R&S®VISA Release Notes

Software Version 5.12.9

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The software makes use of several valuable open source software packages. For information, see the "Open Source Acknowledgment" provided with the product.
The following abbreviations are used throughout this document: R&S®VISA is abbreviated as R&SVISA.

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1 Information on the current version and history

1.1 Version 5.12.9 (April 2023)

- Windows: Fix installation path of vpptype.h
  The file C:\Program Files\IVI Foundation\VISA\Win64\RsVisa\include\ vpptype.h was installed with a superfluous blank before the file name
- Windows: Fix shutdown of VXI-11 SRQ thread
  During shutdown of a VXI-11 session, the transport socket was closed twice in Windows. A concurrently created socket could be disconnected unexpectedly in a race condition.
- macOS: The universal setup rsvisa5.12.9.pkg does not force to install Rosetta anymore.

1.2 Version 5.12.8 for CentOS 7.4 (February 2023)

- Dependencies of R&S VISA for CentOS 7 are based on Centos 7.4.1708. Using Centos 7.9 or higher is recommended.

1.3 Version 5.12.8 for Windows (November 2022)

- VISA.NET: Fix method IVisaSession.WaitOnEvent(). This method did not close the event session handle, and therefore the system ran out of event handles after 50 events.
- Fix viGetAttribute(ViEvent, VI_ATTR_EVENT_TYPE, &attrValue) to return event type

1.4 Version 5.12.6 (April 2022)

- macOS and Linux: Fix viClear with USBTMC devices (e.g. RTB2002)
- macOS: Universal Library and Applications for macOS version 10.15+
- Fix memory leak when calling viFindRsrc(…)

1.5 Version 5.12.4 (July 2020)

- Since 5.12.0 Windows only: Fix detection of interrupted queries (e.g. two subsequent *IDN? without reading first response) in HiSLIP sessions
- Fix open/close races in HiSLIP sessions

1.6 Version 5.12.3 (April 2020)

- Fix for Windows release: rsvisa32.dll can hang during application shutdown when viClose(defaultRM) is not called
- Fix races when using viEventHandler()
- VXI-11: There are instruments from other vendors that do not support the abort channel. The VISA does not open the abort channel anymore to support these instruments. Future versions will use the abort channel again, when asynchronous commands (e.g. viReadAsync) are supported
- RsVisaTester: *Performance Test* and *Scpi Mmem Test* now use current MMEM:CDIRectory to write test file

1.7 Version 5.12.2 (December 2019)

Only released for Windows

- Fix installation of VISA.NET assemblies

1.8 Version 5.12.1 (November 2019)

- Update of VISA Shared Components V 5.12.0, which require Windows 7 or later
- Support of legacy R&S®NRP devices under Windows
  Example of a NRP-Z86 resource name:
  `USB::0x0AAD::0x0095::104015::INSTR`
- Support of VISA.NET Interface
- Support for openSUSE Leap 15.1

1.9 Version 5.9.0 (April 2019)

- Includes new header files of VISA Library 5.8 specification
- Update of VISA Shared Components V5.9
- Support for CentOS 7

1.10 Version 5.8.6 (April 2018)

- Update of OSA (Open Source Acknowledgment)
- Support for Linux Ubuntu LTS 16.04 and LTS 18.04

1.11 Version 5.8.5 (April 2018)

- Support for Linux Ubuntu LTS 16.04
- Support of new attributes which allow querying information about devices found via LXI

- The *Find Resource* Dialog of the RsVisaTester shows now additional information about LXI devices

1.12 Version 5.8.2 (April 2017)

- Update of VISA Shared Components V 5.8.
- Support of resource class ASRL[board]::INSTR for serial devices (RS-232, Virtual USB Serial Ports)
- Attributes fixed: VI_ATTR_IO_PROT, VI_ATTR_DMA_ALLOW_EN, VI_ATTR_TCPIP_KEEPALIVE, and VI_ATTR_TCPIP_NODELAY

1.13 Version 5.7.0 (January 2017)

- Update of VISA Shared Components V 5.7.
- When connecting to a device the *RsVisaTester* now allows to set the mode parameter of the *viOpen* call.
- If for VXI-11 connections *retCnt* and *cnt* differ in the *viWrite* method the VISA does not return an IO Error anymore, but *VI_SUCCESS*
- Minor bugfixes

1.14 Version 5.5.6 (August 2016) – only for Mac OS

- The setup package file is digitally signed, such that it can be downloaded from the web and is trusted by the gatekeeper.
- Layout improvements of the resource string editor of the RsVisaConfigure Tool.
- Higher reliability of VXI-11 connections.

1.15 Version 5.5.5 (July 2016)

- Support for Mac OS.
- The RsVisaTraceTool displays the VISA resource string.
- Improvements of the RsVisaConfigure GUI.
- The VXI-11 Channel now supports the attributes *VI_ATTR_TCPIP_PORT*, *VI_ATTR_TCPIP_NODELAY*, and *VI_ATTR_TCPIP_KEEPALIVE*.
- Potential memory corruption bugs in the RSIB and USBTMC channels are fixed.
- If *viRead* time-outs in the VXI-11 channel the VISA returns already received data.
- Minor bugfixes.

1.16 Version 5.5.4 (October 2015)

R&S VISA is a standardized software library that allows fast communications over diverse interfaces with a wide variety of T&M instruments that are detected in the network from PC applications. R&S VISA also includes a trace tool that monitors communications between multiple applications and T&M instruments simultaneously and, with the aid of efficient filters, permits targeted analysis.

Core features are:

- Communications via TCP/IP (HiSlip, VXI-11, RSIB, Raw Socket) and USBTMC
- Support for all Windows versions from XP Service Pack 2
- Available for 32-bit and 64-bit applications
- Switching between VISA implementations at runtime
- Integrated, automatable search algorithms for detecting T&M instruments in the network
- Efficient trace tool for communications analysis
- Compact, fast, and free-of-charge under the R&S terms and conditions for royalty-free products

Besides the VISA library this product contains three utility applications:

R&S VISA trace tool

- Logs all communications between the R&S VISA library and applications
- Long-term logging to file along with quick display of all VISA remote control commands
- Filters permit targeted monitoring of individual processes, threads or sessions
- Configurable color coding facilitates analysis
- Clear visual highlighting of VISA commands called simultaneously from different threads
- Reduction of a series of identical commands into a single log entry
- Automatic pause at VISA errors
- Multiple instances of R&S VISA trace tool can be launched independently

R&S VISA tester

- Call of common VISA commands for a quick connection check
- Automated test sequences for testing the performance and reliability of a connection
- Query and definition of VISA attributes
- Support of VISA event and locking mechanism
- Switching between active VISA implementations at runtime
- Search for instruments in the network via mDNS and VXI-11

R&S VISA configuration tool

- Definition of alias names for resources
- Manual entry of LAN resources
- Configuration of VISA conflict manager: assignment of channels to VISA
  Modifications to the documentation

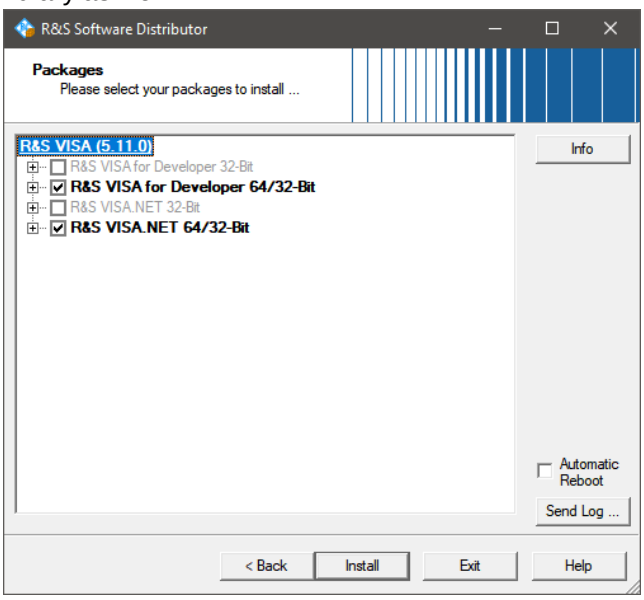
2 Installation on Microsoft Windows

2.1 System Requirements

Operating System: Microsoft Windows (7 or later)

2.2 Installation Procedure

1) Start the Setup executable *SetupRsVisa<Version>.exe*
2) Click *Next*
3) Read the license agreement carefully. If you agree to the terms of the agreement click on “I accept the license agreement” and then click *Next*
4) Use the *Verify* button to verify that the setup executable is not compromised.
5) Depending on your system either only the 32-bit library or the 64-bit package are selectable for installation. Note that the 64-bit package contains the 32-bit VISA library as well.



If the IVI Shared Components are either not already available on your system or have a lower version number, this component is installed along with the R&S VISA. Click *Install* to start the installation of all required components.

6) If requested, read the license agreement of the IVI Shared Components carefully and accept these if you agree.
7) After a successful installation, click *Exit* to finish the setup.
8) To remote control legacy R&S®NRP devices, download and install the R&S NRP Toolkit.

2.3 Uninstallation

Open the uninstall manager in the control panel. Select R&S VISA and click *Uninstall*. When uninstalling R&S VISA from your system all R&S VISA components are removed along with all user settings (e.g. the resource identifier and alias list). The IVI Shared Components remain installed, but can be uninstalled separately.

2.4 Repair, Update and Downgrade

If a file of the R&S VISA is missing (e.g. by accidently deleting it) rerun *SetupRsVisa<Version>.exe*. The missing files are copied to your system. The user settings are not modified.

To initiate the update or downgrade process run *SetupRsVisa<Version>.exe* of the newer or older version and follow the installation steps given above. All R&S VISA components are replaced by the components of the version being installed. The user settings are not modified. Note, the R&S VISA setup only updates and never downgrades the IVI Shared Components.

3 Installation on Mac

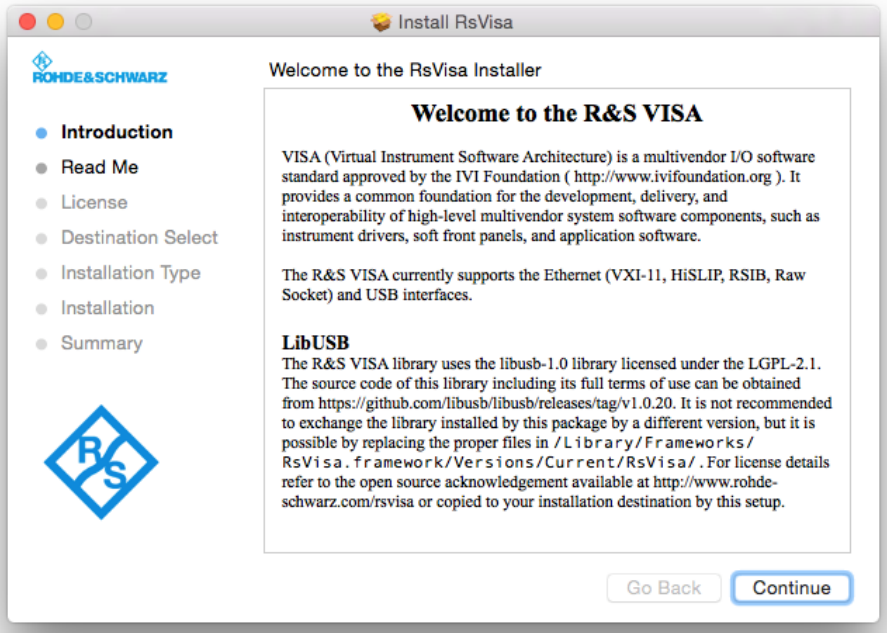
3.1 System Requirements

Operating System: Mac OS X (10.15 or later)

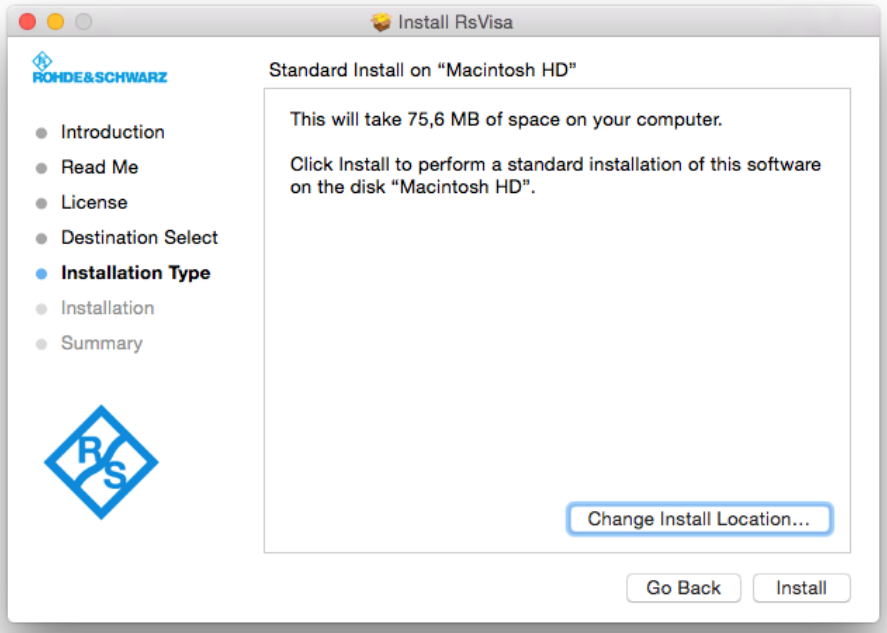
Supports Apple M1 and Intel based applications for Mac OS.

3.2 Installation Procedure

1) Start installer by double-clicking on package *rsvisa<Version>.pkg*



2) Read the first and second page of the installer to get an overview of VISA and recent changes. If needed, save the “Usage” information to a file for later access.
3) Read the license agreement carefully. If you comply, click “Continue” and “Agree”. If you do not comply either exit the installer or click “Continue” and “Disagree”.
4) Click install to start the installation. Note that you might be requested to enter the credentials of a privileged user to proceed with the installation.



5) Click “Close” to finish the installation.

3.3 Uninstallation

For convenience the R&S VISA provides an uninstall script which removes all R&S VISA related files from your hard drive. This file is located at /Applications/Rohde-Schwarz/removeVisa.sh and should be invoked with root privileges. In a terminal this can be achieved by the command “`sudo /Applications/Rohde-Schwarz/removeVisa.sh`“.

3.4 Repair, Update and Downgrade

If a file of the R&S VISA is missing (e.g. by accidently deleting it) rerun the installation procedure as outlined above. The installer copies missing files to your system without modifying the user settings.

To up- or downgrade the R&S VISA run the installer of desired version as outlined above or in the release notes of the target version. The installer replaces all R&S VISA components by the components of the version being installed without modifying the user settings.

4 Installation on Ubuntu

4.1 System Requirements

(K-) Ubuntu Linux Operating System: 16.04 LTS or higher
Please note that other Debian based systems may work as well.

4.2 Installation Procedure

R&S VISA versions for Linux distributions are available for download. The packages constitute installable *.deb files which can be processed by the standard package tools dpkg.

To install the R&S VISA Ubuntu packages on your system invoke

```
$ sudo dpkg -i rsvisa_<version>-1_amd64.deb
```

This installs the R&S VISA library runtime, along with the tools and examples. The examples and the documentation are installed to `/usr/share/doc/rsvisa/`.

5 Installation on CentOS 7

5.1 System Requirements

CentOS 7 Linux Operating System: e.g. CentOS-7-x86_64-DVD-1708.iso
See link https://vault.centos.org/7.4.1708/

Using Centos 7.9 or higher is recommended.

5.2 Installation Procedure

R&S VISA versions for Linux distributions are available for download. The packages constitute installable *.rpm files which can be processed by the standard package tools yum.

To install the R&S VISA package on your system invoke

```
$ sudo yum install ./rsvisa_<version>-1_x86_64.rpm
```

This installs the R&S VISA library runtime, along with the tools and examples. The examples and the documentation are installed to `/usr/share/doc/rsvisa/`.

5.3 Firewall and Group Settings

Firewall settings and user restrictions prevent the *RsVisaTester* or your application to work as expected. This setup does not change your firewall settings or user groups to keep your system at your desired security level.

Please do the following steps to enable your favorite VISA resources:

ASRL[n]::INSTR

Add your user account to group ‘dialout’

USB::*::INSTR

The file `/etc/udev/rules.d/99-rsusbdevice.rules` changes read/write permissions for all R&S USBTMC instruments. All user accounts are allowed to communicate with these USB devices. Please note that the rule of this file will be changed in future versions.

TCPIP::*::hislip*::INSTR

Enable the service ‘mdns’ in your firewall if you want to find LXI instruments in your local network, e.g.:

```
firewall-cmd --zone=work --add-service=mdns --permanent
```

If you cannot open or ping a device with ping hostname.local then you need to install the package **nss-mdns** from the repository EPEL x86_64. Please refer to the current

documentation of your distribution how you can install packages from the repository EPEL (Extra Package for Enterprise Linux).

TCPIP::*::inst*::INSTR (VXI-11 Discovery)

Enable the protocol ‘udp’ in your firewall if you want to find your VXI-11 instruments via the broadcast to port 111 (portmap service).

```
firewall-cmd --zone=work --add-protocol=udp --permanent
```

Please select your desired zone (e.g. here: work) and reload your settings:

```
firewall-cmd –-set-default-zone work
```

```
firewall-cmd --reload
```

to activate the new rules immediately.

6 Installation on openSuse

6.1 System Requirements

openSuse Leap 15.1 or higher

6.2 Installation Procedure

R&S VISA versions for Linux distributions are available for download. The packages constitute installable *.rpm files which can be processed by the standard package tools yum.

To install the R&S VISA package on your system invoke

```
$ sudo rpm --install rsvisa_<version>-1_x86_64.rpm
```

This installs the R&S VISA library runtime, along with the tools and examples. The examples and the documentation are installed to `/usr/share/doc/rsvisa/`.

7 Customer support

Technical support – where and when you need it

For quick, expert help with any Rohde & Schwarz product, contact our customer support center. A team of highly qualified engineers provides support and works with you to find a solution to your query on any aspect of the operation, programming or applications of Rohde & Schwarz products.

Contact information

Contact our customer support center at www.rohde-schwarz.com/support or follow this QR code:

Figure 7-1: QR code to the Rohde & Schwarz support page