

RIGOL
Beyond Measure

PRODUCT CATALOG



PRODUCT 2008 CATALOG

RIGOL TECHNOLOGIES, INC.

Company Introduction

RIGOL Technologies, Inc. is an emerging test and measurement company. RIGOL's current products include Digital Storage Oscilloscopes, Digital Function/Arbitrary Waveform Generators, Virtual Instruments and more.

RIGOL is the fellow member of China Electronic Instrument Industry Association, China Instrument & Control Society and the informative member of LXI Consortium.

RIGOL is an ISO9001:2000 Quality Management System and ISO14001:2004 Environmental Management System Certified company. We currently have 400 employees and continue to grow, most of our employees are at our 19 Acres (8 Hectares) RIGOL Technology Campus in Beijing, over 100 R&D engineers are working on future products. We have 10 sales and service offices in China along with a branch office in North America, we offer products and services in 55 countries and regions worldwide.

Customers' success, People Excellence, Innovation and Professionalism have been RIGOL's core values. We focus on our customers' current and future needs by creating innovative products and deliver great value. Our goal is to be the partner of choice in test and measurement solutions and services.

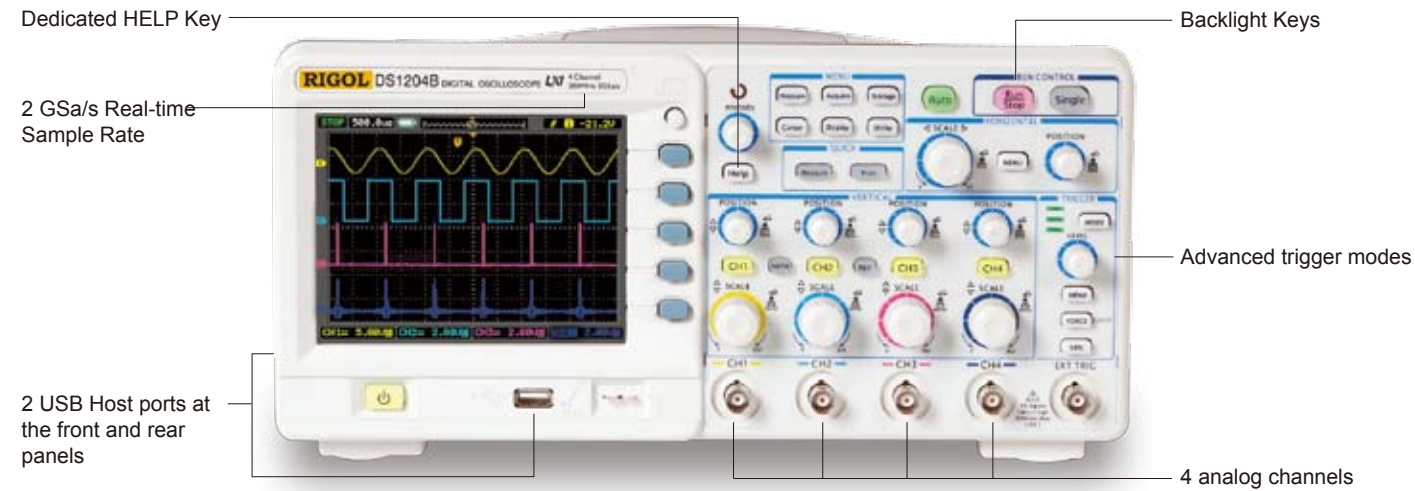
RIGOL Milestones

Jul	1998	RIGOL was founded.
May	1999	Our 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.



DS1000B Series LXI Class C Compliant Digital Oscilloscope

4 analog channels
2 GSa/s Real-time Sample Rate

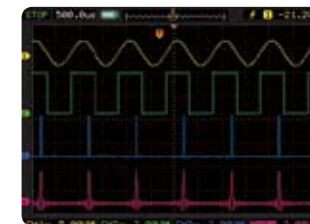


Product Dimensions: Width×Height×Depth=325mm×159mm×133mm Weight:3 kg

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: 100-127V, 45Hz-440Hz; 100-240V, 45Hz-65Hz. 60VA Max

"half channel" means only one channel from CH1 and CH2 can be chosen or from CH3 and CH4

▶ 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

▶ 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

▶ Intuitive User Interface and Front Panel Design



Independent Channel Control
4 analog channel 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



Easy Select Trigger Mode
To easily switch the trigger modes

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

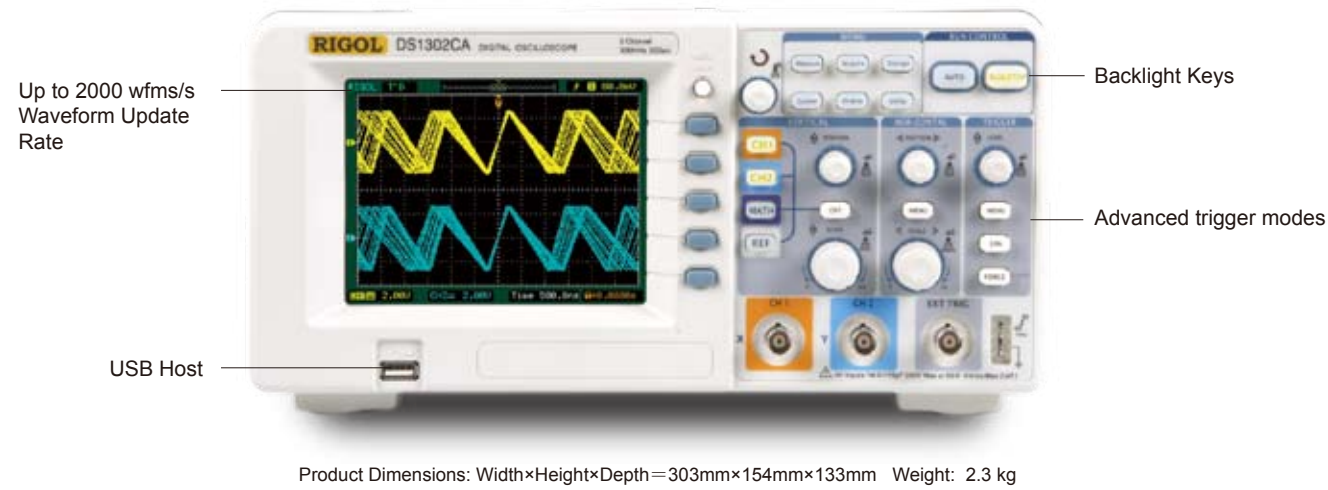
Model	DS1204B	DS1104B	DS1064B
Bandwidth	200 MHz	100 MHz	60 MHz

▶ 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		

DS1000CA Series Digital Oscilloscope

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



► 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, Direct Print and direct system upgrades

Model	DS1302CA	DS1202CA	DS1102CA	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

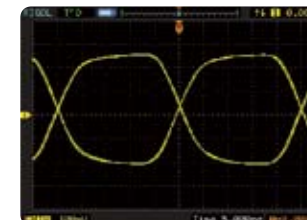


File System
Easy to Use file system supports USB flash drive and local file storage

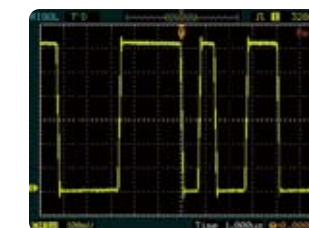


Built-in Help System
Easy access to the Built-in help system by pressing and holding the key for 3 seconds

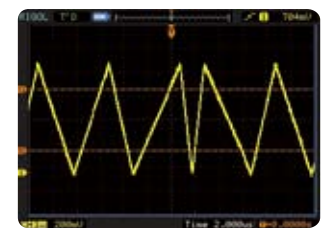
► Advanced trigger modes



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



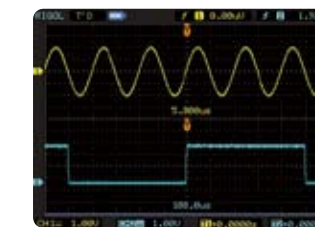
Pulse Width Trigger
Triggers on the conditions of special pulses



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	100 MHz	50 MHz	100 MHz	50 MHz
Logic Analyzer		x		√

► Specifications

Model	DS1102E	DS1052E
	DS1102D	DS1052D
Bandwidth	100 MHz	50 MHz
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

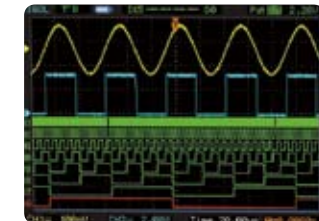
Memory Depth	Channel Mode	Sample Rate	Normal Memory	Long Memory
	Single Channel	1GSa/s	16 kpts	N.A.
	Single Channel	500MSa/s or lower	16 kpts	1Mpts
	Dual Channels	500MSa/s or lower	8 kpts	512 kpts
Timebase Range	2 ns/div ~ 50s/div		5 ns/div ~ 50s/div	
Trigger Modes	Edge, Video, Pulse Width, Slope, Alternate			
Vertical Resolution	8 bits			
Vertical Sensitivity	2 mV/div ~ 10V/div			
Maximum Input Voltage	All inputs 1MΩ 15pF 300V RMS CAT I			
Input Coupling	DC, AC, GND			
Roll Range	500ms/div ~ 50s/div			
Cursor Measurements	Manual, Track and Auto Measure modes			
Math	+, -, x, FFT			
Internal Strobe	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	200MSa/s (each channel)			
Record Length	512 kpts (each channel)			
Trigger Modes	Pattern, Duration			
Threshold Selections	TTL=1.4V, CMOS=2.5V, ECL=-1.3V, USER=-8V to + 8V			

► 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

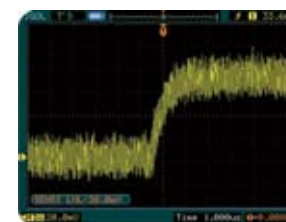


Pattern Trigger
The trigger condition is a combination of the level of the signal and the edge



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

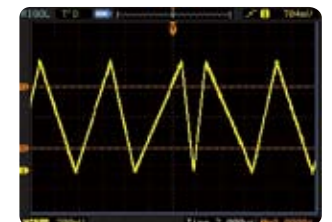
► Advanced trigger modes



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×height×depth= 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			x				√	

► 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			

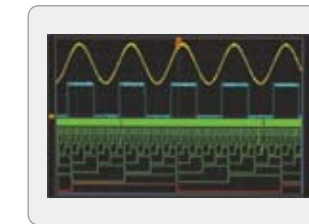
Common Parameters

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

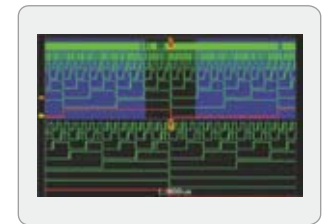
► Logic Analyzer Module



Logic Analyzer Module
Same MSO as the RIGOL digital oscilloscopes

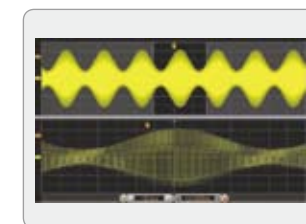


Duration Trigger
Triggers on a combination of Pattern Trigger and Pulse Width Trigger that makes isolation of events easy



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

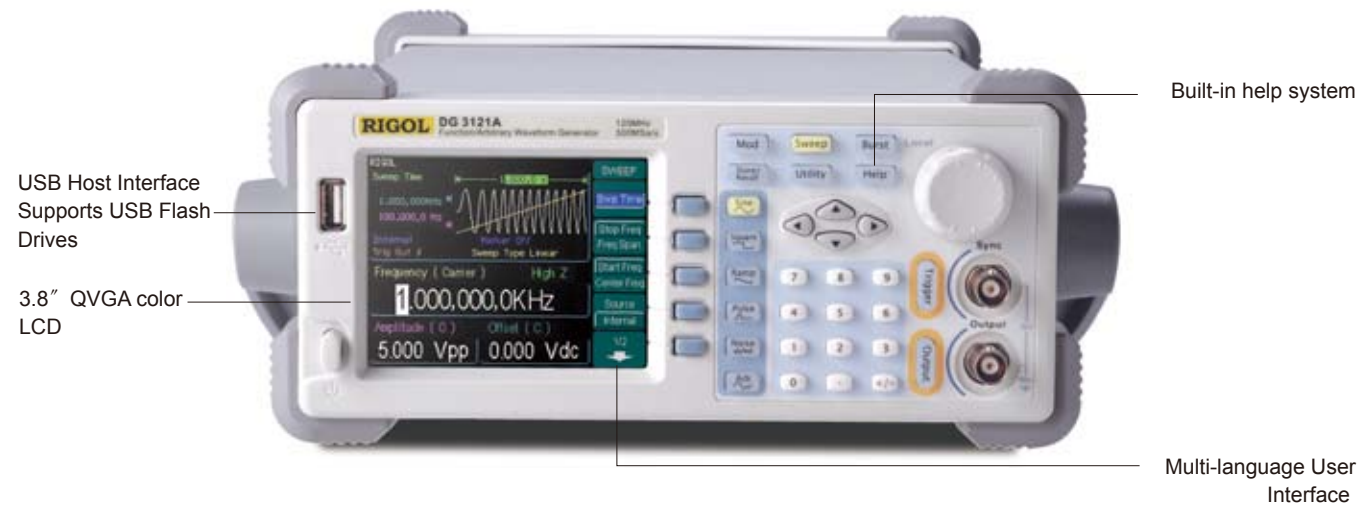
► UltraZoom Technology



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



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

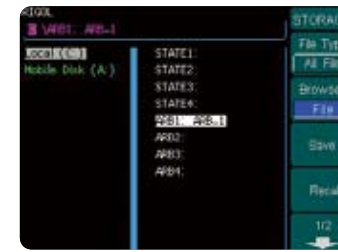
Model	DG3121A	DG3101A	DG3061A
Maximum Output Frequency	120 MHz	100 MHz	60 MHz
Connectivity	USB Device, LAN, GPIB, RS-232, USB Host		
Option	Logic Signal Output Module		

Specifications

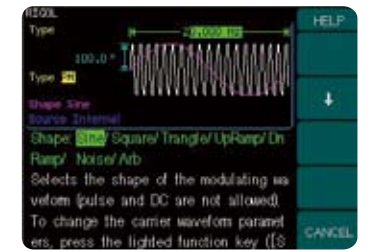
Model	DG3121A	DG3101A	DG3061A
Standard Waveform	Sine, Square, Ramp, Triangle, Pulse, White noise, DC, Index up, Index down, Sinc, Electrocardiogram		
Frequency characteristics			
Sine	1 μHz ~ 120 MHz	1 μHz ~ 100 MHz	1 μHz ~ 60 MHz
Square	1 μHz ~ 60 MHz	1 μHz ~ 50 MHz	1 μHz ~ 30 MHz
Pulse	500 μHz ~ 30 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 current 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



BNC Cable



RS-232 Cable



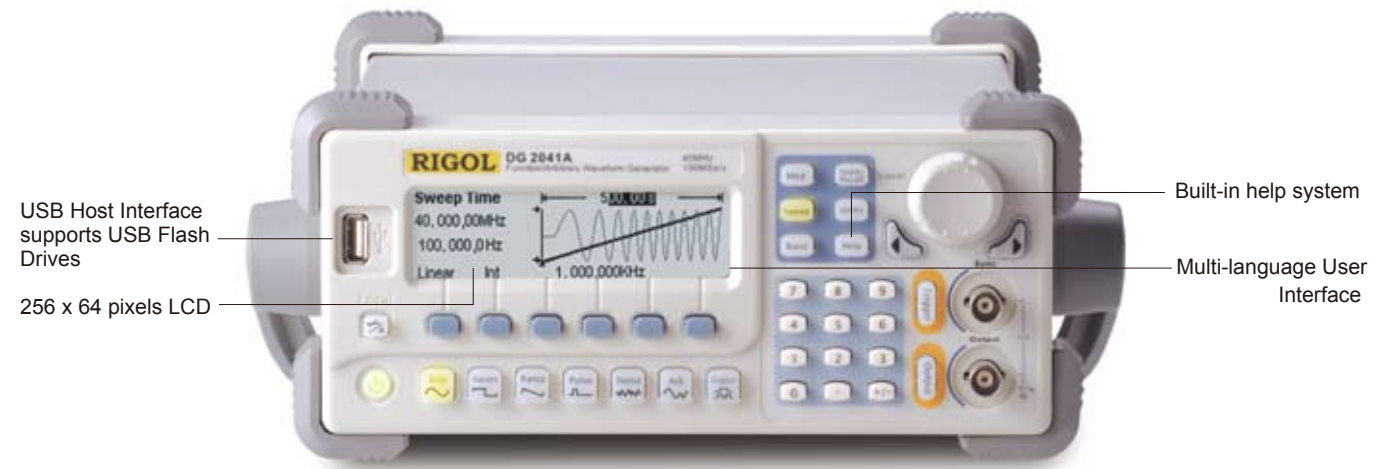
50 Ω Impedance Adjuster



40 dB Attenuator

DG2000 Series Function/Arbitrary Waveform Generators

**User Definable Arbitrary Waveform
512 kpts of Waveform Length**



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
3. Connect to RIGOL DS1000 series digital oscilloscopes directly

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 k pts
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

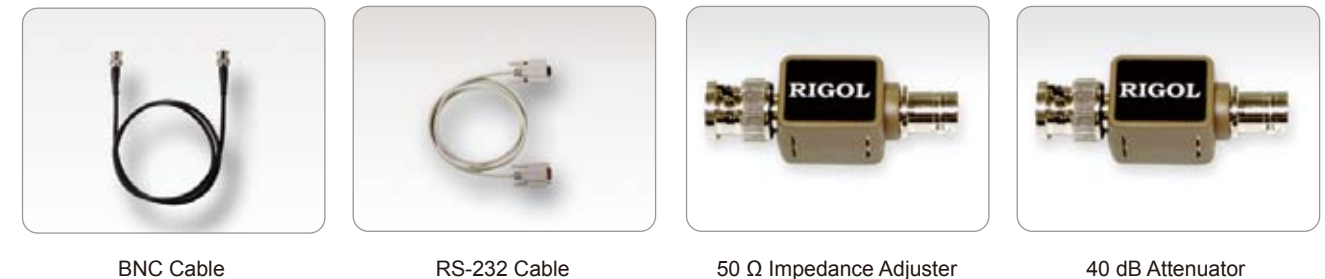
Create an arbitrary waveform
1. Press [Arb] and then "Create New".
2. Enter the desired period, voltage limits, and number of points and then press "Edit Points". The

Local	State	0 test
UDisk	Data	
	All	
Disk	Type	Recall Store Remove

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

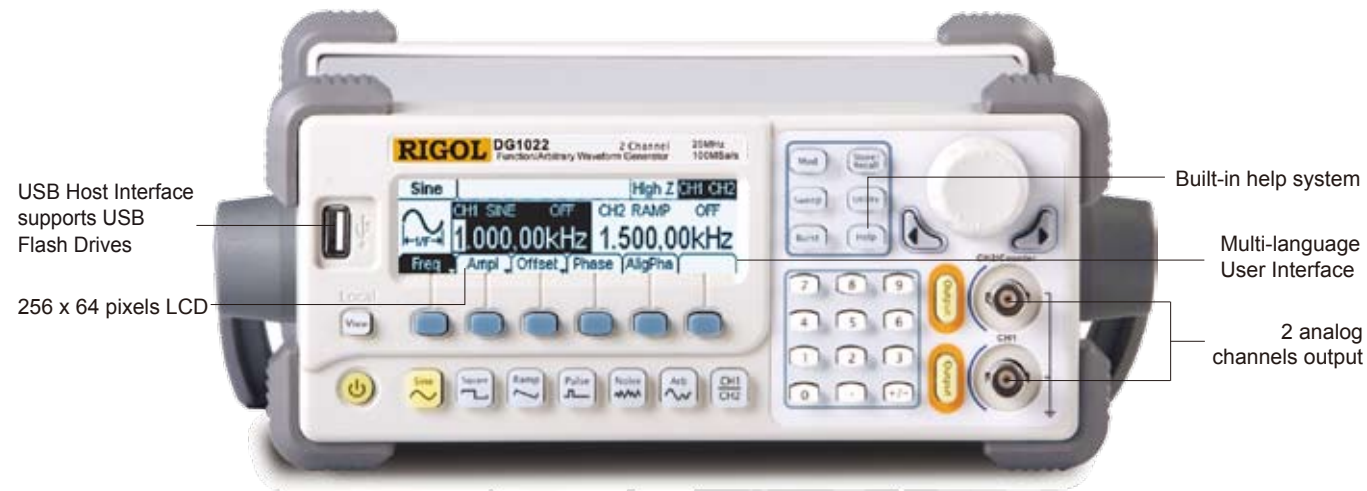
File System
Easy to Use file system supports USB Flash Memory and local file storage

Optional Accessories



DG1000 Series Function/Arbitrary Waveform Generators

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



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

- Advanced Direct Digital Synthesis (DDS) Technology, 2 analog channels output, 20 MHz maximum output frequency
- 100 MSa/s maximum sample rate, 14 bits vertical resolution, 4 kpts Waveform Length
- Built-in high precise counter, the frequency is up to 200 MHz
- Connectivity: USB Device and USB Host
- 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 Waveforms	Sine, Square, Ramp, Pulse, White Noise and 48 kinds of built-in arbitrary function waveforms	
Frequency characteristics		
Sine	1 μHz ~ 20 MHz	1μHz ~ 15MHz
Square	1 μHz ~ 5 MHz	1μHz ~ 4MHz
Pulse	500 μHz ~ 3 MHz	500μHz ~ 2MHz
Ramp	1 μHz ~ 150 kHz	
White Noise	5 MHz bandwidth (-3dB)	
Arbitrary Waveform	1 μHz ~ 5 MHz	1μHz ~ 4MHz

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) 4 mVpp ~ 20 Vpp (into open circuit)	2 mVpp ~ 3 Vpp (into 50 Ω) 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

Burst
The DG1000 can output a waveform with a specified number of cycles, called a "burst". A burst can last for a specific number of wav

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

Local	State	888_bmi
UDisk	Data	dg3 SystemUpdate,ldr
All		DG1000 System,ldr

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

Optional Accessories



BNC Cable



50 Ω Impedance Adjuster



40 dB Attenuator

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 high precise counter, the frequency is up to 200 MHz
4. Connectivity: USB Device, LAN

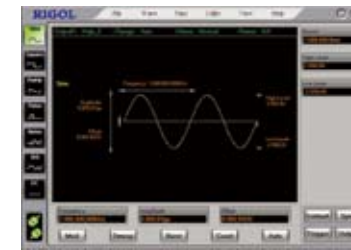
Model	VG1021
Maximum Output Frequency	20 MHz
Connectivity	USB Device, LAN

► 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 Adjuster



40 dB Attenuator

DM306X series 6½ Digital Multimeter

True 6½ digits resolution
50 K rdgs/s Sample Rate
32-Channel Multiplexer Module



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 6½ digits resolution (2,400,000-count)
2. Up to 50 K rdgs/s Sample Rate, 512K rdgs of Non-volatile Memory and 2M rdgs of Volatile Memory
3. Patented Any Sensor test capability
4. Up to 32 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	DM3061	DM3062	DM3064
Reading Resolution	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		0.0078+0.0007
AC Voltage (True RMS)	200 mV~750 V	3 Hz~300 kHz	0.11+0.07
DC Current	2 mA~10 A		0.073+0.030
AC Current (True RMS)	20 mA~10 A	3 Hz~10 kHz	0.2+0.25

Measurement Function	Range	Frequency Range / Test Current	Accuracy:
			1 Year±(% of reading + % of range)
Resistance(2-wire and 4-wire)	200 Ω~100 MΩ		0.015+0.001
Capacitance	2 nF~200 uF		1+0.5
Diode	2.4 V	1 mA	0.010+0.050
Continuity	2000 Ω	1 mA	0.010+0.050
Frequency,Period Accuracy	200 mV~750 V	3 Hz~300 kHz	0.007
±(% of reading)	20 mA~10 A	3 Hz~10 kHz	0.007

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

Other Parameters

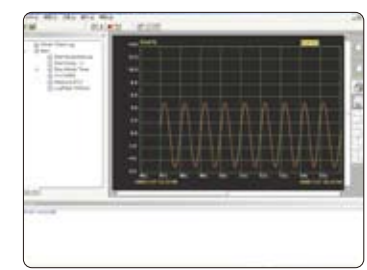
24 Measurement Functions	DC voltage and current, AC voltage and current, 2-wire and 4-wire resistance, Capacitance, Continuity Test, Diode Test Frequency, Period, Ratio Test and Any Sensor Test Math functions: Max, Min, Avg, histogram, High Limit, Low Limit, dBm, dB, Null Data acquisition: data logging, 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 Safety	DC voltage 1,000 VDC, AC voltage 750 Vrms AC, DC and AC max external current 10 A, internal 12 A double fuses 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; 20 VA Max

Multiplexer Module

The module provides up to 32 channels of acquisition. The easy to use software allows the user to scan any or all of the 32 channels and place the data into the memory.



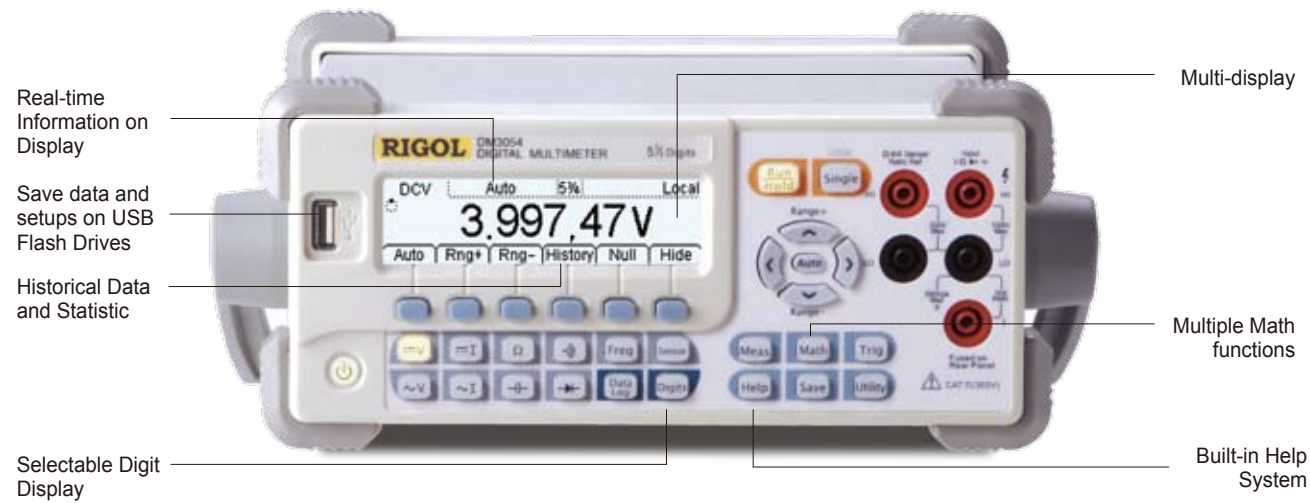
Multiplexer Module



UltraLogger Software Interface

DM305X series 5 $\frac{3}{4}$ Digital Multimeter

True 5 $\frac{3}{4}$ digits resolution
50 K rdgs/s Sample Rate
2M rdgs of Volatile Memory



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 5 $\frac{3}{4}$ digits resolution (480,000-count)
2. Up to 50 K rdgs/s Sample Rate, 512K rdgs of Non-volatile Memory and 2M rdgs of Volatile Memory
3. Patented Any Sensor test capability
4. Up to 32 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
Reading Resolution	5 $\frac{3}{4}$ 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 \pm (% 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 \pm (% of reading + % range)
Resistance (2-wire and 4-wire)	400 Ω ~100 M Ω		0.015+0.006
Capacitor	4 nF~200 μ F		1+0.5
Diode	2.4 V	1mA	0.05 + 0.010
Continuity	2000 Ω	1 mA	0.05 + 0.010
Frequency,Period Accuracy \pm (% of reading)	200 mV ~ 750 V 20 mA ~10 A	3 Hz~300 kHz 3 Hz~10 kHz	0.02 0.02

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

► Other Parameters

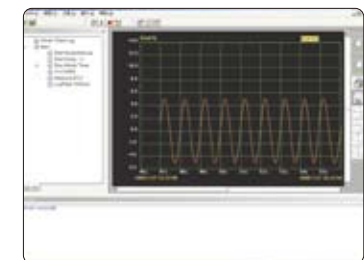
24 Measurement Functions	DC voltage and current, AC voltage and current, 2-wire and 4-wire Resistance, Capacitance, Continuity Test, Diode Test, Frequency, Period, Ratio Test and Any Sensor Test
Other Functions	Math Functions: Max, Min, Avg, Histogram, High Limit, Low Limit, dBm, dB, Null Data acquisition: data logging, scanning
Application Software	Built-in memories: Store up to 10 Setups, 10 Data records and 10 Sensor descriptions True RMS AC voltage and current Input impedance >10 G Ω DC voltage range up to 48 V (\pm 24 V) UltraLogger: For scan measurement and data acquisition control UltraSensor: For any sensors measurement
Maximum Input Safety	DC voltage 1,000 VDC, AC voltage 750 Vrms AC, DC and AC max external current 10 A, internal 12 A double fuses 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 \pm 10%, 45Hz-65Hz, 20VA Max

► Multiplexer Module

The module provides up to 32 channels of acquisition. The easy to use software allows the user to scan any or all of the 32 channels and place the data into the memory.



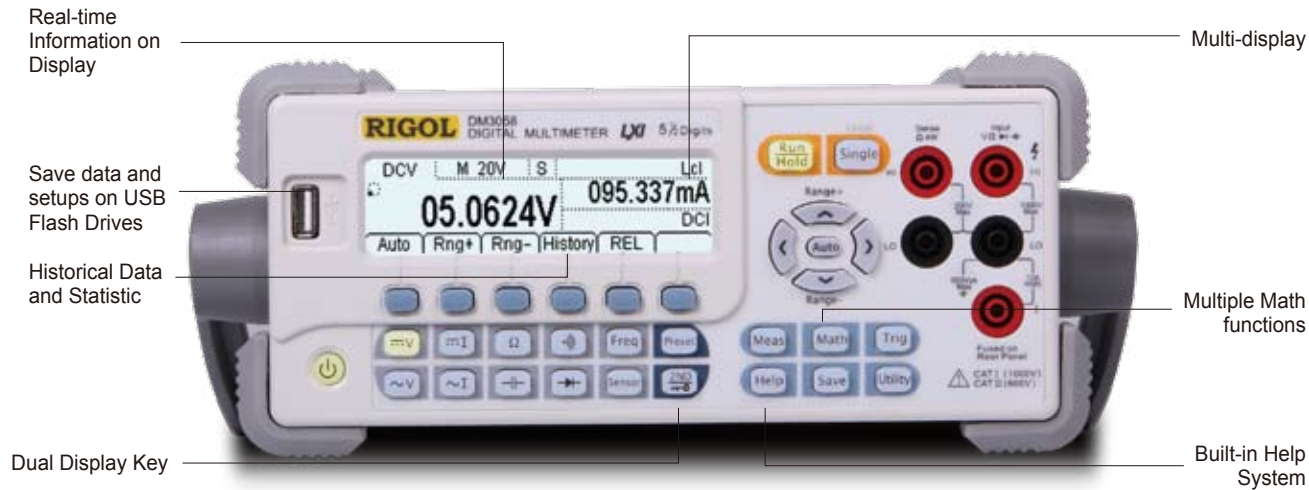
Multiplexer Module



UltraLogger Software Interface

DM3058 Digital Multimeter

True 5½ digits resolution
120 rdgs/s Sample Rate
0.015% DC Voltage Accuracy



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

► Application Areas

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

► Features and Benefits

1. True 5½ digits resolution (240,000-count)
2. 120 rdgs/s Maximum Sample Rate
3. Up to 0.015% accuracy of DC Voltage per year
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	200mV ~ 1000V		0.015+ 0.003
DC Current	200uA~10A		0.020+0.005
AC Voltage (RMS)	200mV~750V	20Hz~100kHz	0.20 + 0.05
AC Current (RMS)	20mA~10A	20Hz~10kHz	0.30+0.06
Resistance (2-wire and 4-wire)	200Ω~100MΩ		0.020+0.003

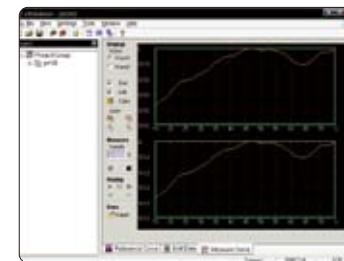
Measurement Function	Range	Frequency Range/Test Current	Accuracy:1 Year ± (%of reading +%of range)
Capacitance	2nF~10000uF		1.0+0.5
Diode	2.4V	1mA	0.05+0.01
Frequency and Period	200mV~750V	10Hz~1MHz	0.01+0.003
	20mA~10A	10Hz~100kHz	0.01+0.003
Continuity	2KΩ	1mA	0.05+0.01

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

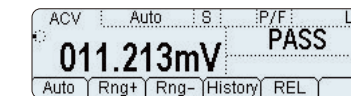
► Other Parameters

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 II 600V, CAT I 1000V, Pollution level 2
Shock and Vibration	MIL-T-28800, type III, class 5 (sine)
Power Supply	110/220V ±20%, 45-65Hz, 20VA Max

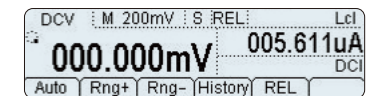
► Advanced Performance



Ultrasensor Software Interface



Pass / Fail



Multi-Display

VM3058 Virtual Digital Multimeter

True 5½ digits resolution
120 rdgs/s Sample Rate
0.02% DC Voltage Accuracy



Product Dimension: Width×Height×Depth=141 mm×45 mm×217 mm Weight: 1kg

► Application Areas

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

► Features and Benefits

1. True 5½ digits resolution (240,000-count)
2. 120 rdgs/s Maximum Sample Rate
3. Up to 0.02% Accuracy of DC Voltage
4. Command Compatibility: Replace mainstream DMM randomly via the compatibility of their command
5. Patented Any Sensor test capability
6. Up to 32 Channels Multiplexer Module: Data acquisition, scanning and programmable automatic measurements

► Specifications

Measurement Function	Range	Frequency Range/ Test Current	Accuracy:1 Year ± (%of reading +%of range)
DC Voltage	200mV ~ 1000V		0.020 + 0.007
DC Current	200uA~10A		0.040 + 0.006
AC Voltage (RMS)	200mV~750V	20Hz~100kHz	0.25 + 0.08
AC Current (RMS)	20mA~10A	20Hz~10kHz	0.35 + 0.08
Resistance (2-wire and 4-wire)	200Ω~100MΩ		0.025 + 0.007

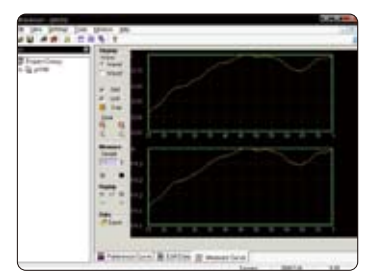
Measurement Function	Range	Frequency Range/Test Current	Accuracy:1 Year ± (%of reading +%of range)
Capacitance	2nF~10000uF		1.0+0.8
Diode	2.4V	1mA	0.05 + 0.006
Frequency and Period	200mV~750V	10Hz~1MHz	0.02+0.003
	20mA~10A	10Hz~100kHz	0.02+0.003
Continuity	2KΩ	1mA	0.05 + 0.006

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, Any sensor
Math	"Pass/Fail" Limit Test, Standard Deviation, Histogram, Relatively, 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, Reading hold, Single trigger
Safety	CAT II 300V, CAT I 1000V, Pollution level 2
Shock and Vibration	MIL-T-28800E, type III, class 5 (Sine Only)
Power Supply	DC 5V ±10%, 10VA peak

► Advanced Performance



Ultrasensor Software

The RIGOL Worldwide Network



The RIGOL Worldwide Headquarters is in Beijing where most of our 500+ employees work. RIGOL has 10 direct sales offices in China, a subsidiary company in North America and more than 150 distributors around the world. RIGOL's products and services are now offered in more than 50 countries and regions including the USA, Japan, UK, France, Germany, Australia, Canada, Korea and many more.

Technical Support

RIGOL Technical Support Department is located in RIGOL R&D and Production Base. There are several automatic calibration systems and repair equipments for DS1000B, DS1000, DS1000A, DG3000, DG2000, DM3000, VS5000, VM3058 and other series. All the repair engineers have over four years experience, so we can provide very good service with high efficiency and accuracy.

RIGOL Repair Center acquired ISO9001: 2000 international quality certification in 2006.

RIGOL Service - Guarantee the future!

RIGOL Technical Support Department
Address: 156# Cai He Village, Sha He Town,
Chang Ping District, Beijing, China
Post Code: 102206
Tel: (8610) 8070 6688
Fax: (8610) 8070 5070
Email: service@rigol.com

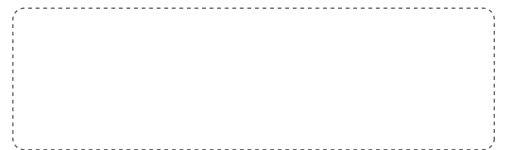




RIGOL

Product specifications and descriptions subject to change without notice.

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Please contact with agents, get the technical materials