

Performance Arbitrary Waveform Generator Comparison Chart



Arbitrary Waveform Generator	BNC Model 675	BNC Model 685	Tektronix AWG-5200	Keysight M8190A	Rohde & Schwarz (Zurich) HDAWG
Number of Channels	2/4/8	2/4/8	2/4/8	1/2	4/8
Sampling Rate	1.2 GS/s	6.16 GS/s Real Time 12.32 GS/s Interpolated	5GS/s	8GS/s	2.4 GS/s
Vertical Resolution	16 Bits	16 Bits	16/15/14/13/12 Bits (0/1/2/2/4 Markers)	14 Bits / 12 Bits	16 Bits
Waveform Memory MAX.	1 Gpts/Ch	4 Gpts/Ch	2 Gpts/Ch	2Gpts/Ch 1.536 Gpts/Ch	64 Mpts/Ch Standard 500 Mpts/Ch Option
Amplitude Range (50 Ω into 50)	6Vpp 12 Vpp (HV Option)	✓ Single Ended Output: 5.0Vpp Differential Output: 1.5 Vpp	DC High Bandwidth: 0.75 Vpp DC High Bandwidth Amp: 1.5Vpp (opt) DC High Voltage Output: 5Vpp (opt)	Direct Output: 0.7Vpp DC Amp. Output: 1Vpp AC Output: 2Vpp	±0.1 V to ±2.5 V (amplified) ±0.4 V (direct)
Hardware Offset (50 Ω into 50)	✓ Single Ended: ± 6V	✓ Single Ended Output ± 2.5V Differential Output ± 2V	DC High Bandwidth: +/- 2V DC High Bandwidth Amp: +/- 2V (opt) DC High Voltage Output: +/- 2V (opt)	✗ Direct Output: -20mV to +20mV DC Amp: -1.5V to 3.5V	±1.25 V (amplified) 0 V (direct)
Analog Bandwidth (3 dB)	318 MHz	✓ Single Ended Output: 2 GHz @ 5Vpp Differential Output: 2 GHz @ 1.5Vpp	DC High Bandwidth: 2GHz @ 0.75Vpp DC High Bandwidth Amp: 2GHz @ 0.75Vpp DC High Bandwidth Amp: 1.3GHz @ 1.5Vpp DC High Voltage Output: 370MHz @ 2Vpp DC High Voltage Output: 200MHz @ 4Vpp	Single Ended Output: 5GHz @ 2Vpp Differential Output: 1 GHz @ 1.0Vpp	0 – 600 MHz (ampl. ±0.5 V) 0 – 300 MHz (ampl. ±2.5 V) 0 – 750 MHz (direct)
Rise / Fall Time	1.1 ns	Single Ended Output: 110 ps Differential Output: 110 ps	DC High Bandwidth Output: 110ps DC High Bandwidth Amp. Out.: 180ps (opt) DC High Voltage Output: <1.3ns @ 5Vpp (opt)	✓ 60 ps	1ns (ampl., 5 V step) 300 ps (direct, 0.8 V step)
Channel to channel skew	Skew: 0 ps (nom.) Accuracy: +-5ps (typ)	Skew: < 20 ps Resolution: 100 fs	Skew: <25 ps Resolution: 500 fs	✓ Skew: <20 ps Resolution: 50 fs	Skew: <200 ps Resolution: 10 ps
Display	7" Capacitive touchscreen	7" Capacitive touchscreen	6.5" LED touchscreen	✗ PC Interface Only	✗ PC Interface Only
Multi-Instrument Synchronization	✓ Up to 4 Units 32 Analog Channels and 128 Digital Channels	✓ Up to 4 Units 32 Analog Channels and 128 Digital Channels	Up to 4 Units 32 Analog Channels	Up to 6 Units 12 Analog Channels	✓ Up to 18 Units 144 Analog Channels
Mixed Signals / Serial Data Pattern Generator	✓ Up to 32 Digital Channels	✓ Up to 32 Digital Channels ✓ SPG Option - Up to 8 Serial Channels	✗	✗	✗
Price	Starting at \$19,000	Starting at \$65,000	Starting at \$89,000	Starting at \$91,000	Starting at \$25,000

Price and Specifications subject to change. Data from website, 01/01/2023