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Vector Signal Generator R&S® SMU200A

Configuration Guide



ROHDE & SCHWARZ

Configuration Guide

This document guides you step-by-step through the configuration procedure for the Vector Signal Generator R&S SMU200A.

Each step indicates whether an option is mandatory or optional and also provides the following information:

Option	Name of the option
Description	Description of the option
Requires	Options required in order to install the selected option
Not compatible with	Options incompatible with the selected option
HW or SW	Identifies the option as a hardware or software option
Remarks	Special remarks such as “factory-installed”

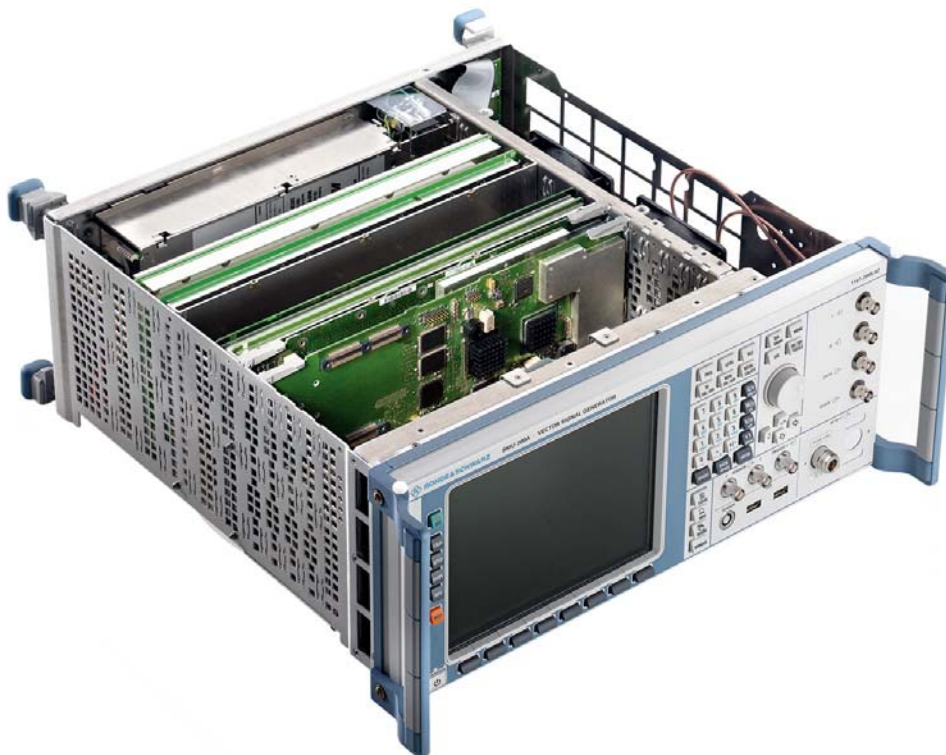
Mandatory fields that list various selectable options apply only if the step that includes them is chosen (e.g. choosing a baseband source is mandatory only if the instrument is to be equipped with a baseband path).

The R&S SMU200A can be equipped with up to two RF paths as well as two baseband paths (A and B), which effectively means two independent signal generators in one cabinet of only four height units. For easier configuration of the instrument to be used, this guide has been divided into two sections:

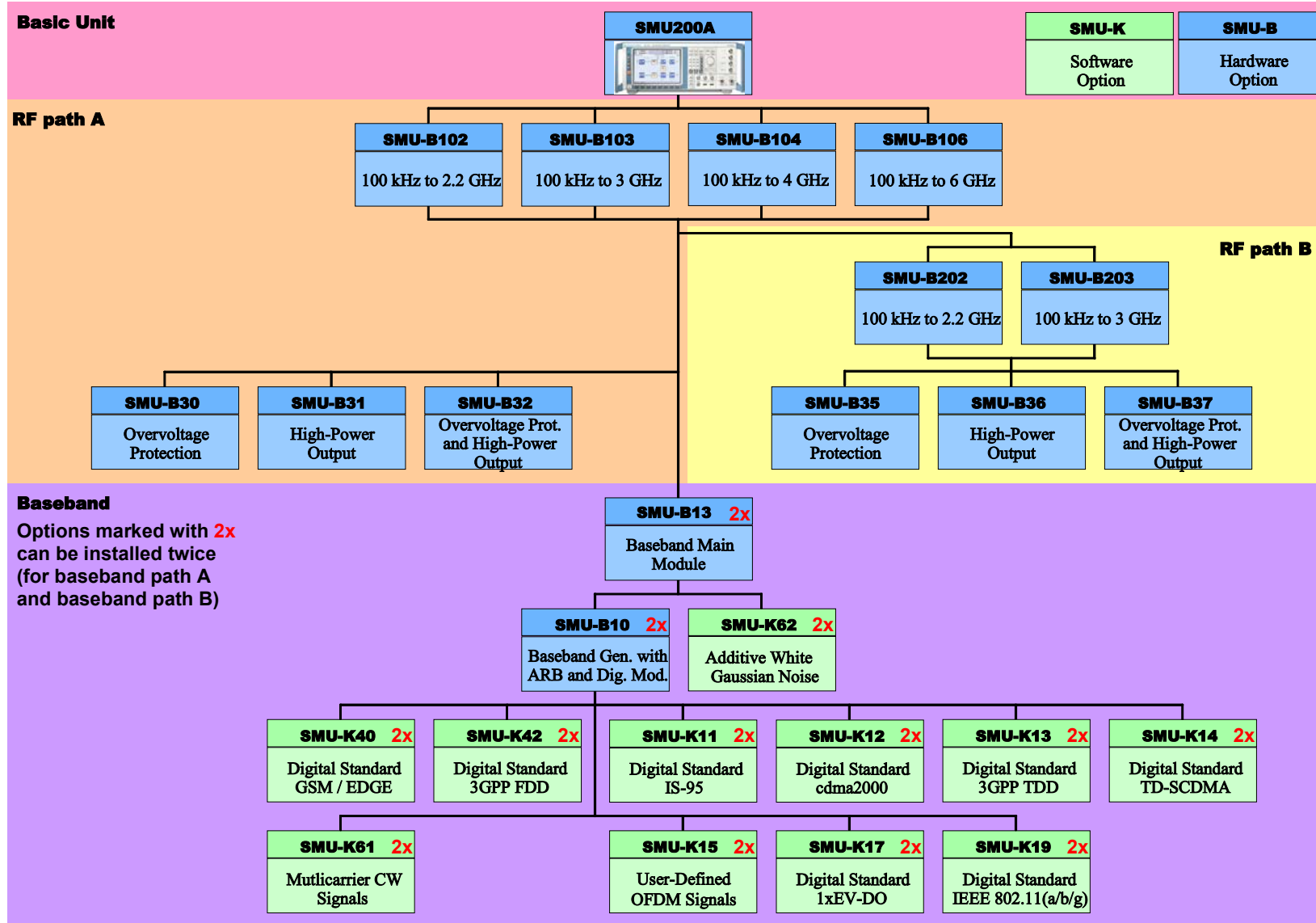
Single-path instrument – starting on page 4

Two-path instrument – starting on page 6

An overview of available options is provided on page 3.



Option overview



Single-path instrument

Applies if the instrument is equipped with one RF path and no more than one baseband path.

Step ① Configure RF path

MANDATORY

Choose frequency range (only one choice possible)

MANDATORY

Option	Description	Requires	Not compatible with	HW or SW	Remarks
SMU-B102	100 kHz to 2.2 GHz	SMU200A	-	HW	Factory-installed
SMU-B103	100 kHz to 3 GHz	SMU200A	-	HW	Factory-installed
SMU-B104	100 kHz to 4 GHz	SMU200A	-	HW	Factory-installed
SMU-B106	100 kHz to 6 GHz	SMU200A	-	HW	Factory-installed

Choose output configuration (only one choice possible)

OPTIONAL

Option	Description	Requires	Not compatible with	HW or SW	Remarks
SMU-B30	Overvoltage Protection	SMU-B10x	SMU-B104 SMU-B106	HW	Factory-installed
SMU-B31	High-Power Output	SMU-B10x	-	HW	Factory-installed
SMU-B32	Overvoltage Protection and High-Power Output	SMU-B10x	SMU-B104 SMU-B106	HW	Factory-installed

Step ② Configure baseband path

OPTIONAL

Choose baseband source

MANDATORY

Option	Description	Requires	Not compatible with	HW or SW	Remarks
SMU-B13	Baseband Main Module	SMU-B10x	-	HW	Factory-installed. Requires SMU-B10 or SMU-K62.
SMU-B10	Baseband Generator with ARB and Digital Modulation	SMU-B13	-	HW	Factory-installed

Choose digital modulation systems

OPTIONAL

Option	Description	Requires	Not compatible with	HW or SW	Remarks
SMU-K40	Dig. Std. GSM/EDGE	SMU-B10	-	SW	
SMU-K42	Dig. Std. 3GPP FDD	SMU-B10	-	SW	
SMU-K61	Multicarrier CW Signal Generation	SMU-B10	-	SW	

Choose digital modulation systems with R&S WinIQSIM™¹**OPTIONAL**

Option	Description	Requires	Not compatible with	HW or SW	Remarks
SMU-K11	Dig. Std. IS-95	SMU-B10	-	SW	With WinIQSIM™
SMU-K12	Dig. Std. cdma2000	SMU-B10	-	SW	With WinIQSIM™
SMU-K13	Dig. Std. 3GPP TDD	SMU-B10	-	SW	With WinIQSIM™
SMU-K14	Dig. Std. TD-SCDMA	SMU-B10	-	SW	With WinIQSIM™
SMU-K15	User-Defined OFDM Signals	SMU-B10	-	SW	With WinIQSIM™ and WinIQOFDM
SMU-K17	Dig. Std. 1xEV-DO	SMU-B10	-	SW	With WinIQSIM™
SMU-K19	Dig. Std. IEEE 802.11 (a/b/g)	SMU-B10	-	SW	With WinIQSIM™

Choose noise**OPTIONAL**

Option	Description	Requires	Not compatible with	HW or SW	Remarks
SMU-K62	Additive White Gaussian Noise (AWGN)	SMU-B13	-	SW	

¹ R&S WinIQSIM™ requires an external PC.

Two-path instrument

Applies if the instrument is equipped with up to two RF paths and up to two baseband paths.

Step ① Configure RF path A

MANDATORY

Choose frequency range (only one choice possible)

MANDATORY

Option	Description	Requires	Not compatible with	HW or SW	Remarks
SMU-B102	100 kHz to 2.2 GHz	SMU200A	-	HW	Factory-installed
SMU-B103	100 kHz to 3 GHz	SMU200A	-	HW	Factory-installed
SMU-B104	100 kHz to 4 GHz	SMU200A	-	HW	Factory-installed
SMU-B106	100 kHz to 6 GHz	SMU200A	-	HW	Factory-installed

Choose output configuration (only one choice possible)

OPTIONAL

Option	Description	Requires	Not compatible with	HW or SW	Remarks
SMU-B30	Overvoltage Protection	SMU-B10x	SMU-B104 SMU-B106	HW	Factory-installed
SMU-B31	High-Power Output	SMU-B10x	-	HW	Factory-installed
SMU-B32	Overvoltage Protection and High-Power Output	SMU-B10x	SMU-B104 SMU-B106	HW	Factory-installed

Step ② Configure RF path B

OPTIONAL

Choose frequency range (only one choice possible)

MANDATORY

Option	Description	Requires	Not compatible with	HW or SW	Remarks
SMU-B202	100 kHz to 2.2 GHz	SMU-B10x	-	HW	Factory-installed
SMU-B203	100 kHz to 3 GHz	SMU-B10x	-	HW	Factory-installed

Choose output configuration (only one choice possible)

OPTIONAL

Option	Description	Requires	Not compatible with	HW or SW	Remarks
SMU-B35	Overvoltage Protection	SMU-B20x	-	HW	Factory-installed
SMU-B36	High-Power Output	SMU-B20x	-	HW	Factory-installed
SMU-B37	Overvoltage Protection and High-Power Output	SMU-B20x	-	HW	Factory-installed

Step ③ Configure baseband path A**OPTIONAL****Choose baseband source****MANDATORY**

Option	Description	Requires	Not compatible with	HW or SW	Remarks
SMU-B13	Baseband Main Module	SMU-B10x	-	HW	Factory-installed. Requires SMU-B10 or SMU-K62.
SMU-B10	Baseband Generator with ARB and Digital Modulation	SMU-B13 (in baseband path A)	-	HW	Factory-installed

Choose digital modulation systems**OPTIONAL**

Option	Description	Requires	Not compatible with	HW or SW	Remarks
SMU-K40	Dig. Std. GSM/EDGE	SMU-B10	-	SW	
SMU-K42	Dig. Std. 3GPP FDD	SMU-B10	-	SW	
SMU-K61	Multicarrier CW Signal Generation	SMU-B10	-	SW	

Choose digital modulation systems with R&S WinIQSIM™¹**OPTIONAL**

Option	Description	Requires	Not compatible with	HW or SW	Remarks
SMU-K11	Dig. Std. IS-95	SMU-B10	-	SW	With WinIQSIM™
SMU-K12	Dig. Std. cdma2000	SMU-B10	-	SW	With WinIQSIM™
SMU-K13	Dig. Std. 3GPP TDD	SMU-B10	-	SW	With WinIQSIM™
SMU-K14	Dig. Std. TD-SCDMA	SMU-B10	-	SW	With WinIQSIM™
SMU-K15	User-Defined OFDM Signals	SMU-B10	-	SW	With WinIQSIM™ and WinIQOFDM
SMU-K17	Dig. Std. 1xEV-DO	SMU-B10	-	SW	With WinIQSIM™
SMU-K19	Dig. Std. IEEE 802.11 (a/b/g)	SMU-B10	-	SW	With WinIQSIM™

Choose noise**OPTIONAL**

Option	Description	Requires	Not compatible with	HW or SW	Remarks
SMU-K62	Additive White Gaussian Noise (AWGN)	SMU-B13	-	SW	

¹ R&S WinIQSIM™ requires an external PC.

Step ④ Configure baseband path B**OPTIONAL****Choose baseband source****MANDATORY**

Option	Description	Requires	Not compatible with	HW or SW	Remarks
SMU-B13	Baseband Main Module	SMU-B13 (in baseband path A)	-	HW	Factory-installed. Requires SMU-B10 (in baseband path A or B) or SMU-K62.
SMU-B10	Baseband Generator with ARB and Digital Modulation	SMU-B13 (in baseband path A or B) and SMU-B10 (in baseband path A)	-	HW	Factory-installed

Choose digital modulation systems**OPTIONAL**

Option	Description	Requires	Not compatible with	HW or SW	Remarks
SMU-K40	Dig. Std. GSM/EDGE	SMU-B10	-	SW	
SMU-K42	Dig. Std. 3GPP FDD	SMU-B10	-	SW	
SMU-K61	Multicarrier CW Signal Generation	SMU-B10	-	SW	

Choose digital modulation systems with R&S WinIQSIM™¹**OPTIONAL**

Option	Description	Requires	Not compatible with	HW or SW	Remarks
SMU-K11	Dig. Std. IS-95	SMU-B10	-	SW	With WinIQSIM™
SMU-K12	Dig. Std. CDMA2000	SMU-B10	-	SW	With WinIQSIM™
SMU-K13	Dig. Std. 3GPP TDD	SMU-B10	-	SW	With WinIQSIM™
SMU-K14	Dig. Std. TD-SCDMA	SMU-B10	-	SW	With WinIQSIM™
SMU-K15	User-Defined OFDM Signals	SMU-B10	-	SW	With WinIQSIM™ and WinIQOFDM
SMU-K17	Dig. Std. 1xEV-DO	SMU-B10	-	SW	With WinIQSIM™
SMU-K19	Dig. Std. IEEE 802.11 (a/b/g)	SMU-B10	-	SW	With WinIQSIM™

Choose noise**OPTIONAL**

Option	Description	Requires	Not compatible with	HW or SW	Remarks
SMU-K62	Additive White Gaussian Noise (AWGN)	SMU-B13	-	SW	

Note: Digital modulation systems and noise can be used either in baseband path A or baseband path B. The digital modulation systems or noise will be required twice only if the baseband paths are used simultaneously. (For example, an instrument is equipped with one R&S SMU-K40 and two R&S SMU-B10. In this configuration, R&S SMU-K40 can be used either on baseband path A or baseband path B. For simultaneous use on both baseband paths, R&S SMU-K40 would be required twice.)

¹ R&S WinIQSIM™ requires an external PC.

Ordering information

Vector Signal Generator¹	R&S SMU200A	1141.2005.02
including power cable, Quick Start Guide and CD-ROM (with operating and service manual)		
Options		
RF path A		
100 kHz to 2.2 GHz	R&S SMU-B102	1141.8503.02
100 kHz to 3 GHz	R&S SMU-B103	1141.8603.02
100 kHz to 4 GHz	R&S SMU-B104	1141.8703.02
100 kHz to 6 GHz	R&S SMU-B106	1141.8803.02
Overvoltage Protection		
High-Power Output	R&S SMU-B30	1159.7444.02
Overvoltage Protection and High-Power Output	R&S SMU-B31	1159.8011.02
	R&S SMU-B32	1160.0256.02
RF path B		
100 kHz to 2.2 GHz	R&S SMU-B202	1141.9400.02
100 kHz to 3 GHz	R&S SMU-B203	1141.9500.02
Overvoltage Protection		
High-Power Output	R&S SMU-B35	1160.0633.02
Overvoltage Protection and High-Power Output	R&S SMU-B36	1160.1000.02
	R&S SMU-B37	1160.1400.02
Baseband		
Baseband Generator with ARB (56 Msample) and Digital Modulation (realtime)	R&S SMU-B10	1141.7007.02
Baseband Main Module	R&S SMU-B13	1141.8003.02
Digital modulation systems		
Digital Standard GSM/EDGE	R&S SMU-K40	1160.7609.02
Digital Standard 3GPP FDD	R&S SMU-K42	1160.7909.02
Multicarrier CW Signal Generation	R&S SMU-K61	1160.8505.02
Digital modulation systems using R&S WinIQSIM™ ²		
Digital Standard IS-95 (with R&S WinIQSIM™)	R&S SMU-K11	1160.5335.02
Digital Standard cdma2000 (with R&S WinIQSIM™)	R&S SMU-K12	1160.5658.02
Digital Standard 3GPP TDD (with R&S WinIQSIM™)	R&S SMU-K13	1160.5906.02
Digital Standard TD-SCDMA (with R&S WinIQSIM™)	R&S SMU-K14	1160.6202.02
User-Defined OFDM Signals (with R&S WinIQSIM™ and R&S WinIQOFDM)	R&S SMU-K15	1160.6402.02
Digital Standard 1xEV-DO (with R&S WinIQSIM™)	R&S SMU-K17	1160.7009.02
Digital Standard IEEE 802.11 (a/b/g) (with R&S WinIQSIM™)	R&S SMU-K19	1160.8805.02
Noise		
Additive White Gaussian Noise (AWGN)	R&S SMU-K62	1159.8511.02
Recommended extras		
Hardcopy manuals (in German)		1007.9845.31
Hardcopy manuals (in English, UK)		1007.9845.32
Hardcopy manuals (in English, USA)		1007.9845.39
19" Rack Adapter	R&S ZZA-411	1096.3283.00
Adapter for Telescopic Sliders	R&S ZZA-T45	1109.3774.00
BNC Adapter for AUX I/O connector	R&S SMU-Z5	1160.4545.02
Keyboard with USB Interface (US assignment)	R&S PSL-Z2	1157.6870.03
Mouse with USB interface, optical	R&S PSL-Z10	1157.7060.02
External USB CD-RW Drive	R&S PSP-B6	1134.8201.12

¹ The base unit can only be ordered with an R&S SMU-B10x frequency option.

² R&S WinIQSIM™ requires an external PC.



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