

## INSTRUMENTS

### Attenuators - Frequency response to 60 GHz; ideal for time domain measurements

Model	Bandwidth	Risetime	RF Connectors	Attenuation
5510	DC to 18 GHz	8 ps	SMA	1, 2, 3, 6, 10, 12, 14, or 20 dB
5510K	DC to 40 GHz	5 ps	2.92 mm	3, 6, 10, or 20 dB
5510V	DC to 60 GHz	5 ps	1.85 mm	3, 6, 10, or 20 dB

### Trigger Countdown – Five different models of dividers to choose from

Model	Division Ratio	Input Frequency	RMS Jitter	Output	RF Connectors	DC Connector
5650	2, 4, 8, 16, 32	0.2 to 16 GHz	<1 ps	900 mVp-p 250 mVp-p	SMA Jacks	SMB

### Impulse Forming Networks – Transform fast pulse edges into narrow impulses

Model	Transfer Function	$T_c$	Impedance	RF Connectors
5206	$V_{out}=T_c*dV_{in}/dt$	3 ps	50 ± 2 Ohms	2.92 mm, 2.4 mm J-P
5208	$V_{out}=T_c*dV_{in}/dt$	8 ps	50 ± 2 Ohms	2.92 mm Jacks
5210	$V_{out}=T_c*dV_{in}/dt$	13 ps	50 ± 2 Ohms	SMA Jacks
5212A	$V_{out}=T_c*dV_{in}/dt$	21 ps	50 ± 2 Ohms	SMA Jacks
5214	$V_{out}=T_c*dV_{in}/dt$	34 ps	50 ± 2 Ohms	SMA Jacks
5216	$V_{out}=T_c*dV_{in}/dt$	88 ps	50 ± 2 Ohms	SMA Jacks

### ECL Terminators – Terminate your logic signals for high quality measurements

Model	Logic Type	VTT	Bandwidth	Attenuation	RF Connectors
5620	ECL	-2.0 V	DC to 10 GHz	12 dB (4x)	SMA
5622	PECL	+1.3 V	DC to 8 GHz	14 dB (5x)	SMA
5623	ECL or PECL	0.82*V <sub>DC</sub>	DC to 8 GHz	20 dB (10x)	SMA

### Samplers – Extremely high performance using our proprietary technology

Model	Bandwidth	Sampling Rate	Dynamic Range	RF Connectors
7040 Module	25 GHz	10 Msamples/sec	2 Vp-p	2.92 mm

### TDR Instrument Accessories – Interconnection support for high-resolution measurements

Model	Description	Contents
4022-DAK	Differential Adapter Kit	2 each of 4 high performance adapters
4022-DBK	Differential Adapter Kit	2 each of 7 high performance adapters

### Coaxial Cables – Semi-flexible, electrical performance comparable to semi-rigid

Model	Lengths	Impedance	RF Connectors
5015	6", 12", 18", 40", and 48"	50 Ohms	SMA plugs

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### PatternPro® Pattern Generators – Fully programmable pattern generation

Model	Max Data Rate	Number Channels	Output Voltage	Data Types	Risetime	Jitter Insertion
SDG 12072	32Gb/s	1, 2, or 4	500mV	User, PRBS	12ps	Optional
SDG 12070	30Gb/s	1, 2, or 4	2V	User, PRBS	25ps	Optional
SDG 12055	16Gb/s	1, 2, or 4	2V	User, PRBS	25ps	Optional
SDG 12060	20Gb/s	1	2V	User, PRBS	25ps	No
SDG 12050	12.5Gb/s	1	2V	User, PRBS	25ps	Optional
12020	1.6GHz	1 or 2	2.5V	User, PRBS	150ps	Optional
12010	800MHz	1 or 2	2.5V	User, PRBS	150ps	Optional
12000	165MHz	1 or 2	10V/20V	User, PRBS	2.5ns	No

### PatternPro® Error Detectors – Fully programmable error detection

Model	Max Data Rate	Number Channels	Diff Input Amplitude	SE Input Window	Data Types	Pattern Align and Synch
SDA 13020	32Gb/s	1 or 2	100mV to 1V	-0.6V to +0.2V	User, PRBS	Auto/Manual
SDA 13010	16Gb/s	1 or 2	100mV to 1V	-0.6V to +0.2V	User, PRBS	Auto/Manual

### Pulse Generators – Ultra-fast pulse edges for time-domain applications

Model	Waveform	Leading Edge	Amplitude Max.	Adj. Amp.	Pulse Duration	Polarity	Max Rep Rate
10,050A	Pulse	45 ps	10V	No	100 ps - 10 ns	Pos	100 KHz
10,060A	Pulse	55 ps	10V	Yes	100 ps - 10 ns	Pos	100 KHz
10,070A	Pulse	65 ps	±7.5V	Yes	100 ps - 10 ns	Pos or Neg	100 KHz
10,300B	Pulse	300 ps	+50/-45V	Yes	1 ns - 100 ns	Pos or Neg	100 KHz
2600C	Pulse	250 ps	+50/-45V	Yes	1 ns - 100 ns	Pos or Neg	100 KHz
4005	Step	9 ps	-5 V, -1.2V, or -300mV	No	16 ns	Neg	1 MHz
4015D	Step	12 ps	-5V	No	5 ns	Neg	500 KHz
4016	Step	5 ps	-5V	No	5 ns	Neg	500 KHz
4050B	Step	45 ps	10V	No	10 ns	Pos	1 MHz
4500E	Step	100 ps	35V	Yes	20 ns	Pos	100 KHz
TD1110D/1107	Step	20-45 ps	230 mV	No	4 μs	Pos	50 KHz
1000D	Impulse	N/A	+35V & -35V	No	500 ps FWHM	Pos & Neg	1 MHz
3500D	Impulse	N/A	±8V	Yes	75 ps FWHM	Pos or Neg	1 MHz
3600	Impulse	N/A	-7.5V	No	70 ps FWHM	Neg	2.5 GHz

### TDR Instruments – World's fastest TDR for high-resolution measurements

Model	Waveform	Leading Edge	TDR Amplitude	TDT Amplitude	Pulse Duration	Polarity
4020	Single-ended	9 ps	200 mV	2.5V	>30 ns	Positive
4022	Differential	9 ps	200 mV	2.5V	>30 ns	Pos and Neg

## COMPONENTS AND MODULES

### Amplifiers and Modulator Drivers – High speed performance; excellent transient response

Model	Function	Bandwidth	Gain	Output Voltage	Polarity
5810B	Linear Amplifier	2 GHz	13 dB	1.8 V <sub>p-p</sub>	Inverting
5828A	Linear Amplifier	14.4 GHz	10.5 dB	2.5 V <sub>p-p</sub>	Inverting
5840B	Linear Amplifier	13.5 GHz	21 dB	2.5 V <sub>p-p</sub>	Non-inverting
5865	Modulator Driver	12.5 Gb/s	26 dB	8.0 V <sub>p-p</sub>	Non-inverting
5866	Linear Amplifier	10 GHz	25.5 dB	4.0 V <sub>p-p</sub> Linear	Non-inverting
5867	Linear Amplifier	15 GHz	15 dB	3.0 V <sub>p-p</sub>	Inverting
5868	Modulator Driver	10 Gb/s	26 dB	11.0 V <sub>p-p</sub>	Non-inverting
5881	Linear Amplifier	43 GHz	8.5 dB	2.7 V <sub>p-p</sub>	Inverting
5882	Linear Amplifier	35 GHz	16 dB	2.7 V <sub>p-p</sub>	Non-inverting

### LABware – Instrument modules for convenient lab use

Model	Function	Data Rate	Bandwidth	Risetime	Max Output Amplitude	Adjustable Amplitude
8020B	Splitter with PPA	25Gbps	N/A	25ps	2V	Yes
8003	Linear Amplifier	12.5Gb/s	15GHz	N/A	2.8Vpp	No
8001	Driver Amplifier	12.5Gb/s	12GHz	N/A	8Vpp	Yes

### Baluns and Transformers – Unbalanced 50 Ohms to differential 100 Ohms

Model	Function	Low Freq -3 dB	High Freq -3 dB	Additional Info
5100	Inverting Transformer	200 kHz	>20 GHz	50Ω Input and Output
5310A	Phase Matched Balun	4 MHz	6.5 GHz	Amplitude Balance ±0.1dB (100MHz – 3.5GHz) Phase Balance ±0.5 deg (500MHz – 2GHz)
5315A	Differential Splitter Balun	200 kHz	17 GHz	50Ω Input, 100Ω Output
5320B	Differential Splitter Balun	5 kHz	11 GHz	50Ω Input, 100Ω Output
5305	VNA differential Balun kit	10 MHz	10 GHz	Kit of components for differential measurements on 2-port VNA

### Power Dividers and Pick-Off Tees – Broadband devices to combine or split signals

Model	Type	Risetime	Bandwidth	Output Ratios	RF Connectors
5331	Divider	17 ps	18 GHz	6 dB, 6 dB	SMA
5333	Divider	15 ps	25 GHz	6 dB, 6 dB	SMA
5334	4 to 1 Divider	<15 ps	>25 GHz	12 dB	SMA
5336	Splitter	20 ps	20 GHz	6 dB, 6 dB	SMA
5350	Divider	8 ps	>40 GHz	6 dB, 6 dB	2.92 mm or 2.4 mm
5340	Pick-Off	50 ps	8 GHz	10 dB, 3.3 dB	SMA
5370	Pick-Off	<17 ps	>25 GHz	14 dB, 0.8 dB 20 dB, 0.4 dB	SMA
5372	Z-Matched Pick-off	15 ps	>26GHz	14 dB, 2.0 dB	SMA
5361	Pick-Off	7 ps	>40 GHz	14 dB, 1.8 dB	2.92 mm or 2.4 mm

## COMPONENTS AND MODULES

### Bias Tees – Reliable performance in coaxial and surface mount packages

Model	Risetime	High Frequency -3 dB	Low Frequency -3 dB	Max DC Voltage	Max DC Current
5530B	35 ps	12.5 GHz	20 kHz	200 V	10 mA
5531	35 ps	10 GHz	750 kHz	1.5 kV	20mA
5541A	8 ps	26 GHz	80 kHz	50 V	100 mA
5542	7 ps	50 GHz	10 kHz 4 MHz	16 V 100 V	100 mA
5542K	7 ps	40 GHz	12 kHz	16 V	100 mA
5542LL	7 ps	40 GHz	12 kHz	16 V	100 mA
5543	7 ps	50 GHz	20 kHz	100 V	500 mA
5544	8 ps	40 GHz	50 kHz	100 V	2 A
5545	12 ps	20 GHz	65 kHz	50 V	500 mA
5546	45 ps	7 GHz	3.5 KHz	50 V	500 mA
5547	23 ps	15 GHz	5 kHz	50 V	500 mA
5550B	20 ps	18 GHz	100 kHz	50 V	500 mA
5575A	30 ps	12 GHz	10 kHz	50 V	500 mA
5580	28 ps	15 GHz	10 kHz	50 V	1 A or 2 A
5585	N/A	18 GHz	2 GHz	100 V	6 A
5586	N/A	5 GHz	1 GHz	100 V	8 A
5587	N/A	2 GHz	0.2 GHz	100 V	6 A
5589	N/A	2.8 GHz	.3 GHz	100 V	7 A
SM100 (SMT)	21 ps	13 GHz	14 kHz	16 V	500 mA
SM101 (SMT)	21 ps	15 GHz	7 kHz	16 V	500 mA

### Low Pass Risetime Filters – Standard and custom absorptive filters

Model	-3 dB Frequency	Risetime	Return Loss	RF Connectors
5915	User-specified: 35 MHz to 10 GHz	~0.35/BW	>15dB @ f <sub>o</sub>	SMA
5925	User-specified: 6 GHz to 15 GHz	~0.35/BW	>15dB @ f <sub>o</sub>	SMA
5933*	7.46 GHz & 8.0 GHz	~0.35/BW	>15dB @ f <sub>o</sub>	SMA, 2.92, or 2.4mm
5935*	10 GHz to 28 GHz	12 ps to 33 ps	Typical >15dB @ f <sub>o</sub>	2.92, 2.4, or 1.85 mm

### DC Blocks – Excellent frequency and time domain response

Model	Risetime	Bandwidth	Low Frequency -3 dB	Capacitance	Max DC Voltage
5500A	10 ps	>26 GHz	80 kHz	0.02 uF	50 V
5501A	10 ps	>26 GHz	7 kHz	0.22 uF	50 V
5508	<8 ps	>26 GHz	0.7 kHz	2.2 uF	16 V
5509	5 ps	50 GHz	7 kHz 3 MHz 2.5 MHz	0.22 uF 500 pF 650 pF	16 V 50 V 150V
SM500 (SMT)	10 ps	35 GHz	7 kHz	0.22 uF	16 V

Detailed Product Specifications may be found at [www.picosecond.com](http://www.picosecond.com).