



## Extensive Test Portfolio

Rigol delivers tools designed to help solve the complex challenges facing engineers, technicians and educators working in today's advanced applications

Embedded Design and Debug

EMI Pre-Compliance

RF Applications

Data Acquisition and Sensitive Measurements

Power Analysis

Manufacturing Test

Technical Education



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## Uncompromised Performance... Unprecedented Value

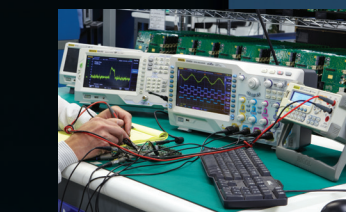
### Redefining the Test & Measurement Industry

#### Feature Rich Instrumentation

When you choose Rigol you can satisfy a broad range of test and measurements needs all from the one company dedicated to reducing your overall cost of test. With Oscilloscopes and Arbitrary Waveform Generators to meet your time domain needs; Spectrum Analyzers and RF Signal Generators for customers in the frequency domain, Data Acquisition/Switch Systems and a broad array of precision measurement instruments Rigol has the measurement solution to help solve your design, debug and manufacturing challenges.

#### Accelerate Your Validation Time

There are no compromises when you choose a Rigol product. We provide all of the performance, hardware features, and analysis software required to quickly complete your tasks along with the quality and ease of use you demand. This combination of advanced analysis capability, world-class reliability and an intuitive interface allows users to quickly isolate and resolve elusive bugs and speed products to market.



#### World Class R&D/Manufacturing

Rigol Designs and Manufactures our products in two state-of-the-art design and manufacturing facilities, an 800,000 sf facility in Beijing and our recently opened 400,000 sf facility in Suzhou. We are an ISO9001:2008 Quality Management System and ISO14001:2004 Environmental Management System Certified company with in house SMT and Injection molding capability to insure highest quality. We are so confident you will be delighted with our products and the outstanding value they provide that we back them all with a 3 year warranty and a 30 day no questions asked return policy.

#### Lower Your Cost of Test

Rigol is dedicated to reducing your overall cost of test. While our products deliver all the performance, quality, and advanced features you expect from your test provider we do so with prices significantly below what you have come to expect, delivering exceptional value for each dollar spent. This combination of Extensive Portfolio, Feature Rich Products, and Transformational Pricing makes Rigol the obvious choice for all your test and measurement needs.



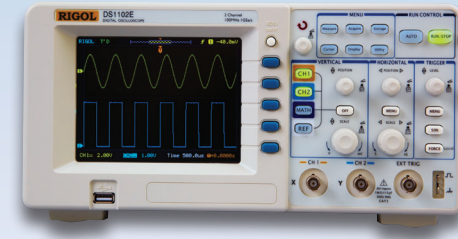
## INSTRUMENT SELECTION GUIDE

52.20 dBm

DL 82.20



## Digital Oscilloscopes



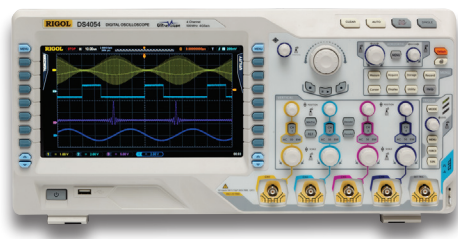
1000 Series Digital Oscilloscopes



1000Z Series Digital & Mixed Signal Oscilloscopes



2000 Series Digital & Mixed Signal Oscilloscopes



4000 Series Digital & Mixed Signal Oscilloscopes



6000 Series Digital Oscilloscopes

### Oscilloscope Configuration Table

	Bandwidth (in MHz)										Analog Channel	Max Sample Rate	Max Memory Depth	Digital Channel	Integrated Source	Serial Trigger	Serial Decode	Display	
	50	70	100	150	200	250	300	350	400	450									500
1000D	✓		✓									2	1GSa/s (1ch) 500MSa/s (2ch)	1Mpts	16	NA	NA	NA	5.7" QVGA
1000E	✓		✓									2	1GSa/s (1ch) 500MSa/s (2ch)	1Mpts	NA	NA	NA	NA	5.7" QVGA
1000B		✓	✓	✓								4	2GSa/s (2ch) 1GSa/s (4ch)	16kpts	NA	NA	NA	NA	5.7" QVGA
1000Z	✓	✓	✓									4	1GSa/s (1ch) 500MSa/s (2ch) 250MSa/s (4ch)	12Mpts (std) 24Mpts (opt)	16 MSO Models	2 CH up to 25MHz -S Models	RS232, I2C, SPI (option)	RS232, I2C, SPI (option)	7.0" WVGA
2000A		✓	✓	✓	✓							2	2GSa/s (1ch) 1GSa/s (2ch)	14Mpts (std) 56Mpts (opt)	16 MSO Models	2 CH up to 25MHz -S Models	RS232, I2C, SPI (std) CAN, USB (opt)	RS232, I2C, SPI, CAN (option)	8.0" WVGA
4000			✓	✓	✓	✓	✓					2 or 4	4GSa/s (2ch) 2GSa/s (4ch)	140Mpts	16 MSO Models	NA	RS232, I2C, SPI, CAN, USB, FlexRay	RS232, I2C, SPI, CAN, FlexRay (option)	9.0" WVGA
6000								✓		✓		2 or 4	5GSa/s (2ch) 2.5GSa/s (4ch)	140Mpts	NA	NA	RS232/UART, I2C, SPI, CAN, USB, FlexRay	RS232/UART, I2C, SPI, CAN, FlexRay (option)	10.1" WVGA

### Oscilloscope Series - Models & Options

	1000 Series		1000Z Series		2000A Series		4000 Series		6000 Series					
Models	DS1052E	50MHz, 2 Analog	DS1054Z	50MHz, 4 Analog	DS2072A	70MHz, 2 Analog	MSO2072A	70MHz, 2 Analog & 16 Digital	DS4012	100MHz, 2 Analog	MSO4012	100MHz, 2 Analog & 16 Digital	DS6062	600MHz, 2 Analog
	DS1074B	70MHz, 4 Analog	DS1074Z	70MHz, 4 Analog	DS2072A-S	70MHz, 2 Analog + source	MSO2072A-S	70MHz, 2 Analog & 16 Digital + source	DS4014	100MHz, 4 Analog	MSO4014	100MHz, 4 Analog & 16 Digital	DS6064	600MHz, 4 Analog
	DS1052D	50MHz, 2 Analog & 16 Digital	DS1074Z-S	70MHz, 4 Analog + source	DS2102A	100MHz, 2 Analog	MSO2102A	100MHz, 2 Analog & 16 Digital	DS4022	200MHz, 2 Analog	MSO4022	200MHz, 2 Analog & 16 Digital	DS6102	1GHz, 2 Analog
	DS1102E	100MHz, 2 Analog	MSO1074Z	70MHz, 4 Analog & 16 Digital	DS2102A-S	100MHz, 2 Analog + source	MSO2102A-S	100MHz, 2 Analog & 16 Digital + source	DS4024	200MHz, 4 Analog	MSO4024	200MHz, 4 Analog & 16 Digital	DS6104	1GHz, 4 Analog
	DS1104B	100MHz, 4 Analog	MSO1074Z-S	70MHz, 4 Analog & 16 Digital + source	DS2202A	200MHz, 2 Analog	MSO2202A	200MHz, 2 Analog & 16 Digital	DS4032	350MHz, 2 Analog	MSO4032	350MHz, 2 Analog & 16 Digital		
	DS1102D	100MHz, 2 Analog & 16 Digital	DS1104Z	100MHz, 4 Analog	DS2202A-S	200MHz, 2 Analog + source	MSO2202A-S	200MHz, 2 Analog & 16 Digital + source	DS4034	350MHz, 4 Analog	MSO4034	350MHz, 4 Analog & 16 Digital		
	DS1204B	200MHz, 4 Analog	DS1104Z-S	100MHz, 4 Analog + source	DS2302A	300MHz, 2 Analog	MSO2302A	300MHz, 2 Analog & 16 Digital	DS4052	500MHz, 2 Analog	MSO4052	500MHz, 2 Analog & 16 Digital		
			MSO1104Z	100MHz, 4 Analog & 16 Digital	DS2302A-S	300MHz, 2 Analog + source	MSO2302A-S	300MHz, 2 Analog & 16 Digital + source	DS4054	500MHz, 4 Analog	MSO4054	500MHz, 4 Analog & 16 Digital		
			MSO1104Z-S	100MHz, 4 Analog & 16 Digital + source										
Options			MEM-DS1000Z	Deep Memory Option	MEM-DS2000	Deep Memory Option	MEM-DS2000	Deep Memory Option	SD-RS232-DS4000	RS232/UART Decoding	SD-RS232-DS4000	RS232/UART Decoding	SD-RS232-DS6000	RS232/UART Decoding
			REC-DS1000Z	Real Time Waveform Record and Replay	AT-DS2000	Advanced Trigger	AT-DS2000	Advanced Trigger	SD-I2C/SPI-DS4000	I2C Decoding	SD-I2C/SPI-DS4000	I2C Decoding	SD-I2C/SPI-DS6000	I2C/SPI Decoding
			AT-DS1000Z	Advanced Trigger	SD-DS2000A	Serial Decode	SD-CAN-DS4000	CAN Decoding	SD-CAN-DS4000	CAN Decoding	SD-CAN-DS4000	CAN Decoding	SD-CAN-DS6000	CAN Decoding
			SA-DS1000Z	Serial Decode	CAN-DS2000A	CAN Trigger and Decode	SD-FlexRay-DS4000	FlexRay Decoding	SD-FlexRay-DS4000	FlexRay Decoding	SD-FlexRay-DS4000	FlexRay Decoding	SD-FlexRay-DS6000	FlexRay Decoding
					ULTRAPOWER ANALYZER	Power Analysis SW	ULTRAPOWER ANALYZER	Power Analysis SW	ULTRAPOWER ANALYZER	Power Analysis SW	ULTRAPOWER ANALYZER	Power Analysis SW	ULTRAPOWER ANALYZER	Power Analysis SW

### Scope Considerations

Bandwidth	Sample Rate	Record Length	Digital Channels	Serial Triggering & Decode	Analysis Software
Oscilloscope Bandwidth determines the frequency range that the oscilloscope can accurately measure. A general rule of thumb is you want scope bandwidth to be 5 times the highest frequency you wish to measure.	Sample Rate describes the frequency at which the instrument samples the data. Higher the sample rate provides better resolution and finer detail of the signal being captured.	Record Length describes the number of points that can be captured and stored. Generally speaking larger record length provides for longer captures. The time duration is directly related to the sample rate with higher sample rates consuming more memory resulting in shorter time capture.	Mixed Signal Oscilloscopes (MSO's) allow users to not only look at the analog behavior of up to 4 channels but also trigger, capture, and analyze the behavior of up to 16 digital channels at the same time.	Serial Triggering allows the user to trigger the oscilloscope based on a specific pattern or word found in a serial data stream. Serial decode allows the user to convert the waveform into a decoded readable format which allows for quick determination of problems on a serial bus.	Analysis software allows the user to link their oscilloscope to an external PC and utilize the acquired data to complete application specific measurement tasks such as Ultra Power Analyzer software for engineers designing SMPS who need to make power quality, harmonics, and inrush current measurements.

## Waveform Generators

### Waveform Generator Configuration Table

Generator Series	Waveform	Max Frequency (in MHz)										Output Channels	Max Sample Rate	Arb Memory Depth	Technology	Modulations			
		5	15	20	25	30	40	50	60	70	80						90	100	120
1000	Sine Wave			✓	✓								2	100MSa/s	4Kpts	DDS	AM, FM, PM, FSK		
	Square Wave	✓																	
1000Z	Sine Wave					✓			✓				2	200MSa/s	8Mpts standard, 16Mpts optional	SiFi	AM, FM, PM, ASK, FSK, PSK, PWM		
	Square Wave		✓		✓														
4000	Sine Wave								✓			✓	2	500MSa/s	16kpts	DDS	AM, FM, PM, ASK, FSK, PSK, PWM, BPSK, QPSK, 3FSK, 4FSK, OSK		
	Square Wave			✓		✓	✓												
5000	Sine Wave									✓		✓	1 or 2	1GSa/s	128Mpts	DDS	AM, FM, PM, ASK, FSK, PSK, PWM, IQ		
	Square Wave										✓	✓							

### Waveform Generator Series - Models & Options

	1000 Series		1000Z Series		4000 Series		5000 Series	
Models	DG1022	20MHz, 2 CH	DG1032Z	30MHz, 2 CH	DG4062	60MHz, 2 CH	DG5071	70MHz, 1 CH
	DG1022A	25MHz, 2 CH	DG1062Z	60MHz, 2 CH	DG4102	100MHz, 2 CH	DG5072	70MHz, 2 CH
					DG4162	160MHz, 2 CH	DG5101	100MHz, 1 CH
							DG5102	100MHz, 2 CH
							DG5251	250MHz, 1 CH
							DG5252	250MHz, 2 CH
							DG5351	350MHz, 1 CH
							DG5352	350MHz, 2 CH
Options	PA-1011	Power Amplifier	PA-1011	Power Amplifier	PA-1011	Power Amplifier	PA-1011	Power Amplifier
			MEM-DG1000Z	16 Mpts Memory	UltraStation Adv.	Adv. PC Software	UltraStation Adv.	Adv. PC Software
			UltraStation Adv.	Adv. PC Software	UltraStation Adv.	Adv. PC Software	DG-5-FH	Frequency Hopping

## RF Instruments

### Spectrum Analyzers

	DSA800 Series	DSA1000 Series		
Models	DSA815	1.5GHz	DSA1020	2GHz
	DSA815-TG	1.5GHz with Tracking Generator	DSA1030	3GHz
	DSA832	3.2GHz	DSA1030-TG	3GHz w/ Tracking Generator
	DSA832-TG	3.2GHz with Tracking Generator	DSA1030A	3GHz w/ PreAmp & 10Hz RBW
	DSA875	7.5GHz	DSA1030A-TG	3GHz w/ PreAmp, 10 Hz RBW & TG
	DSA875-TG	7.5GHz with Tracking Generator		

### RF Signal Sources

	DSG3000 Series	
Models	DSG3030	3GHz
	DSG3060	6GHz
Options	OEXO-A08	High Stability Reference Clock (HW Option)
	PUG-DSG3000	Pulse Train Generator
	PMC-DSG3000	Power Meter Control
	IQ-DSG3000	IQ Modulation

### Spectrum Analyzer Options

	SW Options	
Models	DSA800-AMK	Advanced Measurements Kit
	DSA1000-AMK	Advanced Measurements Kit
	DSA800-EMI	Quasi-Peak Detector & EMI RBWs
	DSA800-VSWR	VSWR Firmware without the Bridge
		<b>HW Options</b>
	PA-DSA832	PreAmp for DSA832
	PA-DSA875	PreAmp for DSA875
	PA-DSA1000	PreAmp for DSA1030 or 1030-TG
		<b>Accessories &amp; PC Software</b>
	ATT0330AH	100W 30dB High Frequency Attenuator
	DSA Utility Kit	Cable & Connection Kit
	RF Adaptor Kit	9 Adaptors for RF Connections
	RF Attenuator Kit	3 pc Kit of RF Attenuators
	RF Cable Kit	N Type & N-SMA Cable Kit
	RF CATV Kit	75 Ohm Impedance Adaptor Kit
	RX1000	Receiver Test Unit
	TX1000	Transmitter Test Unit
	UltraSpectrum	PC Control Software
	VB1020	VSWR Bridge 10MHz to 2GHz
	VB1040	VSWR Bridge 800MHz to 4GHz
	VB1080	VSWR Bridge 2GHz to 8GHz
	EMI Test System	EMI PC Software

## Sensitive & Power Products

### Digital Multimeters

	DM3000 Series DMMs	DC Power Supplies		
Models	DM3058E	5.5 Digit w/ USB	DP811A	200W, Single Output
	DM3058	5.5 Digit w/ USB, LXI, & GPIB	DP821A	140W, Double Output
	DM3068	6.5 Digit w/ USB, LXI, & GPIB	DP831A	160W, Triple Output
			DP832	195W, Triple Output
			DP832A	195W, Triple Output

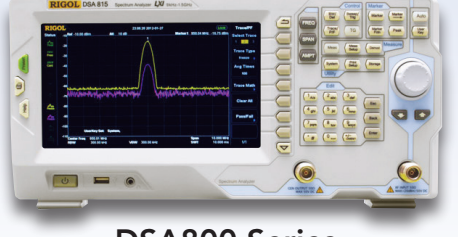
## Data Acquisition Systems

	Mainframe Kits	Modules	Software			
Models	M300	M300 Mainframe	MC3065	DMM Module	UltraAcquire Pro	Advanced Datalogging Software
	M301	M300 & MC3065	MC3120	20 CH, 2 Wire MUX		
	M302	M300 & MC3065 & MC3120	MC3132	32 CH, 2 Wire MUX		
			MC3164	64 CH, 1 Wire MUX		
			MC3232	High Speed 32 CH, 2 Wire MUX		
			MC3264	High Speed 64 CH, 1 Wire MUX		
			MC3324	20 CH MUX plus 4 current Ch		
			MC3416	16 Actuators		
			MC3534	Multifunction (DAC, DIO, TOT)		
			MC3648	4x8 Matrix Switch		

Terminal Blocks available for each module



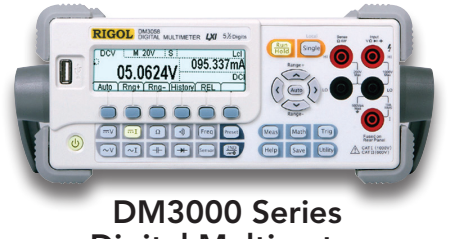
DG4000 Series Waveform Generator



DSA800 Series Spectrum Analyzer



DSG3000 Series RF Signal Source



DM3000 Series Digital Multimeter



DP800 Series Power Supply



M300 Series Data Acquisition System