SALES@NATS-USA.COM • WWW.NATS-USA.COM