RIGOL
Beyond Measure

Product

Test and Measurement

RIGOL TECHNOLOGIES,INC.

Company Profile

RIGOL Technologies, Inc. is an emerging company in the Test and Measurement field. RIGOL is the fellow member of China Electronic Instrument Industry Association, China Instrument & Control Society and one of the members of LXI Consortium. RIGOL's current product line consists of Digital Oscilloscopes, Digital MultiMeters, Power Supply, Virtual Instruments with LXI compatibility and much more.

RIGOL currenty has 400 employees and is continuing to grow. We invest heavily in R&D and today over 100 R&D engineers are working on future products.

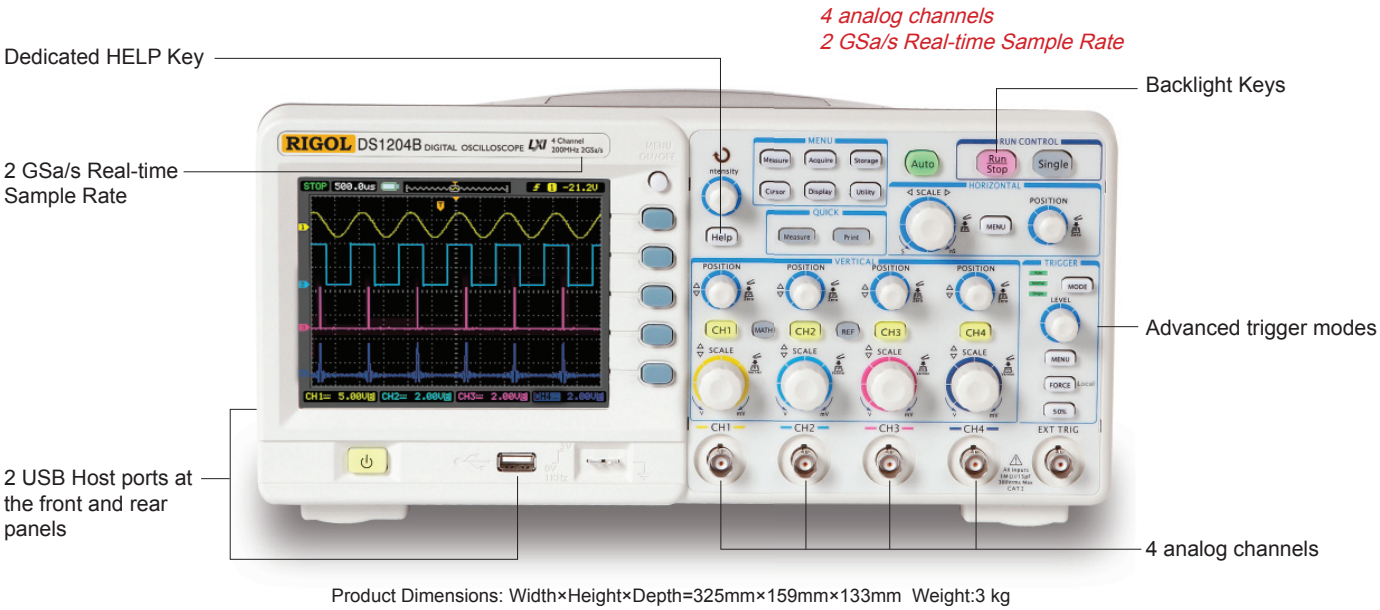
RIGOL has 10 sales and service offices in China along with a branch office in North America. We offer our products and services in over 55 countries and regions worldwide.

We focus on our customers' current and future needs by creating innovative products and delivering great value. Our goal is to be customres' partner of choice in Test & Measurement solutions and services.
RIGOL is an ISO9001:2000 Quality Management System and ISO14001:2004 Environmental Management System Certified company.

RIGOL Milestones

Jul	1998	RIGOL was founded.
May	1999	RIGOL's first product the RVO 2100, a high performance virtual Digital Storage Oscilloscope (DSO) was introduced.
May	2002	The DS 3000 series DSO, the first high performance DSO developed and manufactured in China was introduced.
Feb	2004	The DS 5000 series DSO, the first, 1 GSa/s DSO from any Asian manufacturer was introduced.
Jan	2005	Our new 30,000 Sq. Ft. Manufacturing Site was opened.
May	2006	RIGOL received ISO 9001: 2000 Certification.
Apr	2006	RIGOL had a successful Grand opening of its new 80,000 Sq. Ft. Technology Campus in Beijing.
July	2006	The DS 1000 series Oscilloscope was introduced; the lowest priced Mixed Signal Oscilloscope (MSO) in the world.
July	2006	The DG 3000 series Function/Arbitrary Waveform Generator was introduced; the First Mixed Signal Generator (MSG) in the world having 1 analog channel and an option for 16 digital channels.
July	2006	The VS 5000 Virtual DSO with up to 400 MSa/s sample rate, 100 MHz bandwidth and optional MSO was introduced.
Aug	2006	The DM 3000 5½ & 6½ digit DVM were introduced along with the PC hosted versions, the VM 3000 series.
Oct	2006	The prestigious EDN China Innovation Award for the DS 1000 series DSO was awarded to RIGOL, the first time it was ever awarded to a Chinese company.
May	2007	The DS 1000CA was introduced, this is the first 2 GS/s DSO designed by a smaller Manufacturer with bandwidth options up to 300 MHz.
May	2007	RIGOL DG 1000 series Function/Arbitrary Waveform Generator with build-in counter was introduced.
Oct	2007	RIGOL strengthens its research and development; opened R&D center in Shanghai.
Nov	2007	As 2006 Annual Innovation Award winner, RIGOL once again has earned EDN China Innovation Award.
Dec	2007	RIGOL awarded the CMIF and Beijing Municipal Science & Technology Commission Advanced Achievement Award.
Aug	2008	RIGOL DS1000B series Digital Oscilloscope was introduced. First DSO in China with 4-channel and complete LXI Class C compliance.
Jan	2009	RIGOL DS1000E series Digital Oscilloscope won Electronic Products 2008 Product of The Year Award.
Jan	2009	RIGOL is the first company in Asia and the third around the world who's been certificated by LXI Consortium as LXI-C standard compatibility test house.

DS1000B Series LXI Class C Compliant Digital Oscilloscope



Product Dimensions: Width×Height×Depth=325mm×159mm×133mm Weight:3 kg

▶ Application Areas

- Design and Debug
- Manufacturing
- Quality Control
- Service and Repair
- Education and Research

▶ Features and Benefits

1. 4 analog channels
2. 2 GSa/s Real-time Sample Rate and 50 GSa/s Equivalent-time Sample Rate
3. Compact design with small footprint to save bench space
4. 5.7” TFT QVGA (320×240) with 64K color LED backlight display with power save mode
5. Advanced trigger modes including Edge, Video, Pulse Width, Alternate and Pattern trigger across 4 analog channels
6. Built-in USB Host and USB Device to support USB flash drive, PictBridge printers and direct system upgrades
7. LXI Class C certified LAN Ethernet connectivity standard

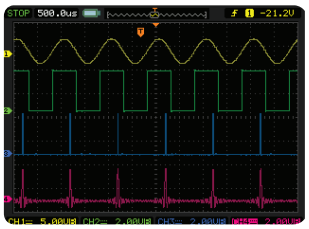
Model	DS1204B	DS1104B	DS1064B
Bandwidth	200 MHz	100 MHz	60 MHz

▶ Specifications

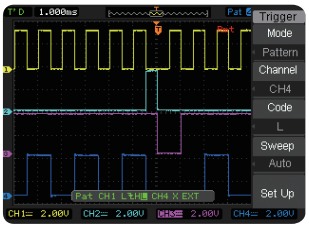
Model	DS1204B	DS1104B	DS1064B
Bandwidth	200 MHz	100 MHz	60 MHz
Memory Depth	16 kpts (half channel), 8 kpts (each channel)		
Channels	4 channels + external trigger		
Real-time Sample Rate	2 GSa/s (half channel), 1 GSa/s (each channel)		
Equivalent-time Sample Rate	50 GSa/s	25 GSa/s	10 GSa/s
Rise Time	1.8 ns	3.5 ns	5.8 ns
Input Impedance	1 MΩ || 18 pF		
Timebase Range	1 ns/div ~ 50 s/div	2 ns/div ~ 50 s/div	5 ns/div ~ 50 s/div
Trigger modes	Edge, Video, Pulse Width, Alternate, pattern trigger across 4 analog channels		
Vertical Sensitivity	2 mV/div ~ 10 V/div		

Vertical Resolution	8 bits
Maximum Input Voltage	All Inputs 1MΩ||18pF 300Vrms Max CAT I
Cursor Measurement	Manual, Track and Auto Measure modes
Math	+, - , ×, FFT
Internal Storage	10 waveforms, 10 setups
USB Storage	8 bits BMP, 24 bits BMP, PNG, CSV, Waveforms and Setups against USB flash drive's limit
Connectivity	USB Device, dual USB Host, LXI-C compliant LAN
Display	5.7" TFT QVGA (320×240) with 64K color LED backlight display
Power Supply	AC: 100-127 V, 45Hz - 440Hz; 100 - 240V, 45Hz - 65Hz. 60VA Max

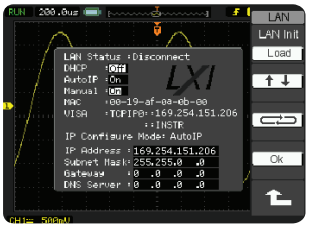
▶ Advanced Performance



4 analog signal input channels makes multi-channel signals test easy



Pattern Trigger
Triggers on any combination of events across all 4 analog channels

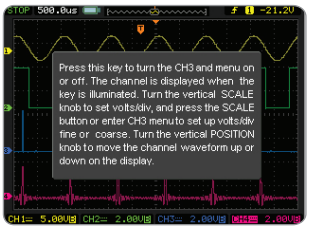


LXI Class C compliant

PictBridge Certified

▶ Intuitive User Interface and Front Panel Design

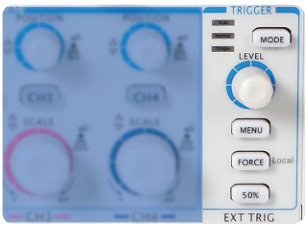
Independent Channel Control
4 analog channels with independent vertical control



Built-in Help System
Dedicated Help button to access Built-in help system

Auto Measure Button
To turn on selected general measurements directly

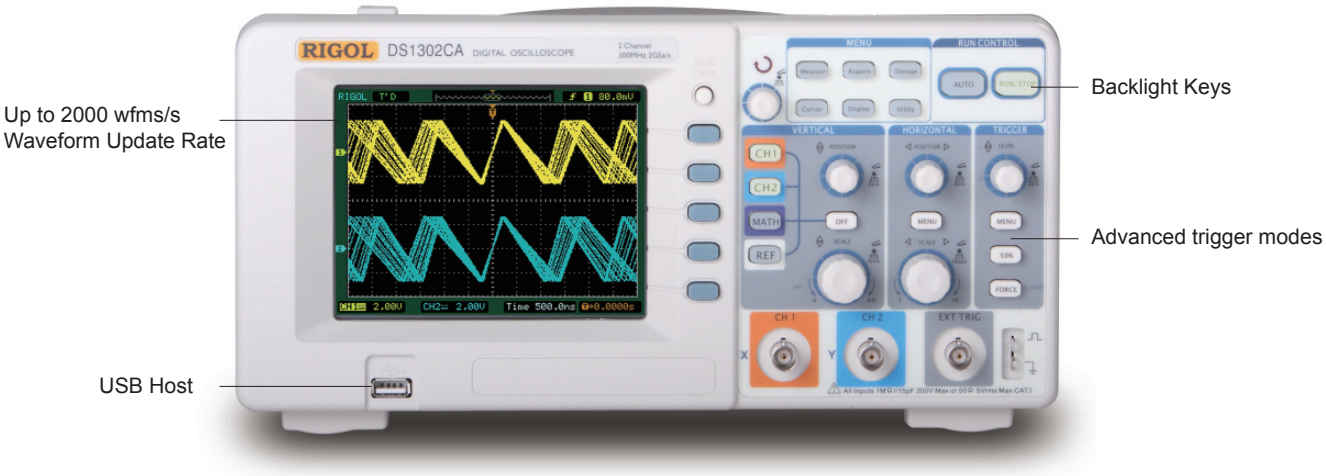
Direct Print Button
To directly print the screen or save the waveforms locally or to the USB flash drive via USB Host port



Easy Select Trigger Mode
To easily switch the trigger modes

DS1000CA Series Digital Oscilloscope

Up to 300MHz Bandwidth
Up to 2000 wfms/s Waveform Update Rate



Product Dimensions: Width×Height×Depth = 303mm×154mm×133mm Weight: 2.3 kg

▶ Application Areas

- Design and Debug
- Manufacturing
- Education and Training
- Service and Repair

▶ Features and Benefits

1. Up to 300MHz Bandwidth
2. 2 GSa/s Real-time Sample Rate and 50 GSa/s Equivalent-time Sample Rate
3. Compact design with small footprint to save bench space
4. 5.7" 64K color TFT LCD Display
5. Up to 2000 wfms/s Waveform Update Rate
6. Advanced trigger modes including Edge, Video, Pulse Width, Slope and Alternate
7. Built-in USB Host and USB Device to support USB flash drive and direct system upgrades

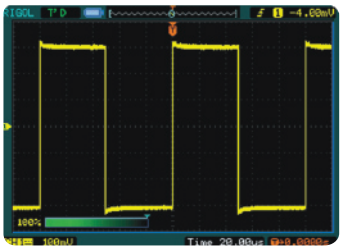
Model	DS1302CA	DS1202CA	DS1202CA	DS1062CA
Bandwidth	300 MHz	200 MHz	100 MHz	60 MHz

▶ Specifications

Model	DS1302CA	DS1202CA	DS1102CA	DS1062CA
Bandwidth	300 MHz	200 MHz	100 MHz	60 MHz
Memory Depth	10 kpts (5 kpts on 2 channels)			
Channels	2 channels + external trigger			
Real-time Sample Rate	2 GSa/s (1 GSa/s on 2 channels)			
Equivalent-time Sample Rate	50 GSa/s	25 GSa/s		10 GSa/s
Rise Time	1.2 ns	1.8 ns	3.5 ns	5.8 ns
Input Impedance	1 MΩ || 15 pF, 50 Ω		1 MΩ || 15 pF	
Timebase Range	1 ns/div ~ 50 s/div	2 ns/div ~ 50 s/div		5 ns/div ~ 50 s/div

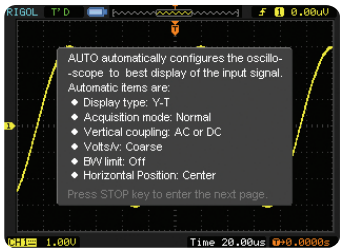
Trigger Modes	Edge, Video, Pulse Width, Slope, Alternate
Vertical Sensitivity	1 mV/div ~ 10 V/div
Vertical Resolution	8 bits
Maximum Input voltage	All Inputs 1MΩ||15pF 300V CAT I or 50Ω 5Vrms Max
Cursor Measurement	Manual, Track and Auto Measure modes.
Math	+, - , ×, FFT
Internal Storage	10 waveforms,10 setups
USB Storage	BMP, CSV, Waveforms and Setups against USB flash drive's limit
Connectivity	USB Device, USB Host, RS-232, Pass/Fail, Out
Display	TFT (64 k color LCD), 320 × 234 resolution
Power Supply	AC:100V~240 V, 45Hz~440Hz, 50VA Max

▶ Intuitive User Interface



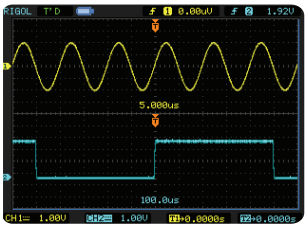
Display Intensity Control
Adjustable display intensity makes the waveform observations easier

File System
Easy to Use file system supports USB flash drive and local file storage

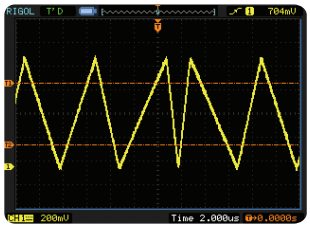


Built-in Help System
Easy access to the Built-in help system by pressing and holding the key for 3 seconds

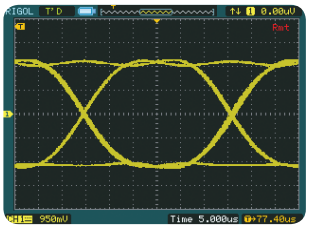
▶ Advanced trigger modes



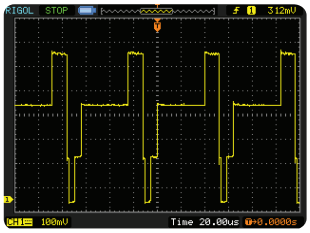
Rising & Falling Edge trigger
Mainly used to view special signals such as eye-diagrams, formally only available in more advanced digital oscilloscopes



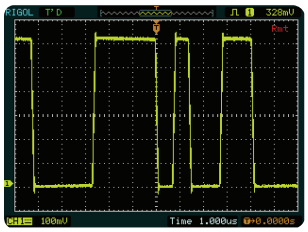
Pulse Width Trigger
Triggers on the conditions of special pulses



Slope Trigger
Triggers on the signals rise time or fall time that is user defined



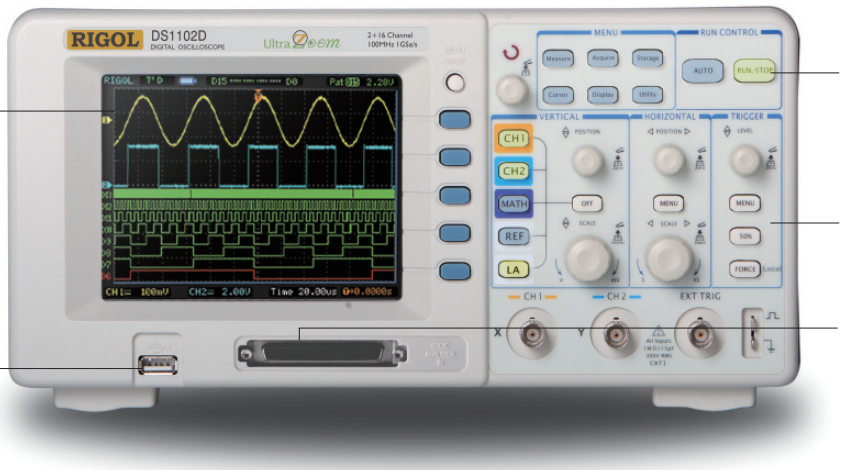
Video Trigger
Trigger according to the selected video signal



Alternate Trigger
Provides a true dual time base display that was common in analog oscilloscopes

DS1000E • DS1000D Series Digital Oscilloscope

16 channel Logic Analyzer
1 GSa/s maximum Real-time Sample Rate
and 1 Mpts Memory Depth



Product Dimensions: Width×Height×Depth = 303mm×154mm×133mm Weight: 2.4 kg

▶ Application Areas

- Design and Debug
- Manufacturing
- Education and Training
- Service and Repair

▶ Features and Benefits

1. A true mixed signal oscilloscope with a 16 channel Logic Analyzer (DS1000D)
2. 1 GSa/s maximum Real-time Sample Rate and 1 Mpts Memory Depth
3. Bandwidth options: 50MHz and 100MHz
4. Extensive set of trigger modes including: Edge, Video, Pulse Width, Slope, Alternate
5. 64 k TFT Color LCD, bright and vivid waveform display
6. Direct print to PictBridge compatible printers via USB Device interface
7. Compact design to save your desktop space

Model	DS1102E	DS1052E	DS1102D	DS1052D
Bandwidth	100MHz	50MHz	100MHz	50MHz
Logic Analyzer	×		√	

▶ Specifications

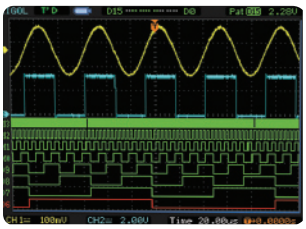
Model	DS1102E DS1102D	DS1052E DS1052D
Bandwidth	100MHz	50MHz
Channels	2 Channels + External Trigger	
Real-time Sample Rate	1 GSa/s (Single Channel), 500 MSa/s (Dual Channels)	
Equivalent-time Sample Rate	25 GSa/s	10 GSa/s
Rise Time	3.5 ns	7 ns

Memory Depth	Channel Mode	Sample Rate	Normal Memory	Long Memory
	Single Channel	1 GSa/s	16 kpts	N.A.
	Single Channel	500 MSa/s or lower	16 kpts	1 Mpts
	Dual Channels	500 MSa/s or lower	8 kpts	512 kpts
Timebase Range	2 ns/div ~ 50 s/div		5 ns/div ~ 50 s/div	
Trigger Modes	Edge, Video, Pulse Width, Slope, Alternate			
Vertical Resolution	8 bits			
Vertical Sensitivity	2 mV/div ~ 10 V/div			
Maximum Input Voltage	All inputs 1 MΩ II 15 pF 300 V RMS CAT I			
Input Coupling	DC, AC, GND			
Roll Range	500 ms/div ~ 50 s/div			
Cursor Measurements	Manual, Track and Auto Measure modes			
Math	+,-, ×,FFT			
Internal Stroge	10 Waveforms and 10 Setups			
USB Storage	BMP, CSV, Waveforms and Setups			
Connectivity	USB Device, USB Host, RS-232, P/F Out			
Display	5.6" TFT (64 k, Color LCD), 320×234 resolution			
Power Supply	AC: 100 ~ 240 VACRMS, 45 ~ 440 Hz, CAT II, 50 VA Max			
MSO Logic Analyzer	DS1102D		DS1052D	
Channels	16 logic Channels			
Sample Rate	200 MSa/s (each channel)			
Record Length	512 kpts (each channel)			
Trigger Modes	Pattern, Duration			
Threshold Selections	TTL=1.4 V, CMOS=2.5 V, ECL=-1.3 V, USER=-8 V to + 8 V			

▶ DS1000D Logic Analyzer Module

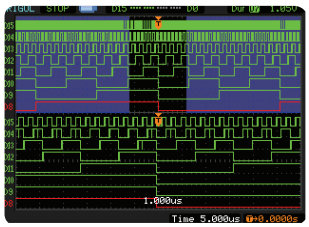
Mixed Signal Oscilloscope (MSO) with 16 channels Logic Analyzer (LA).LA is divided into two groups: D7-D0, D15-D8. Each works separately.

Logic Analyzer Module



Pattern Trigger

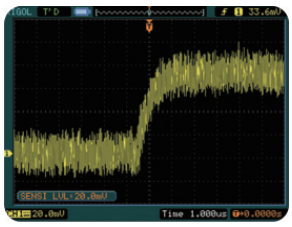
The trigger condition is a combination of the level of the signal and the edge



Duration Trigger

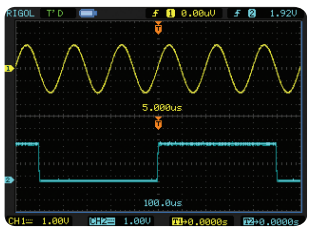
A combination of Pattern Trigger and Pulse Width Trigger capabilities make isolation of events easy

▶ Advanced trigger modes



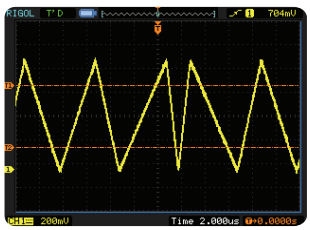
Adjustable Trigger Sensitivity

The ability to filter noise from the signal avoids false triggers



Alternate Trigger

Provides a true dual timebase display



Slope Trigger

Triggers on the signals rise time or fall time is user defined

VS5000 series Digital Oscilloscope

16-channel Logic Analyzer
1 Mpts Memory Depth

Product dimensions: width×heigh×dept=141mm×45mm×217mm weight: 0.7 kg

▶ Application Areas

- Design and debug
- Education and Training
- Service and Repair
- Field Test and service

▶ Features and Benefits

1. A true mixed signal oscilloscope with a 16 channel logic analyzer
2. 400 MSa/s Real-time Sample Rate and 25 GSa/s Equivalent-time Sample Rate
3. 1 Mpts Memory Depth
4. Ultra compact design
5. High speed USB 2.0 and LAN interfaces

Model	VS5202	VS5102	VS5062	VS5042	VS5202D	VS5102D	VS5062D	VS5042D
Bandwidth	200 MHz	100 MHz	60 MHz	40 MHz	200 MHz	100 MHz	60 MHz	40 MHz
Logic Analyzer	×				√			

▶ Specifications

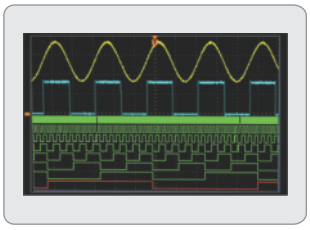
Model	VS5202	VS5102	VS5062	VS5042
Bandwidth	200 MHz	100 MHz	60 MHz	40 MHz
Memory Depth	1 Mpts (512 kpts on 2 channels)			
Channels	2 channels + external trigger			
Real-time Sample Rate	400 MSa/s			
Equivalent-time Sample Rate	25 GSa/s		10 GSa/s	5 GSa/s
Rise Time	1.8 ns	3.5 ns	5.8 ns	8.7 ns
Timebase Range	2 ns/div ~ 50 s/div		5 ns/div ~ 50 s/div	10 ns/div ~ 50 s/div
Trigger Modes	Edge, Video, Pulse Width, Slope, Alternate			

Model	VS5202D	VS5102D	VS5062D	VS5042D
Bandwidth	200 MHz	100 MHz	60 MHz	40 MHz
Memory Depth	1 Mpts (512 kpts on 2 channels) 512 kpts on Logic Analyzer			
Channels	2 channels + external trigger + 16 logic channels			
Real-time Sample Rate	400 MSa/s (200MSa/s on 2 channels), 200 MSa/s on Logic Analyzer			
Equivalent-time Sample Rate	25 GSa/s		10 GSa/s	5 GSa/s
Rise Time	1.8 ns	3.5 ns	5.8 ns	8.7 ns
Timebase Range	2 ns/div ~ 50 s/div		5 ns/div ~ 50 s/div	10 ns/div ~ 50 s/div
Trigger Modes	Edge, Pulse Width, Video, Slope, Alternate, Pattern, Duration			

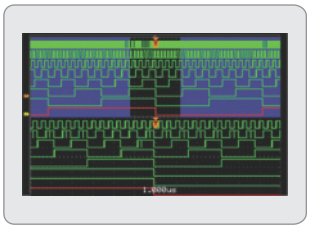
Common Parameters	
Input Impedance	1 MΩ||15 pF
Vertical Sensitivity	2 mV/div~10V/div
Maximum Input voltage	All Inputs 1 MΩ||15 pF 400V Max CATI
Connectivity	USB Device, LAN
Power Supply	AC Adpater: 100V-240 V, 50Hz-60Hz; DC 5 V/3 A

▶ Logic Analyzer Module

Logic Analyzer Module
Same MSO as the RIGOL digital oscilloscopes

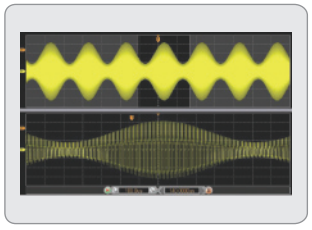


Duration Trigger
Triggers on a combination of Pattern Trigger and Pulse Width Trigger that makes isolation of events easy



Pattern Trigger
Triggers on a combination of the levels of the signal and the edges

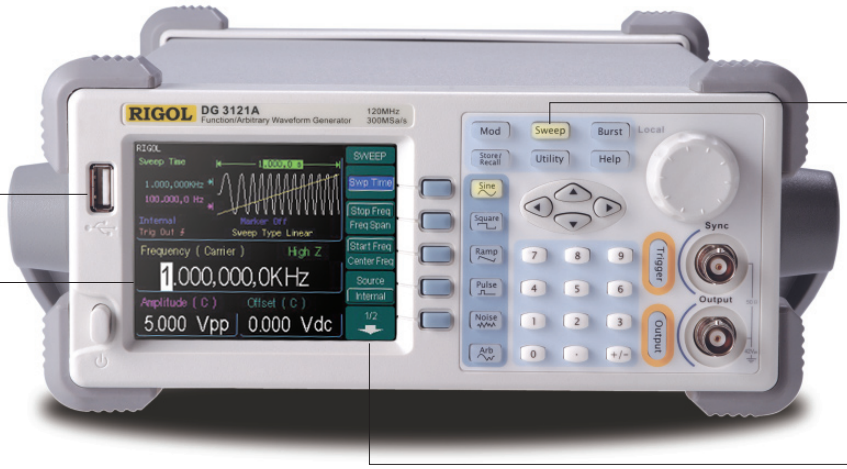
▶ UltraZoom Technology



The RIGOL Proprietary Deep Memory Technology—UltraZoom

DG3000 Series Function/Arbitrary Waveform Generators

120 MHz maximum output frequency
Optional Digital Logic Output Module
512 kpts of Waveform Length



USB Host Interface
Supports USB Flash Drives

3.8" QVGA color LCD

Built-in help system

Multi-language User Interface

Product Dimensions: Width×Height×Depth = 231mm×108mm×365mm weight: 3.5 kg

▶ Application Areas

- Simulation of Analog Sensor and Real World Signals
- In-circuit Functional Test
- Serial Bus Test
- IC Test

▶ Features and Benefits

1. The world's first Mixed Signal Generator (MSG) with 16 logic channels and 2 clock channels
2. Advanced Direct Digital Synthesis (DDS) Technology, 300 MSa/s maximum sample rate and 120 MHz maximum output frequency, 14 bits vertical resolution, 512 kpts of Waveform Length
3. Connectivity: USB Host, USB Device, LAN, GPIB and RS-232
4. Connect to RIGOL DS1000 series digital oscilloscopes directly

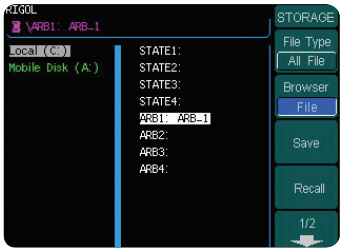
Model	DG3121A	DG3101A	DG3061A
Maximum Output Frequency	120 MHz	100 MHz	60 MHz
Connectivity	USB Device, LAN, GPIB, RS-232,USB Host		
Option	Logic Signal Output Module		

▶ Specifications

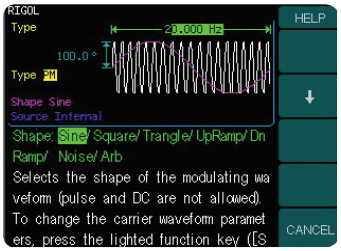
Model	DG3121A	DG3101A	DG3061A
Standard Waveform	Sine, Square, Ramp, Triangle, Pulse, White noise, DC, Index up, Index down, Sinc, Electrocardiogram		
	Frequency characteristics		
Sine	1 μHz ~ 120 MHz	1 μHz ~ 100 MHz	1 μHz ~ 60 MHz
Square	1 μHz ~ 60 MHz	1 μHz ~ 50 MHz	1 μHz ~ 30 MHz
Pulse	500 μHz ~ 30 MHz	500 μHz ~ 25 MHz	500 μHz ~ 20 MHz
Ramp	1 μHz ~ 1 MHz	1 μHz ~ 1 MHz	1 μHz ~ 1 MHz
White Noise	50 MHz bandwidth (-3dB)	40 MHz bandwidth (-3dB)	30 MHz bandwidth (-3dB)

Output Mode	
Burst	Count (1 to 65,536 periods), Infinite, gated
Sweep	Linear or Logarithmic
Amplitude Characteristics	
Amplitude	10 mVpp ~ 10 Vpp (into 50 Ω)
	20 mVpp ~ 20 Vpp (into open circuit)
Modulate Characteristics	
Mode	AM, FM, PM, FSK, PWM-internal or external
Frequency of Modulation Waveform	2 mHz ~ 20 kHz (FSK 2 mHz to 100 kHz)
Arbitrary Waveform Characteristics	
Frequency Range	1 μHz ~ 25 MHz
Waveform Length	2 pts ~ 512 kpts
Amplitude Resolution	14 bits
Sample Rate	300 MSa/s
Arbitrary Waveform Characteristics	
Connectivity	USB Host, USB Device, RS-232, LAN, GPIB
Power Supply	AC, 100-240 V, 45-440 Hz, 50 VA Max

▶ Intuitive User Interface



File System: Easy-to-use
Support USB flash drive and local files storage



Built-in Help System
Press and hold a key for 3 seconds to enter help system

▶ Logic Signal Output Module

With the Logic Signal Output Module, RIGOL DG3000 series is the worldwide first Mixed Signal Generator (MSG) featuring 16 digital data channels and 2 clock channels.

Logic Signal Output Module

▶ Optional Accessories

10W Power Amplifier PA1011

▶ Optional Accessories

BNC Cable

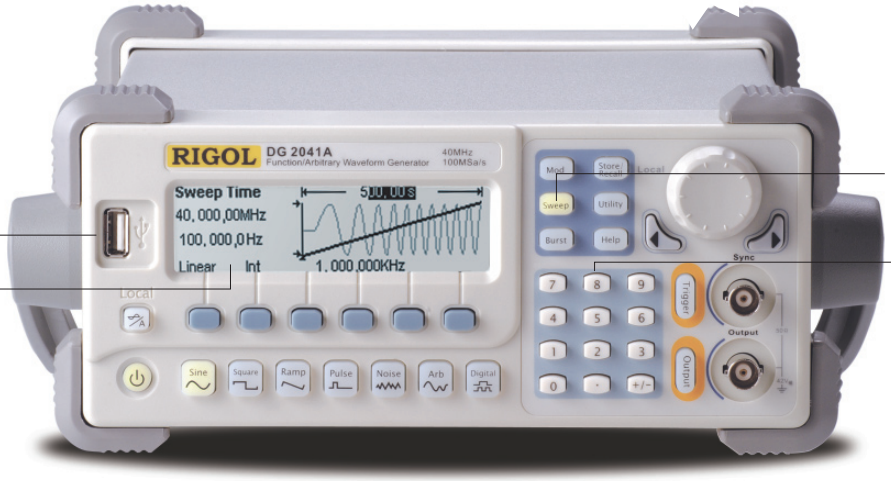
RS-232 Cable

50 Ω Impedance Adaptor

40 dB Attenuator

DG2000 Series Function/Arbitrary Waveform Generators

User Definable Arbitrary Waveform
512 kpts of Waveform Length



USB Host Interface supports USB Flash Drives

256 x 64 pixels LCD

Built-in help system

Multi-language User Interface

Product Dimensions: Width×Height×Depth = 232mm×108mm×288mm weight: 2.7 kg

▶ Application Areas

- Simulation of Analog Sensor and Real World Signals
- Education and Training
- In-circuit Functional Test
- Service and Repair

▶ Features and Benefits

1. Advanced Direct Digital Synthesis (DDS) Technology, 100 MSa/s maximum sample rate and 40 MHz maximum output frequency, 14 bits vertical resolution, 512 kpts Waveform Length
2. Connectivity: USB Host, USB Device, LAN, GPIB and RS-232, seamless connectivity with DS series digital oscilloscope
3. Integretes pulse width & setting function, PWM function.

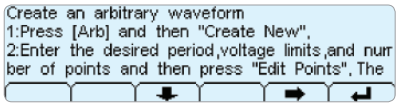
Model	DG2041A
Maximum Output Frequency	40 MHz
Connectivity	USB Device, LAN, GPIB, RS-232,USB Host

▶ Specifications

Model	DG2041A
Standard Waveform	Sine, Square, Ramp, Triangle, Pulse, White noise, DC, Index up, Index down, Sinc, Electrocardiogram
Frequency characteristics	
Sine	1 μHz ~ 40 MHz
Square	1 μHz ~ 40 MHz
Pulse	500 μHz ~ 16 MHz
Ramp	1 μHz ~ 400 kHz
White Noise	20 MHz bandwidth (-3dB)
Arbitrary Waveform Characteristics	
Frequency Range	1 μHz ~ 12 MHz
Waveform Length	2 pts ~ 512 kpts
Amplitude Resolution	14 bits
Sample Rate	100 MSa/s

Amplitude Characteristics	
Amplitude	20 mVpp ~ 10 Vpp (into 50 Ω)
	40 mVpp ~ 20 Vpp (into open circuit)
Modulation Characteristics	
Modulation Mode	AM, FM, PM, FSK, PWM-internal or external
Frequency of Modulation Waveform	2 mHz ~ 20 kHz (FSK 2 mHz to 100 kHz)
Output Mode	
Burst	Count (1 to 1,000,000 periods), Infinite, Gate
Sweep	Linear or Logarithmic
Other Parameters	
Connectivity	USB Host, USB Device, RS-232, LAN, GPIB
Power Supply	AC:100V-240V, 45Hz-440 Hz, 50VA Max

▶ Intuitive User Interface



Built-in Help System
Easy access to Built-in help system by pressing and holding the key for 3 seconds

File System
Easy to Use file system supports USB Flash Memory and local file storage

▶ Optional Accessories

10W Power Amplifier PA1011

BNC Cable

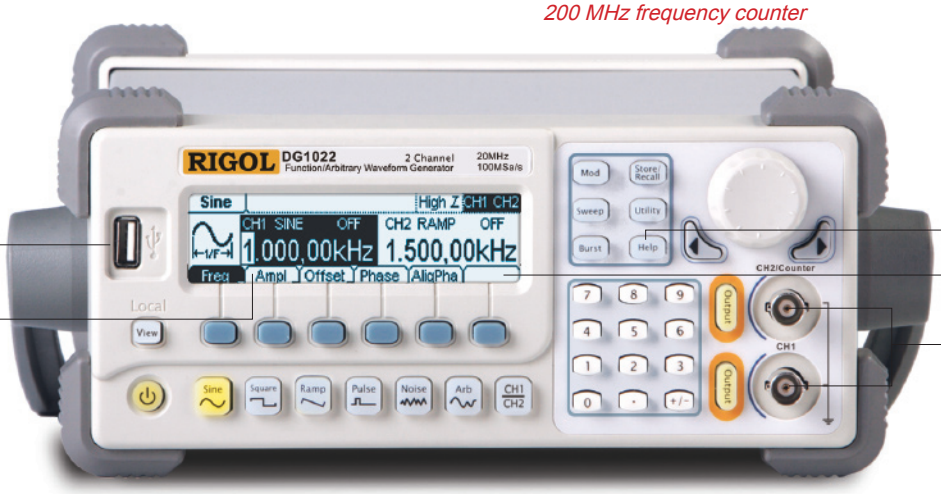
RS-232 Cable

50 Ω Impedance Adaptor

40 dB Attenuator

DG1000 Series Function/Arbitrary Waveform Generators

20 MHz maximum output frequency
100 MSa/s maximum sample rate
200 MHz frequency counter



USB Host Interface supports USB Flash Drives

256 x 64 pixels LCD

Built-in help system

Multi-language User Interface

2 analog channels output

Product Dimensions: Width×Height×Depth = 232mm×108mm×288mm weight: 2.7 kg

▶ Application Areas

- Simulation of Analog Sensor and Real World Signals
- Education and Training
- In-circuit Functional Test
- Service and Repair

▶ Features and Benefits

1. Advanced Direct Digital Synthesis (DDS) Technology, 2 analog channels output, 20 MHz maximum output frequency
2. 100 MSa/s maximum sample rate, 14 bits vertical resolution, 4 kpts Waveform Length
3. Built-in high precise counter, the frequency is up to 200 MHz
4. Connectivity: USB Device and USB Host
5. Connect to RIGOL DS1000 series digital oscilloscopes directly

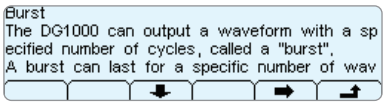
Model	DG1022	DG1012
Maximum Output Frequency	20 MHz	15 MHz
Connectivity	USB Host, USB Device	

▶ Specifications

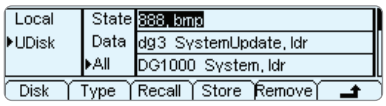
Model	DG1022	DG1012
Standard Waveform	Sine, Square, Ramp, Pulse, White Noise and 48 kinds of built-in arbitrary function waveforms	
Frequency characteristics		
Sine	1 μHz ~ 20 MHz	1 μHz ~ 15 MHz
Square	1 μHz ~ 5 MHz	1 μHz ~ 4 MHz
Pulse	500 μHz ~ 3 MHz	500 μHz ~ 2 MHz
Ramp	1 μHz ~ 150 kHz	
White Noise	5 MHz bandwidth (-3dB)	
Arbitrary Waveform	1 μHz ~ 5 MHz	1 μHz ~ 4 MHz

Channel	CH1	CH2
Arbitrary Waveform Characteristics		
Waveform Length	2 pts ~ 4 kpts	2 pts ~ 1 kpts
Amplitude Resolution	14 bits	10bits
Sample Rate	100 MSa/s	
Amplitude Characteristics		
Amplitude	2 mVpp ~ 10 Vpp (into 50 Ω)	2 mVpp ~ 3 Vpp (into 50 Ω)
	4 mVpp ~ 20 Vpp (into open circuit)	4 mVpp ~ 6 Vpp (into open circuit)
Modulation characteristics (CH1)		
Modulation Mode	AM, FM, PM, FSK-internal or external	
Frequency of Modulation Waveform	2 mHz ~ 20 kHz (FSK 2mHz to 50kHz)	
Counter		
Range	100 mHz~200 MHz	
Output Mode		
Burst (CH1)	Count (1 to 50,000 periods) Infinite, Gate	
Sweep (CH1)	Linear or Logarithmic	
Other Parameters		
Connectivity	USB Host, USB Device	
Power Supply	AC: 100V-240V, 45Hz-440Hz, 40VA Max	

▶ Intuitive User Interface



Built-in Help System
Easy access to Built-in help system by pressing and holding the key for 3 seconds



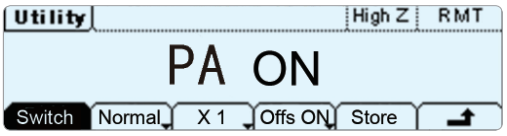
File System
Easy to Use file system supports USB Flash Memory and local file storage

▶ Optional Accessories

BNC Cable

50 Ω Impedance Adaptor

40 dB Attenuator



10W Power Amplifier PA1011

PA1011 Power Amplifier: 10W maximum power output, 1 MHz full power bandwidth, 50kΩ high input impedance. Adjustable amplifier gain (×1 or ×10), adjustable output polarity (normal or revert), adjustable output offset (-12V ~ +12 V). It has Seamless connectivity with DG1000 through USB. Easy to operate, integrates output protection circuit (Output over-current protection, temperature over-heats protection) ensure a stable reliable, safe work condition.

VG1000 Series Virtual Function/Arbitrary Waveform Generators

Product Dimensions: Width×Height×Depth=142mm×48mm×215mm Weight: 0.7 kg

▶ Application Areas

- Simulation of Analog Sensor and Real World Signals
- Education and Training
- In-circuit Functional Test
- Service and Repair

▶ Features and Benefits

1. Advanced Direct Digital Synthesis (DDS) Technology, 20 MHz maximum output frequency
2. 100 MSa/s maximum sample rate, 14 bits vertical resolution, 4 kpts Waveform Length
3. Built-in counter offers high accuracy up to 200 MHz
4. Connectivity: USB Device, LAN

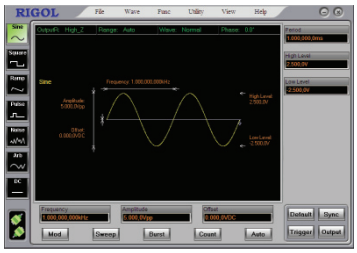
Model	VG1021
Maximum Output Frequency	20 MHz
Connectivity	USB Device, LAN

▶ Specifications

Model	VG1021
Standard Waveforms	Sine, Square, Ramp, Pulse, White Noise
Frequency characteristics	
Sine	1μHz ~ 20MHz
Square	1μHz ~ 5MHz
Pulse	500μHz ~ 3MHz
Ramp	1μHz ~ 150kHz
White Noise	5MHz Bandwidth (-3dB)
Arbitrary Waveform	1μHz ~ 5MHz

Arbitrary Waveform Characteristics	
Waveform Length	2 pts ~ 4 kpts
Amplitude Resolution	14 bits
Sample Rate	100 MSa/s
Amplitude Characteristics	
Amplitude	2 mVpp ~ 10 Vpp (into 50 Ω)
	4 mVpp ~ 20 Vpp (into open circuit)
Modulation characteristics	
Modulation Mode	AM, FM, PM, FSK-internal or external
Frequency of Modulation Waveform	2 mHz ~ 20 kHz (FSK 2mHz to 50kHz)
Counter	
Range	100 mHz~200 MHz
Output Mode	
Burst	Count (1 to 50,000 periods) Infinite, Gate
Sweep	Linear or Logarithmic
Other Parameters	
Connectivity	USB Device, LAN
Power Supply	AC:100V-240V, 45Hz-440Hz, 40VA Max

▶ Intuitive User Interface



The supplied PC-control software is powerful yet easy to operate. The intuitive interface and controls makes the software easy to learn and easy to use.

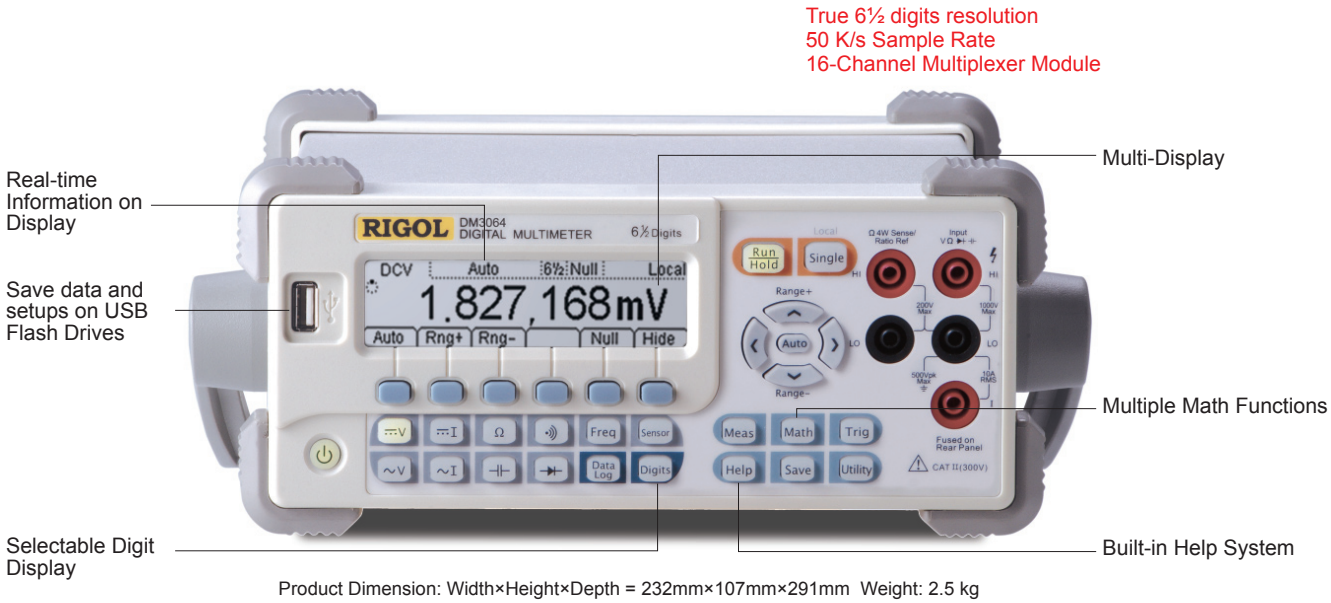
▶ Optional Accessories

BNC Cable

50 Ω Impedance Adaptor

40 dB Attenuator

DM306X series 6½ Digital Multimeter



Product Dimension: Width×Height×Depth = 232mm×107mm×291mm Weight: 2.5 kg

▶ Application Areas

- Manufacturing Test
- High Speed, High Resolution Data Acquisition
- Signal Monitoring
- Aging Test
- User Defined Test (Support most sensors)

▶ Features and Benefits

1. True 6½ digits resolution (2,400,000-count)
2. Up to 50 K/s Sample Rate, 512 K of Non-volatile Memory, and 2 M of Volatile Memory
3. Patented Any Sensor test capability
4. Up to 16 Channels Multiplexer Module: Date acquisition, scanning and programmable automatic measurement
5. 256×64 pixels LCD display, to support multi-display and screen menu
6. Connectivity: RS-232, USB Host, USB Device, GPIB (optional), LAN (optional)

Model	DM3061	DM3062	DM3064
Maximum Output Frequency	6½ digits		
Connectivity	RS-232, USB Host, USB Device	Plus LAN and GPIB	Plus LAN, GPIB and Multiplexer Module

▶ Specifications

Measurement Function	Range	Frequency Range/ Test Current	Accuracy:
			1 Year±(% of reading + % of range)
DC Voltage	200 mV~1000 V		0.0045+0.0005
AC Voltage (True RMS)	200 mV~750 V	3 Hz~300 kHz	0.08+0.06
DC Current	2 mA~10 A		0.065+0.008
AC Current (True RMS)	20 mA~10 A	3 Hz~10 kHz	0.18+0.06

Measurement Function	Range	Frequency Range / Test Current	Accuracy:
			1 Year±(% of reading + % of range)
Resistance(2-wire and 4-wire)	200 Ω~100 MΩ		0.014+0.001
Capacitance	2 nF~200 uF		1+0.5
Diode	2.4 V	1 mA	0.020+0.030
Continuity	2000 Ω	1 mA	0.020+0.020
Frequency,Period Accuracy	200 mV~750 V	3 Hz~300 kHz	0.02
±(% of reading)			

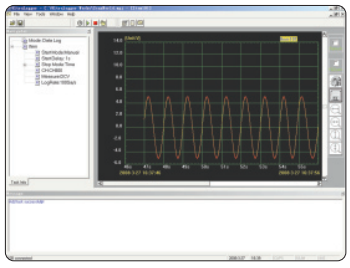
▶ Other Parameters

24 Measurement Functions	DC voltage and current, AC voltage and current, 2-wire and 4-wire Resistance, Capacitance, Continuity Test, Diode
Functions	Test, Frequency, Period, Ratio Test , Temperature and Any Sensor Test
	Math Functions: Max, Min, Avg, High Limit, Low Limit, dBm, dB, Null
	Data acquisition: data logging, scanning, auto test
Other Functions	Built-in memories: Store up to 10 Setups, 10 Data records and 10 Sensor descriptions
	True RMS AC voltage and current
	Input impedance >10 GΩ
	DC voltage range up to 48 V (± 24 V)
Application Software	UltraLogger: For scan measurement and data acquisition control
	UltraSensor: For any sensors measurement
Maximum Input	DC voltage 1,000 VDC, AC voltage 750 Vrms AC, DC and AC max external current 10 A, internal 12 A double fuses
Safety	Measurement of CAT II 300V, CAT I 1000V, Pollution level 1
Shock and Vibration	MIL-T-28800E, type III, class 5 (only sine)
Power Supply	AC 100V-120V / 200V-240V,45Hz - 65Hz, 20VA Max

▶ Other Parameters

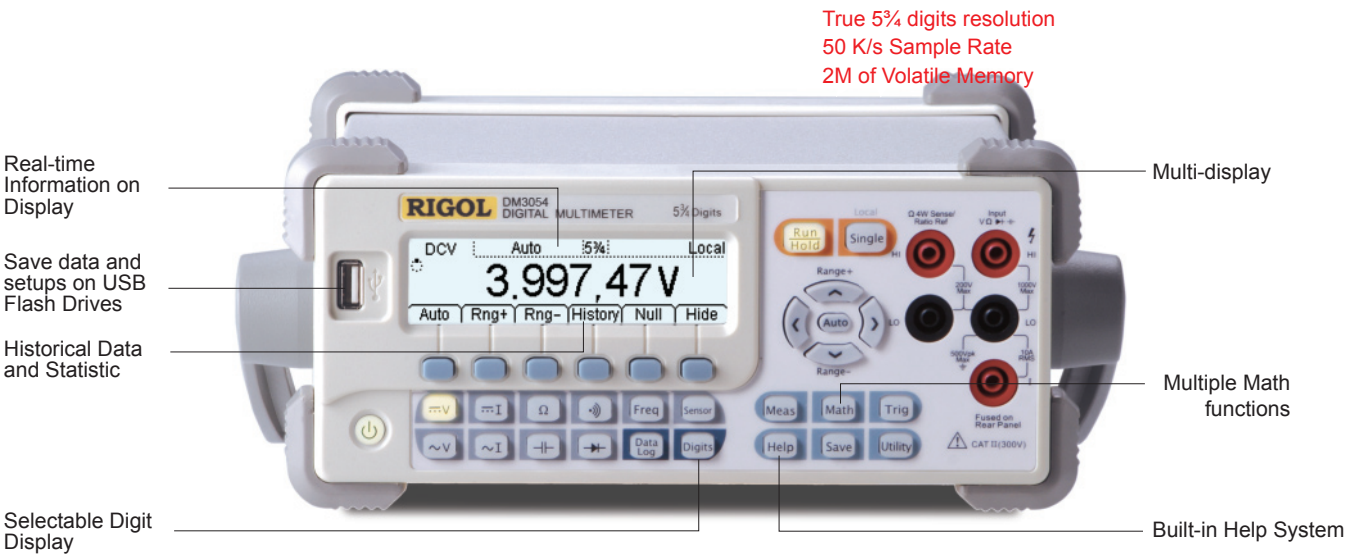
The module provides up to 16 channels of acquisition. The easy to use software allows the user to scan any or all of the 16 channels and save the data into the memory.

Multiplexer Module



UltraLogger Software Interface

DM305X series 5¾ Digital Multimeter



Product Dimension: Width×Height×Depth = 232mm×107mm×291mm Weight: 2.5 kg

▶ Application Areas

- Manufacturing Test
- Signal Monitoring
- High Speed, High Resolution Data Acquisition
- Aging Test
- User Defined Test (Support most sensors)

▶ Features and Benefits

1. True 5¾ digits resolution (480,000-count)
2. Up to 50 K /s Sample Rate, 512 K of Non-volatile Memory and 2 M of Volatile Memory
3. Patented Any Sensor test capability
4. Up to 16 Channels Multiplexer Module: Data acquisition, scanning and programmable automatic measurements
5. 256×64 pixels LCD display, to support multi-display and screen menu
6. Connectivity: RS-232, USB Host, USB Device, GPIB (optional), LAN (optional)

Model	DM3051	DM3052	DM3054
Maximum Output Frequency	5¾ digits		
Connectivity	RS-232, USB Host, USB Device	Plus LAN and GPIB	Plus LAN, GPIB and Multiplexer Module

▶ Specifications

Measurement Function	Range	Frequency Range/Test Current	Accuracy: 1 Year ±(% of reading + % range)
DC Voltage	400 mV~1000 V	10Hz~100 kHz	0.025+0.006
AC Voltage (True RMS)	200 mV-~750 V		0.20 + 0.1
DC Current	2 mA-~10 A	10Hz~10 kHz	0.050+0.008
AC Current (True RMS)	20 mA~10 A		0.5+0.1

Measurement Function	Range	Frequency Range/ Test Current	Accuracy:
			1 Year ±(% of reading + % range)
Resistance (2-wire and 4-wire)	400 Ω~100 MΩ		0.015+0.006
Capacitor	4 nF~200 uF		1+0.5
Diode	2.4 V	1mA	0.05 + 0.010
Continuity	2000 Ω	1 mA	0.05 + 0.010
Frequency,Period Accuracy ±(% of reading)	200 mV ~ 750 V	3 Hz~300 kHz	0.02
	20 mA ~10 A	3 Hz~10 kHz	0.02

Note: All the indicators are the typical value under standard test situation

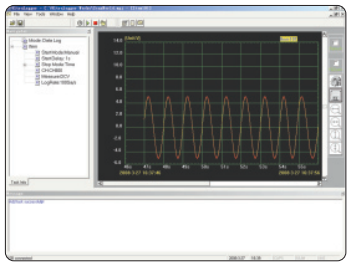
▶ Other Parameters

24 Measurement Functions	DC voltage and current, AC voltage and current, 2-wire and 4-wire Resistance, Capacitance, Continuity Test, Diode Test, Frequency, Period, Ratio Test and Any Sensor Test
	Math Functions: Max, Min, Avg, Histogram, High Limit, Low Limit, dBm, dB, Null
	Data acquisition: data logging, scanning
Other Functions	Built-in memories: Store up to 10 Setups, 10 Data records and 10 Sensor descriptions
	True RMS AC voltage and current
	Input impedance >10 GΩ
	DC voltage range up to 48 V (± 24 V)
Application Software	UltraLogger: For scan measurement and data acquisition control
	UltraSensor: For any sensors measurement
Maximum Input	DC voltage 1,000 VDC, AC voltage 750 Vrms AC, DC and AC max external current 10 A, internal 12 A double fuses
Safety	Measurement of CAT II 300V, CAT I 1000V, Pollution level 1
Shock and Vibration	MIL-T-28800, type III, class 5 (only sine)
Power Supply	AC: 100V-240V±10%, 45Hz-65Hz, 20VA Max

▶ Multiplexer Module

The module provides up to 16 channels of acquisition. The easy to use software allows the user to scan any or all of the 16 channels and place the data into the memory.

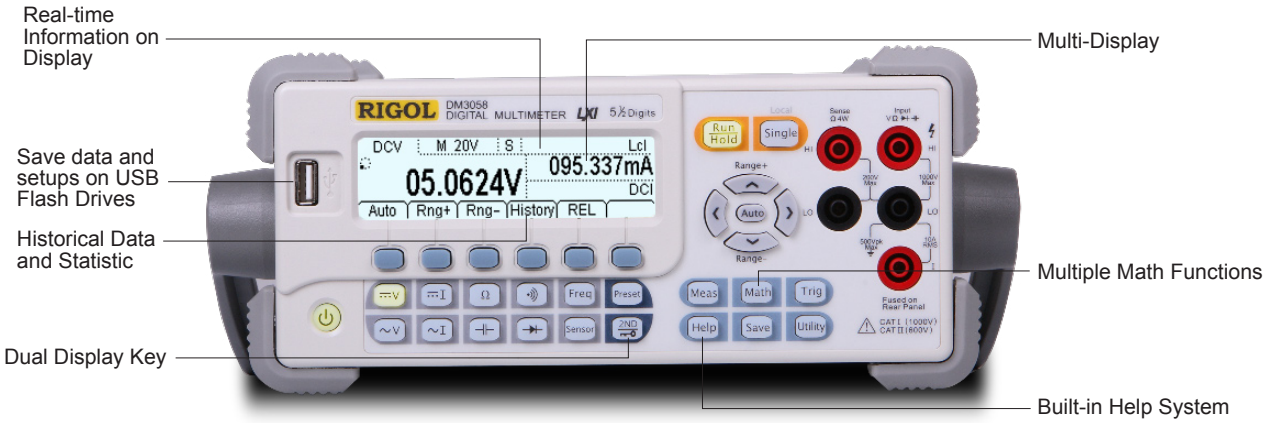
Multiplexer Module



UltraLogger Software Interface

DM3058 Digital Multimeter

GP-IB, LXI, RS-232 and USB (Host and Device interfaces)
Fastest and the most accurate 5½ digit DVM in its class



Product Dimension: Width×Height×Depth = 232mm×107mm×291mm Weight: 2.5 kg

▶ Application Areas

- Manufacturing Test
- Scientific research and Education
- Quality Test
- Maintenance
- Laboratory

▶ Features and Benefits

1. True 5½ digits resolution(240,000-count)
2. 123 rdgs/s Maximum Reading Speed
3. 0.015% accuracy of DC Voltage
4. Command compatibility: Replace mainstream DMM randomly via the compatibility of their command
5. Patented Any Sensor test capability
6. 256×64 pixels LCD display, to support multi-display and screen menu
7. Connectivity: GPIB, LAN(LXI Class C), RS-232, USB Host and USB Device

▶ Specifications

Measurement Function	Range	Frequency Range/Test Current	Accuracy: 1 Year ± (%of reading +%of range)
DC Voltage	200 mV ~ 1000 V		0.015 + 0.003
DC Current	200 uA ~ 10 A		0.055+0.005
AC Voltage (RMS)	200 mV ~ 750 V	20 Hz ~ 100 kHz	0.20 + 0.05
AC Current (RMS)	20 mA ~ 10 A	20 Hz ~ 10 kHz	0.30+0.10

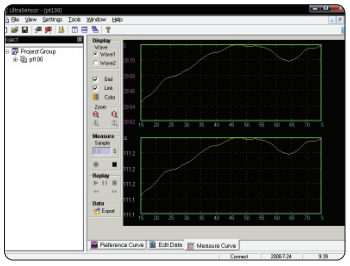
Measurement Function	Range	Frequency Range/Test Current	Accuracy:1 Year ± (%of reading +%of range)
Resistance	200 Ω ~ 100 MΩ		0.020 + 0.003
(2-wire and 4-wire)			
Capacitance	2 nF ~ 10000 uF		1 + 0.5
Diode	2.4 V	1 mA	0.05 + 0.01
Continuity	2 kΩ	1 mA	0.05 + 0.01
Frequency and Period	200 mV ~ 750 V	20 Hz ~ 1 MHz	0.01+0.003

Note: All the indicators are the typical value under standard test situation

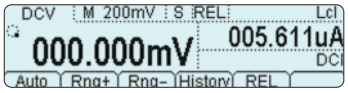
▶ Other Parameters

Measurement Function	DC Voltage, DC Current, AC Voltage (RMS), AC Current (RMS), Resistance (2-wire and 4-wire), Capacitance, Diodes, Frequency and Period, Continuity, Short Current, Any Sensor
Math	"Pass/Fail" Limit Test, Standard Deviation, Histogram, Relatively, Null, Max/Min/Avg, dBm, dB
Other Functions	Built-in 10 groups of configuration storage,10 groups of configuration storage of any sensor, 2048 historical reading data record and check, 10 groups of historical datum storage, Exterior trigger input and VMC output, Reading hold, Single trigger
Display Characteristic	Multi-display, Menu, Multi-language help and Waveform display
Safety	CAT I 1000 V/CAT II 600 V, Pollution level 2
Shock and Vibration	MIL-T-28800E, type III, class 5 (sine)
Power Supply	AC 100 V ~ 120 V 45 Hz ~ 440 Hz
	AC 200 V ~ 240 V 45 Hz ~ 66 Hz
	20 VA Max

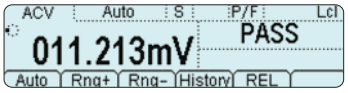
▶ Advanced Performance



Ultrasensor Software Interface



Pass / Fail



Multi-Display

DP1308A Programmable DC Power Supply

Product Dimension: Width×Height×Depth = 235mm×155mm×384mm Weight: 8.5 kg

▶ Application Areas

- Product Research and Development
- Telecommunication
- Industry Control
- Mobile Communication
- Radio and TV Broadcasting

▶ Features and Benefits

1. 4.3 inch 16M TFT LCD with 480×272 resolution displays information clearly
2. Each Channel is programmable and can be operated alone or simultaneously, total output power up to 80W
3. High performance, powerful functions, intuitive user interface, outstanding value
4. Comprehensive self-protection mechanism, includes OVP, OCP, OTP
5. Support USB flash drive, easy for storage and recall of system configuration
6. Completed Connectivity: USB Device, USB Host, LAN (LXI-C Class), GPIB
7. Industry leading programming control design, supports SCPI, LXI-C certified

▶ Specifications

Model	DP1308A		
Channel	+6V	+25V	-25V
DC Output (0°C to 40°C)			
Voltage	0~+6V	0~ + 25V	0 ~ -25V
Current	0~5A	0~1A	0 ~ 1A
Over-voltage Protection	0.1V ~ 6.5V	0.1V ~ 27V	-0.1V ~ -27V
Over-current Protection	0.1A ~ 5.5A	0.1A ~ 1.2A	0.1A ~ 1.2A
Load Regulation ± % of output + offset			
Voltage	<0.01%+2mV		
Current	<0.01%+250μA		
Line Regulation ± % of output + offset			
Voltage	<0.01%+2mV		
Current	<0.01%+250μA		

Ripple and Noise (20Hz ~ 20MHz)			
Normal Mode Voltage		<350 μVrms / 2mVpp	
Normal Mode Current		<2 mArms	<500 μArms
Common Mode Current		<1.5 μArms	
Accuracy[N] 12 Months (25°C + 5°C), ± (% of output + offset)			
Programme	Voltage	0.1%+5mV	0.05%+20mV
	Current	0.2%+10mA	0.15%+4mA
Readback	Voltage	0.1%+5mV	0.05%+10mV
	Current	0.2%+10mA	0.15%+4mA
Resolution			
Programme		0.5mV / 0.5mA	1.5mV / 0.1mA
Readback		0.5mV / 0.5mA	1.5mV / 0.1mA
Electric Meter		1mV / 1mA	10mV / 1mA
Instant Response Time			
When output current change from FULL load to HALF load, or from HALF load to FULL load, the output voltage takes less than 50μs to restore to 15mV or less			
Temperature Coefficient per°C (%output + offset)			
Voltage		0.01%+2mV	0.01%+3mV
Current		0.02%+3mA	0.01%+0.5mA
Power			
AC input (50Hz - 60Hz)		100Vac ± 10%,115Vac ± 10%, 220Vac ± 10%, 230Vac ± 10%	

[N]: At 25°C after 1 hour of warming up.

▶ Advanced Performance

4.3 inch 16M TFT LCD with 480x272 resolution offers the best view experience in its class.

Each channel can be set for timing output users can turn on this function and simulate the real power status through voltage, current and time settings.

Waveform display function shows the Voltage/Current waveform in real-time, combines numeric display of voltage, current and power value in an easy view

DP1308A supports voltage track mode. Any change of the signal in proper range will be reflected in the other channels.

DP1308A supports 4 groups of system setting storage and recall

Product specifications and descriptions subject to change without notice.

RIGOL

RIGOL TECHNOLOGIES,INC.
Address: 156# Cai He Village, Sha He Town,
Chang Ping District, Beijing, China
Post Code: 102206
Tel: (8610) 8070 6688
Fax: (8610) 8070 5070
E-mail: oversea_sales@rigol.com
Http: //www.rigolna.com

For further information, please contact
RIGOL local distributors.