

TEKTRONIX

AWG2040

The Tektronix AWG2040 is a high-performance, single-channel arbitrary waveform generator belonging to the legacy AWG2000 series. Designed for high-speed digital design, signal simulation, and electronic testing, it features a 1.024 GS/s sample rate, 8-bit DAC resolution, and a standard waveform memory of 1 million points (expandable to 4 million points). This benchtop instrument supports both standard waveforms and complex arbitrary sequences, offering exceptional precision and analog bandwidth.

SPECIFICATIONS

General

Interfaces	GPIO (IEEE-488.2)
Display	9-inch monochrome CRT (5.2 in x 3.9 in active area)
Warm-up Time	20 minutes

Physical

Power Supply	90 to 250 V AC, 48 to 63 Hz, 300 W max
Operating Temperature	10 °C to 40 °C °C
Dimensions (W×H×D)	362 mm x 164 mm x 491 mm mm
Weight	11.3 kg kg

Channel Configuration & Core Architecture

Number of Channels	1
DAC Resolution	8 bits
Maximum Sample Rate	1.024 GS/s
Minimum Sample Rate	1.000000 MS/s
Run Modes	Continuous, Triggered, Gated, Waveform Advance

Arbitrary Waveform Performance

Standard Waveform Memory Depth	1M words (1,024,000 points)
Maximum Waveform Memory Depth	4M words (4,096,000 points, with Option 01)
Sample Rate Resolution	7 digits
Analog Bandwidth	350 MHz (direct output), 300 MHz (normal output)
Overshoot/Undershoot	< 10% (at 2 Vp-p)

Standard Waveform Performance

Standard Waveform Shapes	Arbitrary, Pulse, Ramp, Sine, Square, Triangle
Frequency Accuracy	0.0001% (1 ppm)
Frequency Resolution	7 digits

Output Characteristics

Output Impedance	50 Ω
Amplitude Range (into 50 Ω)	20 mVp-p to 2 Vp-p
Offset Range	-1.000 V to +1.000 V
Maximum Output Voltage	+2.0 V
Minimum Output Voltage	-2.0 V
Filters	10 MHz, 50 MHz, 100 MHz, 200 MHz, and Thru (selectable)
Marker Output Levels	TTL compatible into 50 Ω (Low $\leq$ 0.4 V, High $\geq$ 2.0 V)
Marker Output Impedance	50 Ω
Amplitude Resolution	1 mV
Offset Resolution	1 mV

Trigger & Synchronization

Trigger Sources	Internal, External, Manual
Marker Outputs	2
External Reference Input	10 MHz

System Connectivity & Control

Display Size	9 in monochrome CRT
Display Area	5.2 in x 3.9 in
Storage Drive	3.5 in floppy drive (1.44 MB / 720 KB, MS-DOS compatible)

Power & Environmental Specifications

AC Input Voltage	90 V AC to 250 V AC
AC Input Frequency	48 Hz to 63 Hz
Power Consumption	300 W (maximum)
Storage Temperature Range	-20 $^{\circ}$ C to +60 $^{\circ}$ C

Physical Characteristics & Compliance

Form Factor	Benchtop
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Options

Option 01	4M word memory (4,194,304 words)
Option 03	Digital Output
Option 09	FFT Editor

Trigger Characteristics

Trigger Input Impedance	1 M Ω
Trigger Level Resolution	0.1 V
Trigger Input Minimum Pulse Width	15 ns

External Clock & Reference

External Clock Input Frequency	10 MHz to 1.0 GHz
External Clock Input Impedance	50 Ω

Sequencer

Maximum Sequence Steps	8000
Sequence Repeat Count	1 to 65,536 or Infinite

Spectral Purity

Spurious Free Dynamic Range (SFDR)	-60 dBc at 1 MHz, -50 dBc at 10 MHz, -40 dBc at 100 MHz, -35 dBc at 250 MHz
Phase Noise	<-90 dBc/Hz @ 10 kHz offset (10 MHz carrier)

Trigger

Trigger-to-Output Latency	105 ns (typical)
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TECHNOLOGY

Arbitrary Waveform Generation

APPLICATIONS

Electronic testing, high-speed digital design, signal simulation, and RF testing

Generated by SpecAtlasHub (specatlashub.com). Specifications are compiled from available sources and are subject to change — verify critical values against the manufacturer before purchase.