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Data Sheet

July 30, 2026

TEKTRONIX

Tektronix AWG520 Arbitrary Waveform Generator Dual Channel 1GS/s

Amplitude Accuracy: 0.5 V p-p $\pm 10\%$. DC Offset Accuracy: $-0.27\text{ V} \pm 10\%$ (waveform data = 0).

Pulse Response (–1 and 1 waveform data): Rise time (10 to 90%): $\leq 700\text{ ps}$. Fall time (10 to 90%): $\leq 700\text{ ps}$. Output Impedance – 50 Ω . Connector – Front panel BNC. Channel Output

Summary Output TypeAWG520 Analog2 ComplementN/A MarkerCH1: M1, M2 CH2: M1, M2

Digital (Opt. 03)2 Analog (CH2 Analog = D0 to D9, CH1 and CH2 Analog independent), D0 to D9, 4 Markers



MODEL Tektronix AWG520	CALIBRATION Available on request
CONDITION Used	STATUS In stock
RFQ / SKU AWG520	LISTING https://aumictechlabs.com/products/awg520-2/

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 · 811210 · 541380

This unit

The Tektronix AWG520 is a dual-channel arbitrary waveform generator delivering 1 GS/s sample rate for precise creation of complex custom waveforms. Built-in graphical editing integrates with hardware output capabilities, enabling efficient waveform development and rapid what-if testing. The instrument generates signals from 20 mVp-p to 2 Vp-p into 50 Ω loads with 10-bit vertical resolution and supports waveforms up to 4,194,048 points. Internal 3 GB hard disk storage accommodates extensive waveform libraries and sequence programming up to 8,000 steps. Ideal for communications, aerospace, defense, and R&D applications demanding high-fidelity signal

generation. Technical Specifications Waveform Generation & Memory Sampling frequency: 50 kHz to 1.0 GHz (8-digit resolution, ± 1 ppm accuracy) Waveform length: 256 to 4,194,048 points (multiples of four) Waveform memory: 4,194,048 10-bit words Marker memory: 4,194,048 words (4 markers $\times$ 1 bit) Sequence memory: Up to 8,000 steps with repeat counters from 1 to 65,536 or infinite Storage: 3 GB internal HDD (standard) Output per Channel Amplitude range: 20 mVp-p to 2 Vp-p (50 Ω load, 1 mV resolution) DC offset: -2 V to +2 V (50 Ω load) Output impedance: 50 Ω Amplitude accuracy: ± 0.1 V $\pm 5\%$ of setting Rise/fall time (10%–90%): ≤ 2.5 ns (> 1.0 Vp-p); ≤ 1.7 ns (≤ 1.0 Vp-p) Harmonics: ≤ -50 dBc (DC to 400 MHz) Noise: ≤ -53 dBc (DC to 400 MHz) Phase noise: ≤ -90 dBc/Hz at 10 kHz offset Clock & Synchronization Internal clock accuracy: ± 1 ppm; phase noise -80 dBc/Hz (10 kHz offset), -100 dBc/Hz (100 kHz offset) External clock input: 10 MHz to 900 MHz, 0.25 Vp-p to 1 Vp-p, 50 Ω AC coupled 10 MHz reference: 10 MHz ± 0.1 MHz, 0.2 V to 3.0 Vp-p, 50 Ω AC coupled Trigger Input Impedance: 1 k Ω or 50 Ω Input voltage: ± 10 V (1 k Ω); ± 5 V (50 Ω) Threshold: -5.0 V to 5.0 V (0.1 V resolution, $\pm 5\%$ + 0.1 V accuracy) Minimum pulse width: 10 ns Key Features Dual independent channels with synchronized or asynchronous operation Graphical waveform editor for rapid design and validation 4 marker outputs per channel for triggering and synchronization External clock and 10 MHz reference inputs for system integration Programmable trigger holdoff and delay capabilities Typical Applications Communications system verification and characterization Aerospace and defense signal simulation High-speed circuit validation Research and development prototyping

AWG520 Characteristics / Specifications

PARAMETER	VALUE
Triggered	Waveform is output only once when an external, internal GPIB/Ethernet or manual trigger is received.
Gated	Waveform begins output when gate is true and resets to beginning when false.
Enhanced	Waveform is output as defined by the sequence.
Arbitrary Waveforms Waveform Length	256 to 4,194,048 points in multiples of four.
Sequence Length	1 to 8,000 steps. Both CH1 and CH2 operate from the same sequence.
Sequence Repeat Counter	1 to 65,536 or infinite. Function Generator Waveforms Operation Mode – Continuous mode only.
Waveform Shape	Sine, Triangle, Square, Ramp, Pulse, or DC.
Frequency	1.000 Hz to 100.0 MHz. Amplitude – Range: 0.020 V p-p to 2 V p-p into 50 Ω .
Resolution	1 mV. Phase – Range: -360° to $+360^\circ$. Resolution: 1.000 Hz to 100.0 kHz: 0.036° step. 100.01 kHz to 1.000 MHz: 0.36° step. 1.001 MHz to 5.000 MHz: 1.8° step. 5.001 MHz to 10.00 MHz: 3.6° step. 10.001 MHz to 20.00 MHz: 7.2° step. 20.001 MHz to 25.00 MHz: 9° step. 25.001 MHz to 40.00 MHz: 14.4° step. 40.001 MHz to 50.00 MHz: 18° step. 50.001 MHz to 100.0 MHz: 36° step.
Polarity	Normal, Invert. Duty Cycle – Range: 0.1% to 99.9%, Pulse waveform only.
Marker Out	Marker1 Pulse Width: Hi/Lo: 20%/80% of Period.
Marker2 Pulse Width	Hi/Lo: 50%/50% of Period, except 5.001 MHz to 8.000 MHz.
Hi/Lo	52%/48% of Period, at 5.001 MHz to 8.000 MHz.
Marker Level	Hi Level: 2 V into 50 Ω . Lo Level: 0 V into 50 Ω .
Clock Generator Sampling Frequency	50.000000 kHz to 1.0000000 GHz.
Phase Noise	At 1 GHz, 10 kHz offset: -80 dBc/Hz.
DA Converter	Resolution: 10-Bit. Differential Non-linearity: ± 1 LSB. Integral Non-linearity: ± 1 LSB.
Normal Out	Pulse Response (-1 and 1 waveform data, 0 V offset, Through filter): Rise time (10 to 90%): Amplitude >1.0 V, ≤ 2.5 ns; Amplitude ≤ 1.0 V, ≤ 1.5 ns.

PARAMETER	VALUE
Fall time (10 to 90%)	Amplitude >1.0 V, ≤2.5 ns; Amplitude ≤1.0 V, ≤1.7 ns.
Aberrations (at 500 MHz)	Amplitude >1.0 V, ±10%; Amplitude ≤1.0 V, ±7%.
Flatness (after 50 ns from rise/fall edge)	±3%. Small signal bandwidth (–3 dB, Amplitude 0.5 V): 300 MHz. Sinewave Characteristics (1 GS/s clock, 32 waveform points, 31.25 MHz signal frequency, 1.0 V amplitude, 0 V offset, Through filter): Harmonics: ≤–50 dBc, DC to 400 MHz.
Noise	≤–53 dBc, DC to 400 MHz. Phase Noise: ≤–90 dbc/Hz at 10 kHz offset.
Filter	Type: 10, 20, 50, 100 MHz Bessel low-pass. Rise time (10 to 90%): 10 MHz, 35 ns; 20 MHz, 17 ns; 50 MHz, 7.0 ns; 100 MHz, 3.5 ns.
Delay from trigger	10 MHz, 77 ns +1 clock; 20 MHz, 57 ns +1 clock; 50 MHz, 45 ns +1 clock; 100 MHz, 42 ns +1 clock; Through, 37 ns +1 clock.
Direct DA Out	Output Voltage: 0.5 V p-p (with –0.27 V offset) into 50Ω.
Amplitude Accuracy	±5%. Connector: Front-panel BNC. Reference 10 MHz Clock IN – Input Voltage Range: 0.2 V to 3.0 V p-p , ±10 V maximum.
Pulse Response (	1 and 1 waveform data): Rise time (10 to 90%): ≤700 ps.
Connector	Front panel BNC. Channel Output Summary Output TypeAWG520 Analog2 ComplementN/A MarkerCH1: M1, M2 CH2: M1, M2 Digital (Opt. 03)2 Analog (CH2 Analog = D0 to D9, CH1 and CH2 Analog independent), D0 to D9, 4 Markers Arbitrary Waveform Generators AWG520 Arbitrary Waveform Generators • www.tektronix.com/signal_sources 3 Auxiliary Outputs Marker – Number: AWG520: 4.
Level	Hi/Lo: –2.0 V to 2.0 V (0.05 V p-p to 4 V p-p) into 50Ω; –4.0 V to 4.0 V (0.1 V p-p to 8 V p-p) into 1 MΩ.
Variable Delay	Range: 0 ns to +2 ns. Resolution: 20 ps.
Marker Skew	32 ps. Connector: Rear-panel SMB. Clock Out – Level: ECL 100 K compatible.
Type	Gaussian. Connector: Front-panel BNC. Digital Data Out (Opt. 03) – Output Signals: D0 to D9 (10-Bits).
Rise/Fall Time (10 to 90%) typical	At 1 V p-p , Hi +0.5 V/Lo –0.5 V: 0.5 ns.
Skew Between Data	≤1 ns, 330 ps typical. Delay: Data to marker: 4.4 ns.
Clock to data	3.7 ns. Connector: Rear-panel SMB. Auxiliary Inputs Trigger In – Impedance: 1 kΩor 50Ω.
Threshold	Level: –5.0 V to 5.0 V. Resolution: 0.1 V.

PARAMETER	VALUE
Accuracy	±(5% of level + 0.1 V). Pulse Width (0.2 V amplitude): 10 ns minimum.
Trigger Holdoff	500 ns maximum. Delay to Marker: 30 ns +1 clock.
Input Signals	4 event bits, strobe. Threshold: TTL level. Pulse Width: 64 clocks minimum.
Maximum Input	0 V to +5 V (DC + peak AC). Delay to Analog Out: ≤384 clock +20 ns. Impedance 2.2 kΩ, pull-up to +5 V.
Impedance	50Ω. Bandwidth (–3 dB): DC to 200 MHz at 1 V p-p input.
Maximum Input Voltage Range	±10 V max . Impedance – 50Ω, AC coupling.
Frequency Range	10 MHz to 900 MHz. Duty Cycle Ratio – 40% to 60%.
Pulse Width	0.5 ns minimum. Connector – Rear panel BNC.
Display Area	13.2 cm (5.2 in.) horizontal by 9.9 cm (3.9 in.) vertical.
Floppy Disk Drive	3.5 in., 1.44 MB. Option 10 – Substitute flash disk (128 MB) for HDD, add standby switch. (Opt. 10 is best suited for ATE and system usage requiring 7×24 hour operation.)
Nonoperating	5 to 90%, noncondensing. Altitude – Operating: Up to 4,500 m. (15,000 ft). Maximum operating temperature decreases 1 °C per 300 m above 1.5 km.
Shock (test limits)	Nonoperating: 294 m/s ² (30 G), half-sine, 11 ms duration.
EMC Compliance	EN50081-1. EN50082-1. FCC Part 15, Subchapter B Class A.
AS/NZS 20641/2. Safety	UL3111-1, CSA1010.1, EN61010-1, IEC61010-1. Power Source Power – Line Voltage Range: 100 to 240 VAC.
Line Frequency	48 to 63 Hz. Power Consumption – 600 W at 8 A maximum. Physical Characteristics Dimensionsmmmin. Height1787.0 Height with Opt. 11215.58.48 Width42217.5 Depth56025.8 Weightkglbs.
Net1737.5 Warranty	One year parts and labor. Other Programmable Interface – GPIB: 24-Pin IEEE488.1 connector.
Ethernet	10Base-T, RJ-45 connector. Keyboard Connector – 6-Pin mini-DIN connector. Arbitrary Waveform Generators AWG520 Our most up-to-date product information is available at: www.tektronix.com
Bandwidth	(–3 dB, Amplitude 0.5 V): 300 MHz.
Rise Time	(10 to 90%): Amplitude >1.0 V, ≤2.5 ns; Amplitude ≤1.0 V, ≤1.5 ns.
Aberrations	(at 500 MHz): Amplitude >1.0 V, ±10%; Amplitude ≤1.0 V, ±7%.
Operating temperature	decreases 1 °C per 300 m above 1.5 km.

PARAMETER	VALUE
Humidity	Operating: 20 to 80%, noncondensing.

AWG520 Specifications

PARAMETER	VALUE
Vertical Resolution	Independent 10-Channel,
Supports Direct External Clock	and 10 MHz Reference Input
Pulse for Disk Drive Testing	Built-in 10 GB Hard Drive
Removable for Secure	Applications (using Opt. 11)
Optional 128 MB Flash Disk	for ATE Applications (Opt. 10)
Arbitrary Waveform Generators	AWG520
and Media Storage Design and Test Challenges	AWG520.
and edit custom waveforms. Option 03adds	an independent 10-bit-wide digital data
marker outputs for data generation up to	14-bits wide at up to 1 GHz (14-bits,
AWG520). Direct waveform transfer	capability makes the AWG520 the perfect
oscilloscopes.	The AWG520 can easily generate telecom
Arbitrary Waveforms	Waveform Length – 256 to 4,194,048 points in
multiples of four.	Sequence Length – 1 to 8,000 steps. Both CH1
and CH2 operate from the same sequence.	Sequence Repeat Counter – 1 to 65,536 or
to 8.000 MHz.	Hi/Lo: 52%/48% of Period, at 5.001 MHz to
Clock Generator	Sampling Frequency – 50.000000 kHz to
Main Output	Output Signal – Single-ended; CH1 and CH2.
Channel Output Summary	Output TypeAWG520
ComplementN/A	MarkerCH1: M1, M2
Digital (Opt. 03)2 Analog	(CH2 Analog = D0 to D9,
input.	Amplitude Accuracy: ±5%.
External Sample Clock In	Input Voltage Range – 0.25 V
Display	Area – 13.2 cm (5.2 in.) horizontal by 9.9 cm
Data Storage	Internal Hard Disk Drive – 10.0 GB (standard).

PARAMETER	VALUE
add standby switch. (Opt. 10 is best suited for ATE	and system usage requiring 7×24 hour operation.)
on top of the instrument	Environmental, EMC, Safety
above 1.5 km.	Nonoperating: Up to 15,000 m (50,000 ft.).
RMS	from 5 to 500 Hz, 10 minutes
duration.	Nonoperating: 2.28 G
AS/NZS 20641/2.	Safety – UL3111-1, CSA1010.1, EN61010-1,
Physical Characteristics	Dimensionsmmmin.
Height1787.0	Height with Opt. 11215.58.48
Width42217.5	Depth56025.8
Weightkglbs.	Net1737.5
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tered trademarks of their respective companies.	08/04 DV/WWW76W-11846-5
Ordering Information	AWG520
Waveform Generator.	Includes:User manual (071-0099-00),
Recommended Accessories	Service Manual –Order 071-0101-01.
Options	Opt. 03 –CH. 2 10-Bit output up to 1 GHz.
requiring 7×24 hour operation.)	Opt. 11 –Removable Hard Disk (exclusive to
Option 10 and/or Option 3).	Opt. 1R –Rackmount.
Power Plug Options	Opt. A0 –North America Power.
Service	Opt. C3 –Calibration Service 3 Years.
ASEAN / Australasia / Pakistan (65) 6356 3900	Austria +43 2236 8092 262
and Test	– Low Frequency Modulated
Design and Test	– Reflections, Crosstalk and
Pulse Generation	– Duty Cycle Ranges from
Amplitude	Range: 0.020 V

PARAMETER	VALUE
Offset	Range: –1.000 V to +1.000 V into 50 Ω .
Phase	Range: –360° to +360°.
Duty Cycle	Range: 0.1% to 99.9%, Pulse waveform only.
Marker Out	Marker1 Pulse Width: Hi/Lo: 20%/80% of Period.
Internal Clock	Accuracy: ± 1 ppm.
Internal Trigger Rate	Range: 1.0 μ s to 10.0 s.
DA Converter	Resolution: 10-Bit.
Normal Out	Pulse Response (–1 and 1 waveform data,
Direct DA Out	Output Voltage: 0.5 V
Marker	Number: AWG520: 4.
Clock Out	Level: ECL 100 K compatible.
Noise	Level:
Digital Data Out (Opt. 03)	Output Signals: D0 to D9 (10-Bits).
Delay	Data to marker: 4.4 ns.
Trigger In	Impedance: 1 k Ω or 50 Ω .
Input Voltage Range	1 k Ω : ± 10 V.
Event Trig Input	Number of Events: 4 Bits.
CH1 ADD Input	Input Voltage Range: –1 V to 1 V (DC + peak AC).
Reference 10 MHz Clock IN	Input Voltage Range: 0.2 V to 3.0 V
Temperature	Operating: 10 °C to +40 °C.
Humidity	Operating: 20 to 80%, noncondensing.
Altitude	Operating: Up to 4,500 m. (15,000 ft). Maximum

General Specifications & Supplementary Characteristics

PARAMETER	VALUE
Operating temperature	decreases 1 °C per 300 m above 1.5 km.
Operating Temperature	decreases 1 °C per 300 m above 1.5 km.
Humidity	Operating: 20 to 80%, noncondensing.
Nonoperating	5 to 90%, noncondensing. Altitude – Operating: Up to 4,500 m. (15,000 ft). Maximum operating temperature decreases 1 °C per 300 m above 1.5 km.
Shock (test limits)	Nonoperating: 294 m/s 2 (30 G), half-sine, 11 ms duration.
EMC Compliance	EN50081-1. EN50082-1. FCC Part 15, SubchapterBClass A.
AS/NZS 20641/2. Safety	UL3111-1, CSA1010.1, EN61010-1, IEC61010-1. Power Source Power – Line Voltage Range: 100 to 240 VAC.
Line Frequency	48 to 63 Hz. Power Consumption – 600 W at 8 A maximum. Physical Characteristics Dimensionsmmmin. Height1787.0 Height with Opt. 11215.58.48 Width42217.5 Depth56025.8 Weightkglbs.
Net1737.5 Warranty	One year parts and labor. Other Programmable Interface – GPIB: 24-Pin IEEE488.1 connector.
Ethernet	10Base-T, RJ-45 connector. Keyboard Connector – 6-Pin mini-DIN connector. Arbitrary Waveform Generators AWG520 Our most up-to-date product information is available at: www.tektronix.com Copyright © 2004, Tektronix, Inc. All rights reserved. Tektronix products are covered by U.S. and foreign patents, issued and pending. Information in this publication supersedes that in all previously published material. Specification and price change privileges reserved. TEKTRONIX and TEK are registered trademar
Includes	User manual (071-0099-00), Programmer manual (071-0100-00), GPIB pro- gramming examples disk (063-2982-00), sample waveform library disk (063-2981-00), AXW100 ArbExpress Software Utility CD (063-3763-00), performanceverification disk (063-2983-00), power cord,fuse (159-0239-00). Please specify power plug when ordering.
Recommended Accessories Service Manual	Order 071-0101-01. Protective Cover –Order 200-3696-01. GPIB Cable –Order 012-0991-01. 50ΩBNC Cable (36-inch) –Order 012-1341-00. 50ΩBNC Cable(98-inch) –Order 012-1256-00. 50ΩSMB Cable –Order 012-1458-00. 50ΩSMB-to-BNC Cable –Order 012-1459-00. 50ΩBNC Termination –Order 011-0049-02. 800 MHz BNC Low-pass Filter –Order 015-0660-00. 400 MHz BNC Low-Pass Filter –Order 015-0659-00. 200 MHz BNC Low-Pass Filter –Order 015-0658-00. 100 MHz BNC Low-Pass Filter –Order 015-0657-00.

PARAMETER	VALUE
Rackmount Conversion Kit	Order 016-1675-01. Keyboard –IBM-compatible 4-Pin mini DIN connector. Spare Removable Hard Disk Kit –Order 650-4643-00 (Opt. 11 must be installed). Options Opt. 03 –CH. 2 10-Bit output up to 1 GHz.
Warranty One year parts and labor. Product Area Assessed	The planning, design/development and manufacture of electronic Test and Measurement instruments. Product(s) complies with IEEE Standard 488.1-1987, RS-232-C, and with Tektronix Standard Codes and Formats.
Contact Tektronix	ASEAN / Australasia / Pakistan (65) 6356 3900 Austria +43 2236 8092 262 Belgium+32 (2) 715 89 70 Brazil & South America55 (11) 3741-8360 Canada1 (800) 661-5625 Central Europe & Greece+43 2236 8092 301 Denmark+45 44 850 700 Finland+358 (9) 4783 400 France & North Africa+33 (0) 1 69 86 80 34 Germany +49 (221) 94 77 400

Full OEM specifications

Complete technical content extracted from the manufacturer datasheet. Sparse OEM tables are reconstructed as tables below; other text is preserved as paragraphs.

Specifications

PARAMETER	VALUE
Characteristics Operating Modes Continuous	Waveform is iteratively output. If a sequence is defined, the sequence order and repeat functions are applied.
Triggered	Waveform is output only once when an external, internal GPIB/Ethernet or manual trigger is received.
Gated	Waveform begins output when gate is true and resets to beginning when false.
Enhanced	Waveform is output as defined by the sequence.
Arbitrary Waveforms Waveform Length	256 to 4,194,048 points in multiples of four.
Sequence Length	1 to 8,000 steps. Both CH1 and CH2 operate from the same sequence.
Sequence Repeat Counter	1 to 65,536 or infinite. Function Generator Waveforms Operation Mode – Continuous mode only.
Waveform Shape	Sine, Triangle, Square, Ramp, Pulse, or DC.
Frequency	1.000 Hz to 100.0 MHz. Amplitude – Range: 0.020 V p-p to 2 V p-p into 50 Ω.
Resolution	1 mV. Offset – Range: –1.000 V to +1.000 V into 50 Ω.
Resolution	1 mV. DC Level – DC waveform only. Range: –1.000 V to +1.000 V into 50 Ω.
Resolution	1 mV. Phase – Range: –360° to +360°. Resolution: 1.000 Hz to 100.0 kHz: 0.036° step.

100.01 kHz to 1.000 MHz: 0.36° step. 1.001 MHz to 5.000 MHz: 1.8° step.
5.001 MHz to 10.00 MHz: 3.6° step. 10.001 MHz to 20.00 MHz: 7.2° step.
20.001 MHz to 25.00 MHz: 9° step. 25.001 MHz to 40.00 MHz: 14.4° step.
40.001 MHz to 50.00 MHz: 18° step. 50.001 MHz to 100.0 MHz: 36° step.
Polarity – Normal, Invert. Duty Cycle – Range: 0.1% to 99.9%, Pulse waveform only.
Resolution: 1.000 Hz to 1.000 MHz: 0.1% step. 1.001 MHz to 5.000 MHz: 0.5% step.
5.001 MHz to 10.00 MHz: 1% step. 10.01 MHz to 20.00 MHz: 2% step.
20.01 MHz to 25.00 MHz: 2.5% step. 25.001 MHz to 40.00 MHz: 4% step.
40.01 MHz to 50.00 MHz: 5% step. 50.01 MHz to 100.00 MHz: 10% step.

Specifications

PARAMETER	VALUE
Range	–1.000 V to +1.000 V into 50 Ω.
Resolution	1 mV.
DC Level	DC waveform only.

PARAMETER	VALUE
Range	-1.000 V to +1.000 V into 50 Ω .
Resolution	1 mV.

Specifications

PARAMETER	VALUE
Marker Out	Marker1 Pulse Width: Hi/Lo: 20%/80% of Period.
Marker2 Pulse Width	Hi/Lo: 50%/50% of Period, except 5.001 MHz to 8.000 MHz.
Hi/Lo	52%/48% of Period, at 5.001 MHz to 8.000 MHz.
Marker Level	Hi Level: 2 V into 50 Ω . Lo Level: 0 V into 50 Ω .
Clock Generator Sampling Frequency	50.000000 kHz to 1.0000000 GHz.
Resolution	8 digits. Internal Clock - Accuracy: ± 1 ppm.
Phase Noise	At 1 GHz, 10 kHz offset: -80 dBc/Hz.

At 1 GHz, 100 kHz offset: -100 dBc/Hz. Internal Trigger Generator Internal Trigger Rate - Range: 1.0 μ s to 10.0 s.

Specifications

PARAMETER	VALUE
Resolution	3 digits, 0.1 μ s minimum. Accuracy: $\pm 0.1\%$. Main Output Output Signal - Single-ended; CH1 and CH2.
DA Converter	Resolution: 10-Bit. Differential Non-linearity: ± 1 LSB. Integral Non-linearity: ± 1 LSB.
Normal Out	Pulse Response (-1 and 1 waveform data, 0 V offset, Through filter): Rise time (10 to 90%): Amplitude >1.0 V, ≤ 2.5 ns; Amplitude ≤ 1.0 V, ≤ 1.5 ns.
Fall time (10 to 90%)	Amplitude >1.0 V, ≤ 2.5 ns; Amplitude ≤ 1.0 V, ≤ 1.7 ns.
Aberrations (at 500 MHz)	Amplitude >1.0 V, $\pm 10\%$; Amplitude ≤ 1.0 V, $\pm 7\%$.
Flatness (after 50 ns from rise/fall edge)	$\pm 3\%$. Small signal bandwidth (-3 dB, Amplitude 0.5 V): 300 MHz.

Sinewave Characteristics (1 GS/s clock, 32 waveform points, 31.25 MHz signal frequency, 1.0 V amplitude, 0 V offset, Through filter): Harmonics: ≤ -50 dBc, DC to 400 MHz. Noise: ≤ -53 dBc, DC to 400 MHz. Phase Noise: ≤ -90 dbc/Hz at 10 kHz offset.

Specifications

PARAMETER	VALUE
Filter	Type: 10, 20, 50, 100 MHz Bessel low-pass. Rise time (10 to 90%): 10 MHz, 35 ns; 20 MHz, 17 ns; 50 MHz, 7.0 ns; 100 MHz, 3.5 ns.
Delay from trigger	10 MHz, 77 ns +1 clock; 20 MHz, 57 ns +1 clock; 50 MHz, 45 ns +1 clock; 100 MHz, 42 ns +1 clock; Through, 37 ns +1 clock.
Direct DA Out	Output Voltage: 0.5 V p-p (with -0.27 V offset) into 50 Ω .

PARAMETER	VALUE
Amplitude Accuracy	0.5 V p-p $\pm 10\%$. DC Offset Accuracy: $-0.27\text{ V} \pm 10\%$ (waveform data = 0).

Pulse Response (–1 and 1 waveform data): Rise time (10 to 90%): $\leq 700\text{ ps}$.
Fall time (10 to 90%): $\leq 700\text{ ps}$. Output Impedance – 50Ω .
Connector – Front panel BNC. Channel Output Summary Output TypeAWG520 Analog2 ComplementN/A MarkerCH1: M1, M2
CH2: M1, M2 Digital (Opt. 03)2 Analog (CH2 Analog = D0 to D9, CH1 and CH2 Analog independent), D0 to D9, 4
Markers
Arbitrary Waveform Generators AWG520 Arbitrary Waveform Generators • www.tektronix.com/signal_sources 3
Auxiliary Outputs Marker – Number: AWG520: 4.
Level: Hi/Lo: -2.0 V to 2.0 V (0.05 V p-p to 4 V p-p) into 50Ω ; -4.0 V to 4.0 V (0.1 V p-p to 8 V p-p) into
 $1\text{ M}\Omega$.
Resolution: 0.05 V . Accuracy: Within $\pm 0.1\text{ V} \pm 5\%$ of setting.
Rise/Fall Time (10 to 90%, typical): At 1 V p-p , Hi $+0.5\text{ V}$ /Lo -0.5 V : 0.5 ns .
At 2 V p-p , Hi $+1\text{ V}$ /Lo -1 V : 1.0 ns .
At 4 V p-p , Hi $+2\text{ V}$ /Lo -2 V : 2.0 ns .

Specifications

PARAMETER	VALUE
Variable Delay	Range: 0 ns to $+2\text{ ns}$. Resolution: 20 ps .
Marker Skew	32 ps . Connector: Rear-panel SMB. Clock Out – Level: ECL 100 K compatible.
Connector	Front-panel BNC. Noise – Level: Range: -145 dBm/Hz to -105 dBm/Hz .
Resolution	1 dB . Accuracy: $\pm 2.5\text{ dB}$ at 100 MHz . Flatness: $\pm 2.5\text{ dB}$, 1 MHz to 300 MHz (referenced to -105 dBm/Hz at 100 MHz).
Type	Gaussian. Connector: Front-panel BNC. Digital Data Out (Opt. 03) – Output Signals: D0 to D9 (10-Bits).
Level	Hi/Lo: -2.0 V to 2.0 V (0.1 V p-p to 4 V p-p) into 50Ω ; -4.0 V to 4.0 V (0.2 V p-p to 8 V p-p) into $1\text{ M}\Omega$.
Resolution	0.1 V . Accuracy: Within $\pm 0.1\text{ V} \pm 5\%$ of setting.
Rise/Fall Time (10 to 90%) typical	At 1 V p-p , Hi $+0.5\text{ V}$ /Lo -0.5 V : 0.5 ns .

At 2 V p-p , Hi $+1\text{ V}$ /Lo -1 V : 1.0 ns .
At 4 V p-p , Hi $+2\text{ V}$ /Lo -2 V : 2.0 ns .
Skew Between Data: $\leq 1\text{ ns}$, 330 ps typical. Delay: Data to marker: 4.4 ns .

Specifications

PARAMETER	VALUE
Clock to data	3.7 ns . Connector: Rear-panel SMB. Auxiliary Inputs Trigger In – Impedance: $1\text{ k}\Omega$ or 50Ω .
Polarity	POS or NEG. Input Voltage Range: $1\text{ k}\Omega$: $\pm 10\text{ V}$. $50\text{ }\Omega$: $\pm 5\text{ V}$.
Threshold	Level: -5.0 V to 5.0 V . Resolution: 0.1 V .
Accuracy	$\pm (5\% \text{ of level} + 0.1\text{ V})$. Pulse Width (0.2 V amplitude): 10 ns minimum.
Trigger Holdoff	500 ns maximum. Delay to Marker: $30\text{ ns} + 1\text{ clock}$.

PARAMETER	VALUE
Connector	Front-panel BNC. Event Trig Input – Number of Events: 4 Bits.
Input Signals	4 event bits, strobe. Threshold: TTL level. Pulse Width: 64 clocks minimum.
Maximum Input	0 V to +5 V (DC + peak AC).

Delay to Analog Out:≤384 clock +20 ns. Impedance 2.2 kΩ, pull-up to +5 V.

Specifications

PARAMETER	VALUE
Connector	Rear-panel 9-Pin D-sub. CH1 ADD Input – Input Voltage Range: –1 V to 1 V (DC + peak AC).
Impedance	50Ω. Bandwidth (–3 dB): DC to 200 MHz at 1 V p-p input.
Amplitude Accuracy	±5%. Connector: Front-panel BNC. Reference 10 MHz Clock IN – Input Voltage Range: 0.2 V to 3.0 V p-p , ±10 V maximum.
Impedance	50Ω, AC coupled. Frequency Range: 10 MHz ±0.1 MHz.
Connector	Rear-panel BNC. External Sample Clock In Input Voltage Range – 0.25 V p-p to 1 V p-p .
Maximum Input Voltage Range	±10 V max . Impedance – 50Ω, AC coupling.
Frequency Range	10 MHz to 900 MHz. Duty Cycle Ratio – 40% to 60%.
Pulse Width	0.5 ns minimum. Connector – Rear panel BNC.
Display Area	13.2 cm (5.2 in.) horizontal by 9.9 cm (3.9 in.) vertical.
Resolution	640 horizontal by 480 vertical pixels. Data Storage Internal Hard Disk Drive – 10.0 GB (standard).

Floppy Disk Drive – 3.5 in., 1.44 MB. Option 10 – Substitute flash disk (128 MB) for HDD, add standby switch. (Opt. 10 is best suited for ATE and system usage requiring 7x24 hour operation.)
Option 11 – Substitute Internal Hard Disk Drive with removable 10.0 GB Hard Disk Drive mounted on top of the instrument Environmental, EMC, Safety Temperature – Operating: 10 °C to +40 °C.

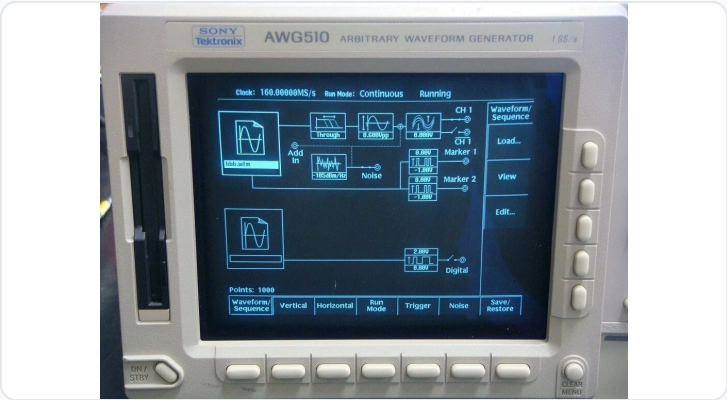
Specifications

PARAMETER	VALUE
Nonoperating	–20 °C to +60 °C. Humidity – Operating: 20 to 80%, noncondensing.
Nonoperating	5 to 90%, noncondensing. Altitude – Operating: Up to 4,500 m. (15,000 ft). Maximum operating temperature decreases 1 °C per 300 m above 1.5 km.
Nonoperating	Up to 15,000 m (50,000 ft.). Vibration (test limits) – Operating: 0.27 G RMS from 5 to 500 Hz, 10 minutes duration.
Nonoperating	2.28 G RMS from 5 to 500 Hz, 10 minutes duration.
Shock (test limits)	Nonoperating: 294 m/s 2 (30 G), half-sine, 11 ms duration.
EMC Compliance	EN50081-1. EN50082-1. FCC Part 15, SubchapterBClass A.

PARAMETER	VALUE
AS/NZS 20641/2. Safety	UL3111-1, CSA1010.1, EN61010-1, IEC61010-1. Power Source Power – Line Voltage Range: 100 to 240 VAC.
Line Frequency	48 to 63 Hz. Power Consumption – 600 W at 8 A maximum.

Physical Characteristics Dimensionsmmmin. Height1787.0 Height with Opt. 11215.58.48 Width42217.5 Depth56025.8
Weightkglbs.
Net1737.5 Warranty – One year parts and labor. Other Programmable Interface – GPIB: 24-Pin IEEE488.1
connector.
Ethernet: 10Base-T, RJ-45 connector. Keyboard Connector – 6-Pin mini-DIN connector.
Arbitrary Waveform Generators AWG520 Our most up-to-date product information is available at:
www.tektronix.com

Unit photos



Ordering Information

OPTION	DESCRIPTION
Opt. 03	CH. 2 10-Bit output up to 1 GHz.
Opt. 10	Flashdisk (128 MB) and standby switch – removes HDD.
Opt. 11	Removable Hard Disk (exclusive to Option 10 and/or Option 3).
Opt. 1R	Rackmount. Power Plug Options Opt. A0 –North America Power.
Opt. A1	Universal EURO Power. Opt. A2 –United Kingdom Power.
Opt. A3	Australia Power. Opt. A4 –240 V, North America Power.
Opt. A5	Switzerland Power. Service Opt. C3 –Calibration Service 3 Years.
Opt. C5	Calibration Service 5 Years. Opt. D1 –Calibration Data Report.
Opt. D3	Calibration Data Report 3 Years (with Option C3).
Opt. D5	Calibration Data Report 5 Years (with Option C5).
Opt. R3	Repair Service 3 Years. Opt. R5 –Repair Service 5 Years.
Includes	User manual (071-0099-00), Programmer manual (071-0100-00), GPIB programming examples disk (063-2982-00), sample waveform library disk (063-2981-00), AXW100 ArbExpress Software Utility CD (063-3763-00), performance verification disk (063-2983-00), power cord, fuse (159-0239-00). Please specify power plug when ordering.

Available from Aumictech

Used and refurbished unit evaluated in-house. Calibration: Available on request. Used · In stock.

Request a quote: sales@aumictech.com · +1 (484) 841-9341

Aumictech

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