TEKTRONIX

AWG70002A

The Tektronix AWG70002A is an advanced, high-performance arbitrary waveform generator within the AWG70000A Series. It delivers exceptional performance with sample rates up to 25 GS/s, 10-bit vertical resolution, and two analog channels, enabling exact signal generation for high-frequency applications.

SPECIFICATIONS

General

Display	6.5-inch (165 mm) diagonal LED backlit touchscreen, 1024 × 768 XGA

Physical

Power Supply	100 to 240 V AC, 50 to 60 Hz, 450 W maximum
Operating Temperature	0 °C to +50 °C °C
Dimensions (W×H×D)	460.5 mm × 153.6 mm × 462.2 mm mm
Weight	16.8 kg kg

Channel Configuration & Core Architecture

Number of Channels	2
DAC Sample Rate	1.5 kS/s - 25 GS/s
DAC Resolution	10 bit (no markers selected) or 8 bit (markers selected)
Signal Outputs	Differential, SMA (front panel)

Arbitrary Waveform Performance

Waveform Memory Depth	8 GSample (standard waveform length to 2 GSamples, Extended memory to 8 GSamples)
Analog Bandwidth	13.5 GHz
Rise/Fall Time (Tr/Tf)	<22 ps
Sampling Clock Resolution	Up to 8 digits
Sin(x)/x Rolloff (-3 dB)	11.1 GHz

Standard Waveform Performance

Maximum Output Frequency	10 GHz
SFDR (at 100 MHz)	-80 dBc
SFDR (DC to 1 GHz)	-63 dBc

Output Characteristics

Output Amplitude Range	-8 dBm to -2 dBm
Channel-to-channel skew	±5 ps

Auxiliary Outputs

Marker Outputs	4 (2 per channel)
Marker Output Connector	SMA (rear panel)
Marker Rise and Fall Time	< 45 ps (20% to 80%)
Marker Output Level	-1.1 V to 1.5 V into 50 Ω

Auxiliary Inputs

Trigger Input Impedance	50 Ω or 1 kΩ
Trigger Input Threshold	-5.0 V to 5.0 V

Clocking & Reference

External Reference Input Frequency	10 MHz, 20 MHz, 50 MHz, 100 MHz (±10 ppm)
External Reference Input Amplitude	-5 dBm to +10 dBm

Timing & Skew

Skew Adjust Range	±2 ns
Skew Adjust Resolution	10 fs

System & Control

Internal PC Operating System	Windows 10 (64-bit) or Windows 7 (64-bit)
Internal Storage	512 GB Solid State Drive (removable)
Internal RAM	32 GB DDR3 SDRAM

Environmental

Non-operating Temperature	-20 °C to +60 °C
Operating Humidity	5% to 80% RH (up to 30 °C), 5% to 45% RH (30 °C to 50 °C)
Operating Altitude	Up to 3,000 m (9,843 ft)
Non-operating Altitude	Up to 12,000 m (39,370 ft)

Analog Outputs

Analog Output Connector	SMA female
Output Coupling	DC-coupled (standard), AC-coupled (with Option AC)

Performance

Effective Number of Bits (ENOB)	6.2 bits @ 1 GHz (typical), 5.5 bits @ 5 GHz (typical), 4.8 bits @ 9.9 GHz (typical)

Clock & Reference

External Clock Input Connector	SMA female (rear panel)
External Clock Input Impedance	50 Ω, AC-coupled
External Clock Input Frequency	10 GHz to 12.5 GHz
External Clock Input Amplitude	+2 dBm to +10 dBm
External Reference Input Connector	BNC (rear panel)
External Reference Input Impedance	50 Ω, AC-coupled
Reference Output Connector	BNC (rear panel)
Reference Output Frequency	10 MHz
Reference Output Amplitude	1.2 Vp-p into 50 Ω (+5 dBm typical)

Trigger

Trigger Input Connector	BNC (front panel)
Trigger Minimum Pulse Width	20 ns

Physical & Environmental

Cooling Clearance	101 mm (4 in) rear, 50 mm (2 in) sides

TECHNOLOGY

Arbitrary Waveform Generator

APPLICATIONS

Defense electronics, high-speed serial, optical networking, and advanced research

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