# History and release notes for the Rohde & Schwarz Vector Signal Generator SM300

## Contents

## SM300 driver history

| Revision | Date | Note |
|---|---|---|
| 1.8.4 | 09/2008 | Modifications:<br>Windows Vista support added in installer |
| 1.8.3 | 10/2007 | Modifications:<br>Changed VIs:<br>- RSSISM Set RF Output State.vi (rssism_setRFOutputState)<br>- RSSISM Set RF EMC State.vi (rssism_setRFEMCState)<br> -RSSISM Get RF EMC State.vi (rssism_getRFEMCState)<br>- RSSISM Configure Ref Oscillator.vi (rssism_configureRefOscillator)<br>- RSSISM Get Ref Oscillator.vi (rssism_getRefOscillator) |
| 1.8.2 | 09/2007 | Modifications:<br>Bas and VB files fixed<br>New VIs:<br>- RSSISM Get Max RF Level.vi (rssism_getMaxRFLevel)<br>- RSSISM Get Max Limit.vi (rssism_getMaxLimit)<br>- RSSISM Get Max Modulation Depth.vi (rssism_getMaxModulationDepth)<br>Changed help in VIs:<br>- RSSISM Configure RF Level.vi (rssism_configRFLevel)<br>- RSSISM Set RF Level.vi (rssism_setRFLevel)<br>- RSSISM Set AM Depth.vi (rssism_setAMDepth) |
| 1.8.1 | 08/2007 | Modifications:<br>Changed VIs:<br>- RSSISM Set RF Output State.vi (rssism_setRFOutputState)<br>- RSSISM Set RF EMC State.vi (rssism_setRFEMCState) |
| 1.8 | 06/2007 | Modifications:<br>Execution Error handling added<br>Added C# wrapper to installer<br>New reserved functions:<br>- Set RF EMC State (setRFEMCState) for Firmware Release >= 2.3<br>- Get RF EMC State (getRFEMCState) for Firmware Release >= 2.3 |
| 1.7 | 03/2006 | Modifications:<br>- Code maintenance, bug fixing |
| 1.6 | 01/2006 | Modifications:<br>- included additional support files for SiControl Library (Lite)<br>- fixed behaviour of switching reference oscillator int / ext<br>   (PLL unlock error handling)<br>- Changed functions: Configure RF Level (rssism_configRFLevel),<br>   Set RF Level (rssism_setRFLevel),<br>   Configure AM Modulation (rssism_configAMModulation),<br>   Set AM State (rssism_setAMState)<br>   Set AM Depth (rssism_setAMDepth)<br>   Output AM Modulated Signal (rssism_exOutAmpl)<br><br>When amplitude modulation (AM) is set to On, maximum RF level continuously decreases from 13 dBm to 7 dBm with dependency on modulation depth (modulation depth = 0.0 % ... max RF level = 13 dBm, modulation depth = 100.0 % ... max RF level = 7 dBm).<br><br>- Added new functions to define RF level units:<br>   Set RF Level Unit (rssism_setRFLevelUnit)<br>   Get RF Level Unit (rssism_getRFLevelUnit)<br>   Where following functions are also affected:<br>   Configure RF Level (rssism_configRFLevel)<br>   Set RF Level (rssism_setRFLevel)<br>   Get RF Level (rssism_getRFLevel) |

## SM300 driver history

| Revision | Date | Note |
|---|---|---|
| | | Set RF Level Limit (rssism_setRFLevelLimit) |
| | | Get RF Level Limit (rssism_getRFLevelLimit) |
| | | Configure RF Level Sweep (rssism_configRFLevelSweep) |
| | | Set RF Start Level (rssism_setRFStartLevel) |
| | | Get RF Start Level (rssism_getRFStartLevel) |
| | | Set RF Stop Level (rssism_setRFStopFreqLevel) |
| | | Get RF Stop Level (rssism_getRFStopFreqLevel) |
| | | Set RF Level Sweep Manual (rssism_setRFLevelSweepManual) |
| | | Get RF Level Sweep Manual (rssism_getRFLevelSweepManual) |
| | | - New functions: |
| | |    Configure Level Correction (rssism_confLevelCorrection) |
| | |    Configure Level Correction Values (rssism_confLevelCorrectionValues) |
| | |    Get Level Correction (rssism_getLevelCorrection) |
| | |    Get Level Correction Values (rssism_getLevelCorrectionValues) |
| 1.5 | 12/2004 | Modifications: <br> Support for firmware 0.808 or later (respective functions has been changed): <br> - Frequency Offset (0x2011) <br> - Level Offset (0x2021) <br> - Ext PWM Polarity (0x2074) <br>  Changed functions: <br> - Get PHM State (rssism_GetPHMState) (obsolete) <br> - Configure Ref Oscillator (rssism_configureRefOscilator) (obsolete) <br> - Set AM State (rssism_setAMState) <br> - Get AM State (rssism_getAMState) <br> - Set FM External Coupling (rssism_setFMExtCoup) <br> - Get FM External Coupling (rssism_getFMExtCoup) <br>  New functions: <br> - Get PHM State (rssism_getPHMState) <br> - Set FM External Coupling (rssism_setFMExtCoupling) <br> - Get FM External Coupling (rssism_getFMExtCoupling) <br> - Configure Ref Oscillator (rssism_configureRefOscillator) <br> - Get Ref Oscillator (rssism_getRefOscillator) <br>   Error handling & status checking improved: <br> - State Checking (rssism_errorCheckState) changed <br> - Non exported function Check Status (rssism_checkStatus) changed |
| 1.4 | 03/2004 | Modifications: <br>  - device identification and logical names management added <br>   - hot plug & unplug support added |
| 1.3 | 11/2003 | Modifications: <br>  - rssism_waitForDeviceState waits with 1 ms precision. <br>  - Device functions status is read directly from the instrument <br> New functions: <br>  - rssism_setTimeOut <br>  - rssism_getTimeOut- New functions: |
| 1.2 | 10/2003 | Modifications: <br>  - Function prototypes from SiControl library are changed (added <br>    prefix Si). Single SiControl.dll library is distributed instead <br>    of formerly used patched DLLs (usbdrv_w2.dll, usbdrv_w.dll). <br>  - Source code is optimized for SiControl library "Rev 3.0, 10/2003". |
| 1.1 | 09/2003 | Modifications: <br> - Distribution files usbio.inf and usbio.sys are renamed to rssi.sys and rssi.inf <br> - VISA library is not needed (vpptype.h is replaced by rssitype.h) <br> - SiScan.exe utility returns instrument descriptors of connected <br>    devices (distributed with source files) |
| 1.0.1 | 09/2003 | Modifications: <br> - source code bug fixing and verification |

| SM300 driver history | | |
|---|---|---|
| Revision | Date | Note |
| | | - range checking improvements<br>- performance improvements |

# Installation of the instrument driver

The VXIPnP LabVIEW instrument driver also installs the Windows (XP, 2000) USB drivers and the tool SiScan.
Please install the SM300 driver before connecting the instrument.

# Instrument address descriptor

The syntax for the instrument descriptor is:
USB::<vendor Id>::<product Id>::<serial number>

where   <vendor Id> is 0xaad for Rohde&Schwarz
        <product Id> is 0x7 for SM300
        <serial number> of the SM300 consists of 6 digits. For example 100003.

Example: "USB::0xaad::0x7::100003"

# Instrument Identification and Logical Names

For finding the instrument address on the USB bus easily, use the SiScan application, which is installed with the VXIPnP driver and found in the menu
        start >  Programs >  Rohde & Schwarz >  Series300
SiScan provides a table showing the addresses of all connected Smart instruments.

The driver supports logical names. You can pass the logical name instead of the instrument descriptor. For example: "SM300" instead of "USB::0xaad::0x7::100003::INSTR"
**Logical names** can be configured with the SiScan application.
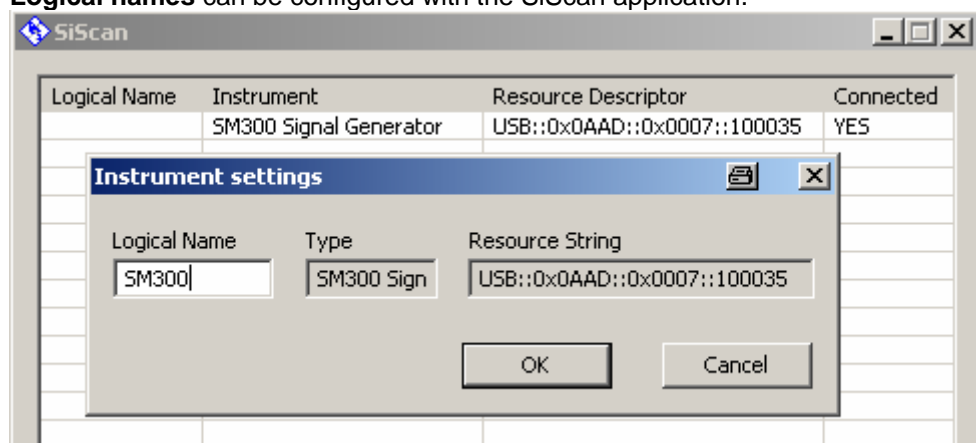


# Use this driver as a standard LabVIEW driver

In order to use this driver as a standard LabVIEW driver, please copy the contents of the ~VXIpnp\GWinNt\rssism directory into your LabVIEW directory (~LabVIEW\instr.lib\rssism\). The driver will then be directly accessible from the LabVIEW Instrument Driver function palette menu.

# Additional Help

In addition, the instrument driver documentation is included in compressed HTML format (Windows CHM help file) stored together with the LabVIEW driver sources.
Each VI's help is linked to the section in the "CHM" file that describes all the features of the VI.

- **LabVIEW 6.1** and higher an additional help topic can be accessed directly by pressing "Click here for more help" in the Context Help

## LabVIEW 7 and LabVIEW 8 drivers

Please use the LabVIEW 6.1 driver.

## LabVIEW 6.0 driver

Please contact  Rohde & Schwarz Customer Support Center

## R&S Smart Instruments™ Family300  Basic Programming Guide

The instrument drivers allow you to access instruments from various programming environments under Microsoft Windows XP/2000. The "Smart Instruments™ Programming Guide" deals with programming the Smart Instruments™ Family300 based on these drivers from different programming languages (C/C++, Visual Basic, LabVIEW, LabWindows/CVI).

Download the R&S Smart Instruments™ Family300  Basic Programming Guide:
  http://www.rohde-schwarz.com/appnote/1MA73.html