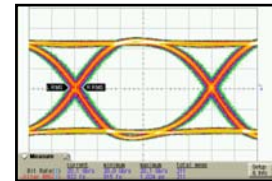


**Features:**

- Programmable data rate, amplitude, offset, and crossing point
- Differential data, pattern trigger, clock/n, and full rate clock outputs
- Built-in random and sinusoidal jitter injection option (*coming soon*)
- PRBS and user defined patterns
- Single bit error injection for testing error measurement setups
- Front panel touch screen GUI or USB computer control

**PatternPro™** Line of  
 Serial Data Test Instruments



**Output Performance:**

- 25ps typical 10% to 90% rise and fall times
- 250mV to 2.0V output amplitude
- -2.0V to 3.0V offset window
- 35% to 65% programmable crossing point

**Applications:**

- High-speed serial data testing to 20Gb/s
- 14Gb/s Fibre Channel Testing
- Semiconductor device and component testing
- R&D design verification

The Picosecond Pulse Labs' **Model 12060** is a high performance pattern generator instrument. The 12060 combines high-quality output with **programmable** data rate, amplitude, offset, crossing point, and patterns. The Model 12060 features high-performance DC coupled limiting amplifiers that result in programmable, accurate, fast risetime data signals. In addition, the 12060 provides many useful test features such as a built-in jitter injection option (*coming soon*) and single bit error injection.

This generator provides leading performance and features at an economical price making it a compelling choice for high speed serial data testing.

Ordering Information	
Model 12060	20Gb/s Programmable Pattern Generator

**Contact Information**

Picosecond Pulse Labs  
 P.O. Box 44  
 Boulder, Colorado 80306, USA

Telephone: 303.209.8100  
 Fax: 303.447.2236  
 Email: [info@picosecond.com](mailto:info@picosecond.com)  
 Website: [www.picosecond.com](http://www.picosecond.com)

**Specifications:**

Description:	Value/Details	Notes
<b>Data Outputs:</b>		<i>Differential/complimentary output.</i>
Amplitude Single ended Differential	250mV to 2.0V 500mV to 4.0V	<i>Positive and negative differential outputs are independently programmable.</i>
Offset	-2.0V to +3.0V window	<i>Programmable/adjustable</i>
Termination Voltage	-2.0V to +3.3V	<i>Programmable/adjustable</i>
Crossing point adjust range	35% to 65% typ.	<i>Programmable/adjustable</i>
Risetime 20% to 80% 10% to 90%	17 ps typ. 25 ps typ.	<i>Measured with 70GHz bandwidth sampling head directly attached to Model 12060 output connector [1]</i>
Total Jitter	1.0 ps RMS typ.	<i>Measured with 2<sup>7</sup>-1 PRBS.</i>
Output impedance	50 Ω single ended	100 Ω differential
<b>Other Outputs:</b>		
Trigger/Divided Clk	Swings from -600mV to 0V	<i>User selectable as pattern trigger (one trigger at start of pattern) or clock/n (user selected n). DC coupled.</i>
Clock signal Amplitude Jitter	400mVpp typ. <1 ps RMS typ.	<i>AC coupled</i>
<b>Inputs:</b>		
External clock input	400mVpp typ. 1Vpp max	<i>AC coupled. Operates over range of 10GHz to 20GHz.</i>
<b>Pattern Generator:</b>		
Data rate	1.25 Gb/s to 20 Gb/s	<i>Data rate is programmable from front panel or computer control.</i>
Frequency resolution	10kHz	
Built-in PRBS patterns	2 <sup>n</sup> -1	<i>n = 7, 15, 23, 31</i>
User defined pattern depth	4 Mbit	
Single bit error injection	Yes	
<b>User Interface:</b>		
Front panel touch screen GUI	Yes	<i>Edit output characteristics, patterns, and instrument setup.</i>
Computer programmable Interface	Yes USB	<i>USB HID interface. Windows DLL provided for communicating with instrument.</i>

[1] Measured risetime is the result of the combination of the risetime of the pattern generator, cables, attenuators, adapters, and the measurement device (e.g. a sampling oscilloscope).