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Data Sheet

August 3, 2026

LECROY

LeCroy ArbStudio 1104 Arbitrary Waveform Generator, 4 channel

Instrument Type: Arbitrary Waveform Generator Alias: ArbStudio1104; ARBSTUDIO 1104;
AS1104 Generation Modes: Arbitrary and DDS (per channel) Run Modes (Arbitrary): Single,
Continuous, Stepped, Burst Alias: ArbStudio1104; ARBSTUDIO 1104; AS1104 Generation Modes:
Arbitrary and DDS (per channel) Run Modes (Arbitrary): Single, Continuous, Stepped, Burst
Run Modes (DDS): Single, Continuous, Burst



MODEL

**Lecroy ArbStudio
1104**

CALIBRATION

**Available on
request**

CONDITION

Used

STATUS

In stock

RFQ / SKU

ArbStudio 1104

LISTING

<https://aumictechlabs.com/products/arbstudio-1104-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 · 811210 · 541380

This unit

The LeCroy ArbStudio 1104 is a 4-channel arbitrary waveform generator delivering high-fidelity signal synthesis from 2 μ Hz to 125 MHz. Built for engineers requiring precise waveform creation, it combines arbitrary waveform generation, Direct Digital Synthesis (DDS), and standard function generation in a single instrument. With 1 GS/s sample rate per channel, 16-bit resolution, and 2 Mpts memory per channel, the ArbStudio 1104 handles everything from basic sine waves to complex custom waveforms. Modulation support spans AM, FM, PM, ASK, FSK, and PSK. Optional digital pattern generation (36 channels on the -D variant) extends functionality into mixed-signal test environments. Multiple units synchronize via AS-SYNC cables for scaled channel counts up

to 32 channels. Technical Specifications Channels: 4 analog channels (ArbStudio 1104D adds 36 digital pattern channels) Sample Rate: 1 GS/s per channel Vertical Resolution: 16-bit Waveform Memory: 2 Mpts per channel Bandwidth: 125 MHz Frequency Range: 2 μ Hz to 125 MHz Output Voltage: 12 V peak-to-peak maximum Rise/Fall Time: 3.5 ns Power Supply: 12 V DC, 2.5 A external adapter Operating Temperature: 0 °C to 50 °C Humidity: Up to 80% RH (non-condensing) at 40 °C, decreasing linearly to 50% at 50 °C Altitude: Up to 10,000 ft (3,048 m) at or below 30 °C Weight: 1.3 kg Cooling: Forced air; minimum 15 cm (6 inches) clearance on sides and rear required Key Features Arbitrary and DDS generation modes plus basic function generator (Sine, Square, Triangle) AM, FM, PM, ASK, FSK, PSK modulation Pulse-Width Modulation (PWM) with dedicated control panel Frequency sweep (up or down) with carrier waveform selection Burst mode signal generation Trigger input/output for external synchronization USB 2.0/1.1 interface Typical Applications Component characterization, circuit simulation, sensor stimulus, mixed-signal validation, RF modulation testing, and education. Compatibility & Integration Up to eight 4-channel ArbStudio units link via AS-SYNC cables for synchronized operation across 32 total channels. Trigger I/O enables integration with oscilloscopes, counters, and external test systems.

Features & description

From manufacturer datasheet

Features

- 4 analog channels (ArbStudio 1104; digital pattern generation is on 1104D) • 16-bit vertical resolution
- Waveform memory: 2 Mpts/Ch • Max interpolated sample rate: 1 GS/s (4x interpolation); real-time arb 4 S/s to 250 MS/s • Analog bandwidth: 125 MHz (arbitrary) / 110 MHz (DDS) • Amplitude: 0 to +12 Vp-p into 50 Ω ; 0 to +24 Vp-p open circuit (1 kHz) • Modulation: AM, FM, PM, ASK, FSK, PSK; dedicated PWM mode • Sweep and burst modes; waveform sequencing up to 511 waveforms • Multi-instrument sync: up to 8 four-channel units with AS-SYNC cable • Interface: USB 2.0; external trigger in/out; external clock input

ARBSTUDIO1104 Characteristics / Specifications

PARAMETER	VALUE
Model	ArbStudio 1104
Manufacturer	LeCroy (Teledyne LeCroy)
Instrument Type	Arbitrary Waveform Generator
Alias	ArbStudio1104; ARBSTUDIO 1104; AS1104 Channels and Modes
Number of Analog Channels	4
Generation Modes	Arbitrary and DDS (per channel)
Run Modes (Arbitrary)	Single, Continuous, Stepped, Burst
Run Modes (DDS)	Single, Continuous, Burst Sample Rate and Resolution
Arbitrary Sample Rate (Real Time)	4 S/s to 250 MS/s
DDS Sample Rate (Real Time)	125 MS/s to 250 MS/s
Max Interpolated Sample Rate	1 GS/s (4x interpolation); real-time arb 4 S/s to 250 MS/s
Vertical Resolution	16-bit
Waveform Memory	2 Mpts/Ch
Minimum Waveform Length	8 points
Waveform Resolution	2 points
Carrier Waveform Memory (DDS)	2048 samples/Ch
Sampling Frequency Resolution	15 digits, limited by 1 nHz Frequency Ranges
Sine (Arbitrary)	2 μ Hz to 125 MHz
Square / Pulse	2 μ Hz to 62.5 MHz
Triangle / Ramp	2 μ Hz to 31.25 MHz
Sinc	2 μ Hz to 15.5 MHz; minimum lobe width 8 ns Amplitude and Accuracy
Amplitude (Open Circuit)	0 V to +24 Vp-p
Amplitude Resolution	< 1 mV
Output Impedance	Selectable 50 Ω , Low, or High Impedance
AC Accuracy (1 kHz sine)	$\pm 0.25\%$ / $\pm 0.3\%$ of amplitude range under same temperature conditions

PARAMETER	VALUE
Short Circuit Protection	Outputs robust against permanent shorts to floating ground Signal Integrity (Typical, 1 Vp-p unless noted)
Amplitude Flatness	< ±0.1 dB DC to 110 MHz (DDS); < ±0.1 dB DC to 125 MHz (Arbitrary)
Harmonic Distortion (examples)	≤1 MHz < -66 dBc; 75–110 MHz DDS < -31 dBc; 75–125 MHz Arbitrary < -28 dBc
Square Rise/Fall Time	< 3.5 ns typical
Overshoot	< 5.5% typical
Random Jitter (rms)	< 20 ps typical
Duty Cycle (Square/Pulse)	1% to 99% Multi-Channel
Sampling Rate Tuning	Programmable per channel couple (Ch 1–2, Ch 3–4)
Skew Between Channels (common sample rate)	Average < 300 ps typical; Std Dev < 35 ps typical
Math	Sum, Difference, Product of two channels inachannel pair
Sync	Up to 8 instruments; synchronization accuracy < 300 ps Frequency Reference
Stability	< ±5 ppm
Aging	< ±2 ppm/year Auxiliary I/O
External Trigger Output	TTL compatible into > 1 kΩ; 50 Ω nominal
External Trigger Input	DC to 125 MHz; VIL max 0.8 V, VIH min 2 V; -0.5 V to 4 V range
External Clock	0 to 125 MHz; min swing > 2 V Physical and Environmental
Weight	1.3 kg (2.8 lbs)
Power	100–240 VAC ±10%, 50/60 Hz ±5%; 35 W max
Operating Temperature	Main unit 0 to 50 °C; power adapter 0 to 40 °C
PC Interface	USB 2.0 Operational Notes Do not confuse ArbStudio 1104 (4-ch analog) with 1102 (2-ch) or 1104D (4-ch + digital pattern generator). Prefer the LeCroy ArbStudio datasheet for the full harmonic/non-harmonic distortion tables by band.
Analog bandwidth	125 MHz (arbitrary) / 110 MHz (DDS)
Amplitude	0 to +12 Vp-p into 50 Ω; 0 to +24 Vp-p open circuit (1 kHz)
Modulation	AM, FM, PM, ASK, FSK, PSK; dedicated PWM mode

PARAMETER	VALUE
Multi-instrument sync	up to 8 four-channel units with AS-SYNC cable
Interface	USB 2.0; external trigger in/out; external clock input
Bandwidth	is 125 MHz (arbitrary) / 110 MHz (DDS). USB 2.0 connects the instrument to a host PC running ArbStudio software.

General Specifications & Supplementary Characteristics

PARAMETER	VALUE
Operating temperature	Main unit 0 to 50 °C; power adapter 0 to 40 °C
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Weight	1.3 kg (2.8 lbs)
Power	100–240 VAC ±10%, 50/60 Hz ±5%; 35 W max
PC Interface	USB 2.0 Operational Notes Do not confuse ArbStudio 1104 (4-ch analog) with 1102 (2-ch) or 1104D (4-ch + digital pattern generator). Prefer the LeCroy ArbStudio datasheet for the full harmonic/non-harmonic distortion tables by band.

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	
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PARAMETER	VALUE
Model	ArbStudio 1104
Manufacturer	LeCroy (Teledyne LeCroy)
Instrument Type	Arbitrary Waveform Generator
Alias	ArbStudio1104; ARBSTUDIO 1104; AS1104
Channels and Modes	
Specifications	
PARAMETER	VALUE
Number of Analog Channels	4
Generation Modes	Arbitrary and DDS (per channel)
Run Modes (Arbitrary)	Single, Continuous, Stepped, Burst
Run Modes (DDS)	Single, Continuous, Burst
Sample Rate and Resolution	
Specifications	
PARAMETER	VALUE
Arbitrary Sample Rate (Real Time)	4 S/s to 250 MS/s
DDS Sample Rate (Real Time)	125 MS/s to 250 MS/s
Max Interpolated Sample Rate	1 GS/s (interpolation factors 1x, 2x, 4x)
Vertical Resolution	16-bit
Waveform Memory	2 Mpts/Ch
Minimum Waveform Length	8 points
Waveform Resolution	2 points
Carrier Waveform Memory (DDS)	2048 samples/Ch
Sampling Frequency Resolution	15 digits, limited by 1 nHz
Frequency Ranges	
Sine (Arbitrary): 2 µHz to 125 MHz	
Sine (DDS @ max sample rate): 3.7 mHz to 110 MHz	

Specifications

PARAMETER	VALUE
Square / Pulse	2 μ Hz to 62.5 MHz
Triangle / Ramp	2 μ Hz to 31.25 MHz
Sinc	2 μ Hz to 15.5 MHz; minimum lobe width 8 ns

Specifications

PARAMETER	VALUE
Amplitude and Accuracy	Amplitude (50 Ω load, 1 kHz): 0 V to +12 Vp-p
Amplitude (Open Circuit)	0 V to +24 Vp-p
Amplitude Resolution	< 1 mV
Output Impedance	Selectable 50 Ω , Low, or High Impedance

DC Accuracy (Open Circuit, ± 12 V range): $\pm 0.25\%$ of amplitude range (within ± 10 $^{\circ}$ C of cal temp T=25 $^{\circ}$ C, RH $\leq$ 80%); $\pm 0.3\%$ (0 to 50 $^{\circ}$ C)

DC Accuracy (50 Ω , ± 6 V range): $\pm 0.25\%$ / $\pm 0.3\%$ as above

AC Accuracy (1 kHz sine): $\pm 0.25\%$ / $\pm 0.3\%$ of amplitude range under same temperature conditions

Short Circuit Protection: Outputs robust against permanent shorts to floating ground

Signal Integrity (Typical, 1 Vp-p unless noted)

Amplitude Flatness: < ± 0.1 dB DC to 110 MHz (DDS); < ± 0.1 dB DC to 125 MHz (Arbitrary)

THD (100 kHz, 1 Vp-p): < 0.15%

Phase Noise (20 MHz, 1 Vp-p): -106 dBc/Hz @ 10 kHz; -113 dBc/Hz @ 100 kHz; -128 dBc/Hz @ 1 MHz

Specifications

PARAMETER	VALUE
Harmonic Distortion (examples)	≤ 1 MHz < -66 dBc; 75-110 MHz DDS < -31 dBc; 75-125 MHz Arbitrary < -28 dBc
Square Rise/Fall Time	< 3.5 ns typical
Overshoot	< 5.5% typical
Random Jitter (rms)	< 20 ps typical
Duty Cycle (Square/Pulse)	1% to 99%

Multi-Channel

Specifications

PARAMETER	VALUE
Sampling Rate Tuning	Programmable per channel couple (Ch 1-2, Ch 3-4)
Skew Between Channels (common sample rate)	Average < 300 ps typical; Std Dev < 35 ps typical
Math	Sum, Difference, Product of two channels inachannel pair
Sync	Up to 8 instruments; synchronization accuracy < 300 ps

Frequency Reference
Stability: < ±5 ppm
Aging: < ±2 ppm/year
Auxiliary I/O

Specifications

PARAMETER	VALUE
External Trigger Output	TTL compatible into > 1 kΩ; 50 Ω nominal
External Trigger Input	DC to 125 MHz; VIL max 0.8 V, VIH min 2 V; -0.5 V to 4 V range
External Clock	0 to 125 MHz; min swing > 2 V

Physical and Environmental
Dimensions (H×W×D): 62 × 326 × 182 mm (2.4" × 12.8" × 7.2")

Specifications

PARAMETER	VALUE
Weight	1.3 kg (2.8 lbs)
Power	100–240 VAC ±10%, 50/60 Hz ±5%; 35 W max
Operating Temperature	Main unit 0 to 50 °C; power adapter 0 to 40 °C
PC Interface	USB 2.0

Operational Notes
Do not confuse ArbStudio 1104 (4-ch analog) with 1102 (2-ch) or 1104D (4-ch + digital pattern generator).
Prefer the LeCroy ArbStudio datasheet for the full harmonic/non-harmonic distortion tables by band.

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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Technical content from manufacturer specifications. Unit photo/stock from Aumictech listing when available. Specifications subject to OEM documentation and unit condition.