

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