

How to use R&S®SMF100A Microwave Signal Generator drivers Driver Documentation

Products:

| R&S®SMF100A

How to use LabVIEW, LabWindows/CVI
and VXIplug&play Instrument Driver for
C#, C/C++, Visual Basic .NET, VEE, etc.

Table of Contents

1	LabVIEW.....	3
1.1	Getting Started.....	3
1.2	LabVIEW settings	3
1.3	Additional Help	4
1.4	LabVIEW 8.2 and higher	4
2	LabWindows/CVI	5
2.1	Getting Started.....	5
2.2	LabWindows/CVI Version	5
2.3	Additional Help	5
3	VXIplug&play Instrument Driver for C#, C/C++, Visual Basic .NET, VEE, etc.....	6
3.1	Getting Started.....	6
3.1.1	C#	6
3.1.2	Visual Basic.NET	6
3.1.3	Agilent VEE Version.....	6
3.2	Additional Help	6
4	Linux and Mac OS X.....	7
5	Remote control via LAN.....	8

1 LabVIEW

1.1 Getting Started

The LabVIEW drivers and examples can be downloaded from the Rohde & Schwarz download area of the website:

http://www2.rohde-schwarz.com/en/service_and_support/Downloads/Drivers/

In order to use the LabVIEW instrument driver after installing, please copy the folder `~\VXIPNP\GWinnt\rssmf` into your LabVIEW directory (e.g. `C:\Program Files\National Instruments\LabVIEW<Version>\instr.lib`). After restarting your LabVIEW development environment the driver will then be directly accessible from the Instrument Driver function palette menu.

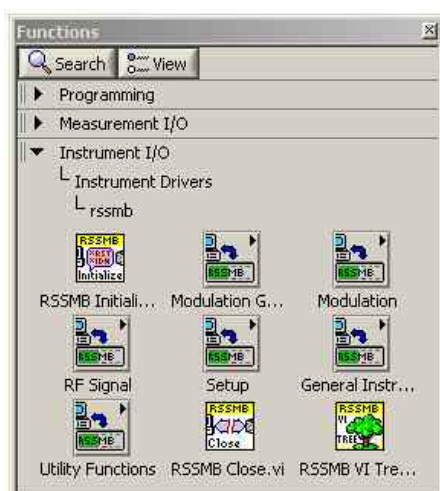


Figure 1: Path to LabVIEW instrument driver in the function palette of the Block Diagram

1.2 LabVIEW settings

For optimal usage please turn off "Synchronize with directory" feature on Instrument Drivers palette before installing any Rohde & Schwarz LabVIEW driver. If this feature is turned on, it overwrites drivers palette files with its own.

LabVIEW 8.2 and higher

Turn off "Synchronize with directory" feature:

Tools => Advanced => Edit palette set. Then find "Instrument I/O" palette

Right click on it and clear checkbox besides Synchronize with directory in context menu and save the changes.

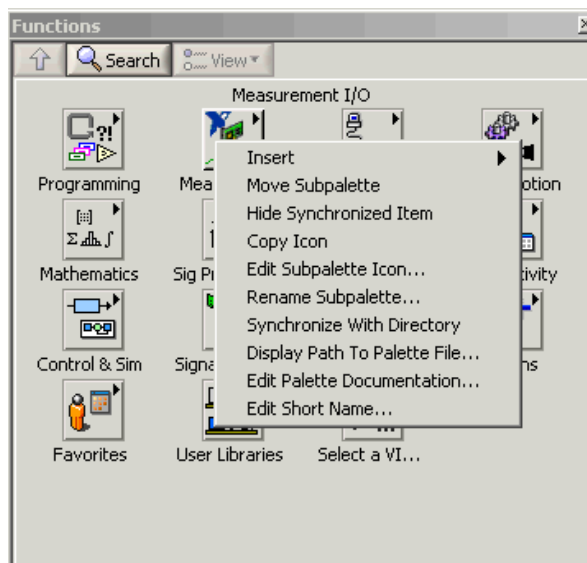


Figure 2: Turn off “Synchronize with directory” feature in LabView 8.x

1.3 Additional Help

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

An additional help topic can be accessed directly by pressing "[Click here for more help](#)" in the Context Help of LabVIEW.

1.4 LabVIEW 8.2 and higher

Please use the LabVIEW 8.2 driver.

2 LabWindows/CVI

2.1 Getting Started

The LabWindows/CVI drivers and examples can be downloaded from the Rohde & Schwarz download area of the website:

http://www2.rohde-schwarz.com/en/service_and_support/Downloads/Drivers/

In order to be able to compile an application it is required to add following files to your LabWindows/CVI project:

- *rssmf.c*
- *rssmf.h*
- *rssmf.fp*
- *rssmf_utility.h*
- *rssmf_utility.c*

2.2 LabWindows/CVI Version

Use National Instruments LabWindows/CVI 8 for compiling the instrument driver and the examples. Please note that examples' graphical interface (.uir file) can be created with a later versions of LabWindows/CVI.

2.3 Additional Help

The LabWindows/CVI instrument driver consists of a ZIP archive containing the driver sources. In addition the instrument driver documentation is also included in compressed HTML format (Windows CHM help file) and stored together with the driver sources.

3 VXIplug&play Instrument Driver for C#, C/C++, Visual Basic .NET, VEE, etc.

3.1 Getting Started

The VXIplug&play instrument driver can be downloaded from the Rohde & Schwarz download area of the website:

http://www2.rohde-schwarz.com/en/service_and_support/Downloads/Drivers/

3.1.1 C#

A wrapper is necessary to enable a direct access to the driver DLL. The *rssmf.cs* wrapper for C# is automatically installed in the `~\VXIpnP\WinNT\include` directory. The *rssmf.cs* wrapper file is intended to be used for the R&S[®]SMB100A as well as for the R&S[®]SMC100A.

3.1.2 Visual Basic.NET

A wrapper is necessary to enable a direct access to the driver DLL. The *rssmf.vb* wrapper for .NET is automatically installed in the `~\VXIpnP\WinNT\include` directory. The *rssmf.vb* wrapper file is intended to be used for the R&S[®]SMB100A as well as for the R&S[®]SMC100A.

3.1.3 Agilent VEE Version

Please use Agilent VEE Version 6 or later.

3.2 Additional Help

In addition the instrument driver documentation is also included in compressed HTML format (Windows CHM help file) and stored together with the driver sources in the `~\VXIpnP\WinNT\rssmf` directory.

For more information regarding the VXIplug&play instrument drivers, please read the *readme.txt* file which comes with the instrument driver.

4 Linux and Mac OS X

Drivers for Linux and Mac OS X are available. Further information please refer to [1MA153: Development Hints and Best Practices for Using Instrument Drivers](#).

5 Remote control via LAN

Instrument Name, IP Address and Resource Name

Connect the instrument via VXI-11 build the resource name using the instrument name or the IP address.

The R&S SMF is preconfigured for networks using DHCP (dynamic host configuration protocol). In these networks, the IP address is automatically assigned. The SMF is identified via an unambiguous computer name in the network.

For more Information please see the "Compressed Online Help for R&S SMF100A" (rsSMFhelp.chm).

Download it from:

http://www.rohde-schwarz.com/product/smf100a/downloads_help.html

Using the Instrument Name as Resource Name

By default the instrument name is composed of: RSSMF100A <Serial number> (on the rear panel of the instrument)

Example:

Serial Number = 123456

Instrument Name = RSSMF100A12345

Resource Name = TCPIP::RSSMF100A123456::INSTR

Using the IP Address as Resource Name

Example

IP Address = 192.168.1.33

Resource Name = TCPIP::192.168.1.33::INSTR

About Rohde & Schwarz

Rohde & Schwarz is an independent group of companies specializing in electronics. It is a leading supplier of solutions in the fields of test and measurement, broadcasting, radiomonitoring and radiolocation, as well as secure communications. Established more than 75 years ago, Rohde & Schwarz has a global presence and a dedicated service network in over 70 countries. Company headquarters are in Munich, Germany.

Environmental commitment

- Energy-efficient products
- Continuous improvement in environmental sustainability
- ISO 14001-certified environmental management system



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