DSA800 Series
Spectrum Analyzer

Configuration Guide

This guide is used to help users to configure DSA800 series spectrum analyzer according to their requirements. You can get an overall understanding of the using information of DSA800 series spectrum analyzer via its Configuration Guide, Quick Guide and Data Sheet.

For the detailed specifications, please refer to *DSA800 Series Data Sheet*; for the product overview, please refer to *DSA800 Series Quick Guide*.

RIGOL Technologies, Inc.

To Configure DSA800 Series Spectrum Analyzer

The basic characteristics of DSA800 include:

- 1.5 GHz/3.2 GHz/7.5 GHz maximum frequency
- 1.5 GHz tracking generator (DSA815-TG)/3.2 GHz tracking generator (DSA832-TG)/7.5 GHz tracking generator (DSA875-TG)
- Various interface configurations: LAN, USB Host, USB Device and GPIB (optional)
- 8 inch high-resolution (800×480 pixels) display; clear and easy-to-operate graphical interface
- Compact and portable design

You can select the desired options and optional accessories to configure DSA800 according to your need. The procedures are as follows.

1. Select the instrument model according to the frequency range

Explanation	Order No.		Other Information
	Without TG	With TG[1]	
Spectrum Analyzer, 9 kHz to 1.5 GHz	DSA815	DSA815-TG	Provide standard accessories: Quick Guide, CDROM (User's Guide and Programming Guide) and power cord.
Spectrum Analyzer, 9 kHz to 3.2 GHz	DSA832	DSA832-TG	
Spectrum Analyzer, 9 kHz to 7.5 GHz	DSA875	DSA875-TG	

2. Add other measurement functions

Explanation	Order No.	Other Information
Preamplifier, 100 kHz to 3.2 GHz[2] (only for DSA832)	PA-DSA832	When the signal under test is small, turning on the preamplifier can reduce the displayed average noise level so as to measure even smaller signals.
Preamplifier, 100 kHz to 7.5 GHz[2] (only for DSA875)	PA-DSA875	
Advanced Measurement Kit[2]	AMK-DSA800	Provide various advanced measurement functions: time domain power, adjacent channel power, channel power, occupied bandwidth, emission bandwidth, carrier/noise ratio, harmonic distortion and TOI.

3. Perform EMI pre-compliance test

Explanation	Order No.	Other Information
EMI Filter & Quasi-peak Detector Kit[2]	EMI-DSA800	Used for EMI pre-compliance test.
EMI Test System Software	EMI Test System	

Note:

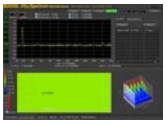
[1] If the tracking generator function is required, please order DSA815-TG/DSA832-TG/DSA875-TG spectrum analyzer (the tracking generator is installed before the instrument leaves factory; return-to-factory installation is not supported).

[2] To install an option, acquire the option license according to the following procedures (first, order the desired option and the option key is provided; then, log in **RIGOL** website (www.rigol.com), click "Customer Center" and select "License Generate" to enter the software license generation interface; finally, input the option key, instrument serial number (refer to the User's Guide to acquire the serial number) and identifying code as well as click "Generate" to acquire the corresponding option license); then, please install the corresponding option by referring to *DSA800 Firmware and Option Installation Instruction*.

4. Perform VSWR measurement

Explanation	Order No.	Other Information
VSWR Measurement Kit[2] 	VSWR-DSA800	The VSWR bridge is used together with **RIGOL** DSA series spectrum analyzer to measure the S11 related specifications (such as the return loss, reflection coefficient and VSWR) of the device under test. The distance between the signal input port and signal output port of the VSWR bridge is designed to match with **RIGOL** DSA series spectrum analyzer so as to improve the test accuracy. In addition, VSWR bridge is provided with the VSWR-DSA800 option which is applicable to DSA800 series. With this option, DSA800 can provide measurement instructions and display the measurement results (such as the return loss, reflection coefficient and VSWR).
VSWR Bridge (with the VSWR-DSA800 option), 1 MHz to 2 GHz 	VB1020	
VSWR Bridge (with the VSWR-DSA800 option), 800 MHz to 4 GHz 	VB1040	
VSWR Bridge (with the VSWR-DSA800 option), 2 GHz to 8 GHz	VB1080	

5. Realize the data exchange between the spectrum analyzer and PC

Explanation	Order No.	Other Information
DSA PC Software 	Ultra Spectrum	The software communicates with the instrument via remote interfaces to realize the basic control of the instrument. In addition, this software provides powerful independent data processing function which enhances and expands the instrument functions to meet different signal measurement and research requirements.

6. Add optional accessories

Explanation	Order No.	Other Information
The utility kit of the spectrum analyzer includes: — N-SMA Cable — BNC-BNC Cable — N-BNC Adaptor — N-SMA Adaptor — 75 Ω to 50 Ω Adaptor — 900 MHz/1.8 GHz Antenna (2pcs) — 2.4 GHz Antenna (2pcs) 	DSA Utility Kit	This kit can meet the connectivity requirements of most of the spectrum analyzer measurement applications. Wherein, antennas with different frequencies can be used with the spectrum analyzer to perform the related measurements.
The RF adaptor kit includes: — N(F)-N(F) Adaptor (1pcs) — N(M)-N(M) Adaptor (1pcs) — N(M)-SMA(F) Adaptor (2pcs) — N(M)-BNC(F) Adaptor (2pcs) 	RF Adaptor Kit	This series of adaptors provide calibration class performance parameters. They can be used to connect different types of connectors and convert the

— SMA(F)-SMA(F) Adaptor (1pcs) — SMA(M)-SMA(M) Adaptor (1pcs) — BNC T Type Adaptor (1pcs) — 50Ω SMA Load (1pcs) — 50Ω BNC Impedance Adaptor (1pcs)		connectors. These adaptors are usually used in common tests and calibration measurements.
The RF CATV kit includes: 50 Ω to 75 Ω Adaptor (2pcs) 	RF CATV Kit	This adaptor is widely used in measurement devices that need to switch between different impedances. It is also used in other fields, such as broadcasting and TV.
The RF attenuator kit includes: — 6 dB Attenuator (1pcs) — 10 dB Attenuator (2pcs) 	RF Attenuator Kit	This kit uses coaxial fixed attenuators and is applicable to applications that require power level adjustment or circuit matching.
30 dB High-power Attenuator, 100 W Maximum Power 	ATT03301H	This attenuator can be used to measure high-power signals and perform terminal matching. For example, measure and adjust the power amplifier; match the power splitter and coupler terminals.
N (M)-N (M) RF Cable 	CB-NM-NM-75-L-12G	Coaxial RF cables are usually used in radio communication system and electronic devices. Its frequency can be up to 12.4 GHz and the insertion loss at 6 GHz is lower than 0.9 dB.
N (M)-SMA (M) RF Cable 	CB-NM-SMAM-75-L-12G	

7. Add RF Demo Kit

Explanation	Order No.	Other Information
RF Demo Kit (Transmitter) 	TX1000	TX1000 and RX1000 use modularized circuit design and mainly consist of the mixer, filter and amplifier. They provide independent measurement interface for each part and allow users to exchange all the parts. You can use them to learn the principle and performance of the part and module as well as use them to learn how to debug the system. They are widely used in teaching (such as communication principle and high-frequency electronics).
RF Demo Kit (Receiver) 	RX1000	

8. Add other optional accessories

Explanation	Order No.	Other Information
Rack Mount Kit 	RM-DSA800	With this kit, you can install DSA800 series spectrum analyzer into a standard 19 inch machine cabinet.
USB to GPIB Interface Converter 	USB-GPIB	Expand a GPIB interface for the spectrum analyzer so as to easily fulfill various tasks using GPIB commands.
Soft Carrying Bag 	BAG-G1	--

Note: For the detailed information of each optional accessory, please refer to the corresponding manual (CD or hard copy in the option package or download the manual from www.rigol.com).