

Release Notes

Tektronix

**RSAVu
Offline Analysis Software
071-1886-01**

This document applies to version 3.XX and above.

www.tektronix.com



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For product information, sales, service, and technical support:

- In North America, call 1-800-833-9200.
- Worldwide, visit www.tektronix.com to find contacts in your area.

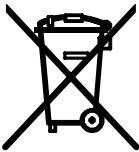
Environmental Considerations

This section provides information about the environmental impact of the product.

Product End-of-Life Handling

Observe the following guidelines when recycling an instrument or component:

Equipment Recycling. Production of this equipment required the extraction and use of natural resources. The equipment may contain substances that could be harmful to the environment or human health if improperly handled at the product's end of life. In order to avoid release of such substances into the environment and to reduce the use of natural resources, we encourage you to recycle this product in an appropriate system that will ensure that most of the materials are reused or recycled appropriately.



The symbol shown to the left indicates that this product complies with the European Union's requirements according to Directive 2002/96/EC on waste electrical and electronic equipment (WEEE). For information about recycling options, check the Support/Service section of the Tektronix Web site (www.tektronix.com).

Restriction of Hazardous Substances

This product has been classified as Monitoring and Control equipment, and is outside the scope of the 2002/95/EC RoHS Directive. Although not required, this product complies with the RoHS Directive requirements for nonexempt products.

Release Notes

This document describes how to acquire, install and set up the RSAVu software.

What is the RSAVu Software?

The RSAVu software enables you to use a Windows-based PC to analyze iqt and tiq waveform data files saved by Tektronix WCA230A/280A, RSA3303A/3308A/3408A, and RSA6106A/6114A spectrum analyzers. The software emulates an RSA3408A spectrum analyzer, allowing you to perform the same analysis on your PC that you can perform on an RSA3408A spectrum analyzer.

Because the RSAVu software can analyze waveform data files from RSA6100A Series spectrum analyzers, you can perform demodulation analysis (equivalent to RSA3408A options 21-40) on RSA6100A Series tiq data files that cannot be performed on the instruments themselves. (On the RSA6100A Series instruments, you save acquisition data in tiq format by setting the **Save As type** to **Acquisition data (with Setup)**.) The maximum file size supported for tiq files is 256 MB.

NOTE. *When using an RSA6100A instrument to analyze RFID or W-LAN signals, Tektronix recommends a real-time bandwidth of 40 MHz or lower to limit the effects of the noise floor on measurements.*

The Modulation Fidelity measurement will not work with files from an RSA6100A Series instrument.

How to Get the Software

The RSAVu software is available free of charge on the Tektronix Web site, www.tektronix.com. For an additional fee, you can order a hardware key that enables additional analysis capabilities.

Free and Licensed Mode

The software operates in two modes: free and licensed. In the free mode, you can perform waveform analysis equivalent to the base version (no optional software installed) of a WCA or RSA spectrum analyzer.

In the licensed mode, the software has the full modulation analysis capability of an RSA3408A (with selected options). To operate the software in licensed mode, you must purchase a hardware key (attaches to a USB port). The hardware key is programmed to enable the modulation analysis functions in the RSAVu software that you purchase.

Required PC Configuration

To run the RSAVu software, you need a Windows-based PC with the following configuration:

- Pentium-compatible processors
- Microsoft Windows XP / Windows 2000
- 100 MB free hard-disk space for installation
- 1 free USB port (licensed version only)

Installing the Software

1. Download the RSAVu software from www.tektronix.com.

NOTE. *The RSAVu software will not operate under remote control if the software is installed on an RSA6100A Series instrument.*

2. In the RSAVu software folder, double-click the **setup.exe** icon to launch the Install Wizard. Follow the on-screen instructions to install the software.
3. When the Install Wizard displays the Setup Type window:

- a. Select **RSAVu** as the setup type if you have an RSAVu hardware key (identified by the label on the hardware key) or no hardware key (operating in Free mode).
- b. Select the specific instrument type with which you will be using the software if you have an RSA3SASW hardware key.

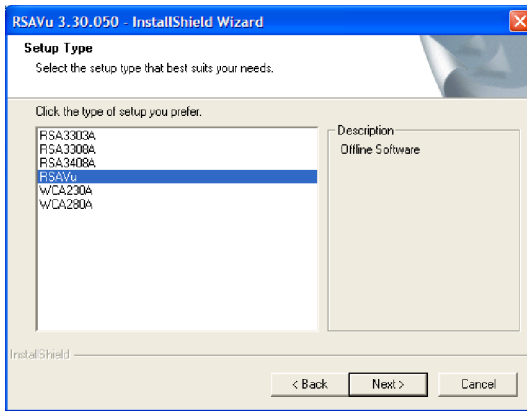


Figure 1: Selecting the setup type

NOTE. The RSAVu software supports only one instrument type at a time. If you need to change the instrument type supported, you will have to reinstall the software.

Installing the Hardware Key Driver

You do not need a hardware key to use the RSAVu software. However, if you want to use the full analysis capability of the software, you must purchase a hardware key. To order a hardware key, see www.tektronix.com. To use the hardware key, you must install a driver. There are two installation procedures: one for the

current version of the hardware key and one for the original version of the hardware key.

NOTE. *The RSAVu application software must be installed before installing the USB hardware key driver.*

RSaVu Hardware Key Installation

If your hardware key is labeled RSAVu, use the following procedure to install the hardware key driver:

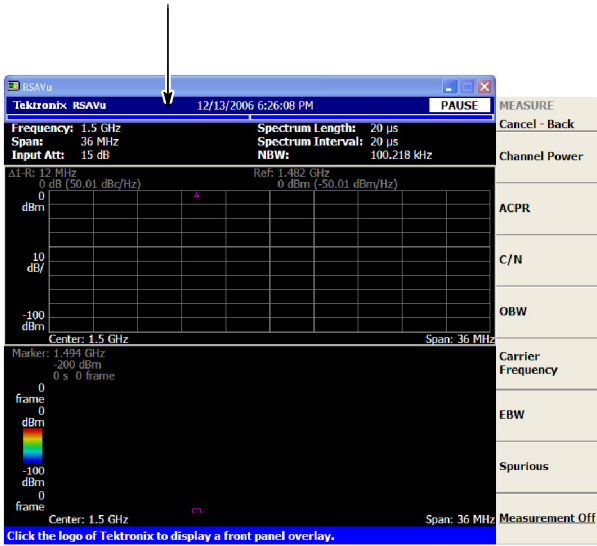
1. Insert the hardware key into a USB port on your PC.
2. When Windows displays the **Found New Hardware Wizard** window, select the **No, not at this time** option button and click the **Next** button.
3. Select the **Install the software automatically (Recommended)** option button, and then click **Next**.
4. Click the **Finish** button to complete the installation of the hardware key.

RSA3SASW Hardware Key Installation

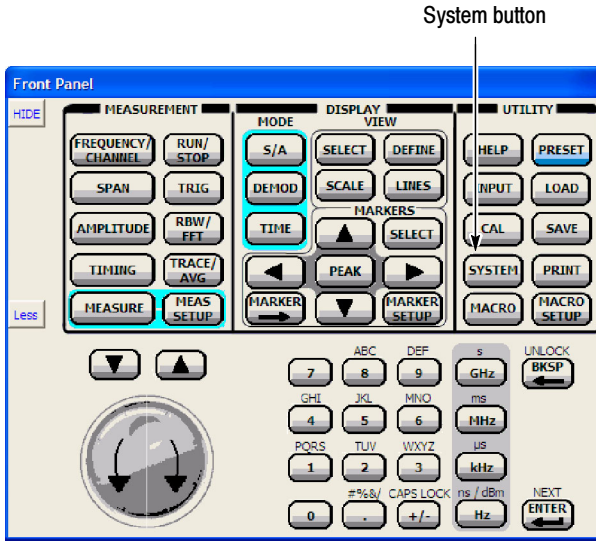
If your hardware key is labeled RSA3SASW, use the following procedure to install the hardware key driver.

1. Insert the hardware key into a USB port on your PC.
2. When Windows displays the **Found New Hardware Wizard** window, select the **No, not at this time** option button and click the **Next** button.
3. Select the **Install the software automatically (Recommended)** option button, and then click **Next**.
4. Click the **Finish** button to complete the installation of the hardware key.
5. Locate the **TEK RTSA** icon on the Windows desktop and double-click the icon to launch the RSAVu software.
6. Click the title bar to display the **Front Panel** window.

Click the title bar to display the front-panel window



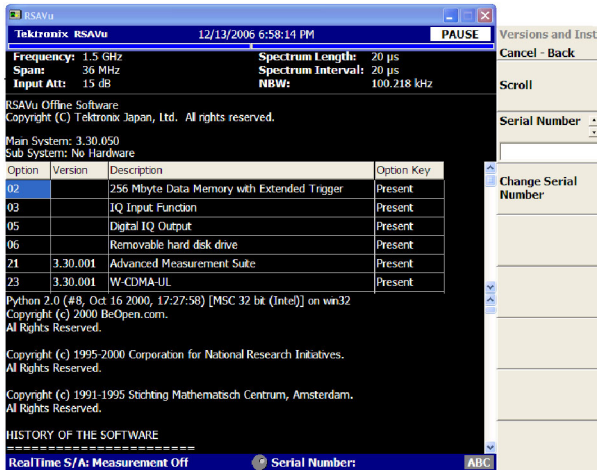
7. In the **Front Panel** window, click the **System** button.



8. Click the **Versions and Installed Options** side key.



- Enter the serial number for your RSAVu software in the Serial Number box.



- Click the **Change Serial Number** side key to save the serial number registration.

- Quit the application.

This completes the installation of the hardware key.

Upgrading a Licensed Version of RSAVu

If you purchased an upgrade for a licensed RSAVu installation, you received a USB Flash Drive containing a program that you must use to update the hardware key you received with your original purchase.



CAUTION. *The USB Flash Drive that contains your hardware key upgrade program is not write protected. To avoid losing this program, back up the program before you perform the upgrade. The upgrade program on the USB Flash Drive is keyed to the serial number of your licensed RSAVu installation. A replacement for the program cannot be downloaded, it must be regenerated.*

Upgrading Your Current RSAVu Hardware Key

Use the following steps to upgrade your current RSAVu hardware key:

1. Insert your current RSAVu hardware key into a USB port on your PC.
2. Insert the USB Flash Drive into a USB port on your PC.
3. Locate the *HWKeyUpgrade.exe* file on the USB Flash Drive and double-click the icon.
4. Follow the on-screen instructions to upgrade your hardware key.
5. After the upgrade is complete, remove the USB Flash Drive and store it in a safe location.

Running the Software

1. If you purchased a licensed version of the RSAVu software, install the hardware key in a USB port on your PC.

NOTE. *Always install the hardware key in a USB port before launching the RSAVu software. If the hardware key is not present when the software launches, the full capabilities of the software will not be enabled.*

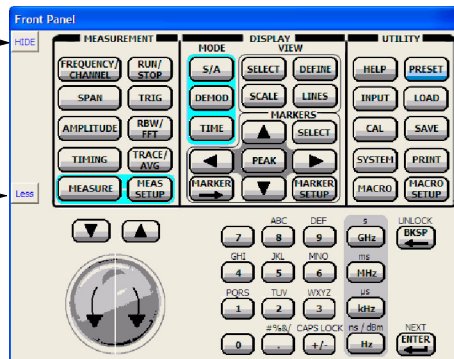
2. Locate the TEK RTSA icon on the Windows desktop and double-click the icon to launch the RSAVu software.

Click the title bar to display the front-panel window



Click to hide the front panel

Click to hide the lower half of the front panel



- For information on how to use the software, see the *RSA3408A 8 GHz Real-Time Spectrum Analyzer User Manual*. The RSAVu software operates the same way as the instrument software.

RSAVu Remote Control Support

The RSAVu software supports the use of remote commands with some limitations. For example, commands that control input functions are not supported. The following tables describe the support provided for measurement modes and remote control groups. For detailed information on the remote control commands, download the RSA3408A Programmer manual from www.tektronix.com/manuals.

NOTE. *Error messaging is not supported. If you send a command that generates an error message, the RSAVu software will not return an error message.*

Enabling the Software for Remote Control

To use remote commands with the RSAVu software, you must enable the Remote Interface.

To enable the Remote Interface:

1. Click the title bar to display the **Front Panel** window.
2. Click the **SYSTEM** button.
3. Click the **Remote Setup** softkey.
4. Under **Remote Interface**, click **On**.

Measurement Modes

Table 1 lists the measurement modes that are fully supported by the remote interface.

Table 1: Full Supported Measurement Modes

Mnemonic	Description	Option
SARTIME	Real-time spectrum analysis.	
SAZRTIME	Real-time spectrum analysis with zoom function.	
DEMADEM	Analog modulation analysis.	
DEMDEM	Digital modulation analysis.	Option 21
DEMM2WLAN ¹	IEEE802.11n MIMO (2x2) analysis.	Option 29
DEMUL3G	W-CDMA uplink modulation analysis.	Option 23
DEMDLR5_3G	3GPP-R5 downlink modulation analysis.	Option 27
DEMULR5_3G	3GPP-R5 uplink modulation analysis.	Option 27
DEMDLR6_3G	3GPP-R6 downlink modulation analysis.	Option 40
DEMULR6_3G	3GPP-R6 uplink modulation analysis.	Option 40
TIMCCDF	CCDF Analysis.	
TIMTRAN	Time characteristics analysis.	
TIMPULSE	Pulse characteristics analysis.	

¹ **Analysis of IEEE 802.11n signals with an RSA6100A Series instrument should be performed only with a real-time bandwidth of 40 MHz or less. Analysis using real-time bandwidths between 40 MHz and 110 MHz allows excessive noise to degrade measurement results.**

Table 2 lists the measurement modes that have limited support by the remote interface.

Table 2: Limited Support Measurement Modes

Mnemonic	Description	Option	Comments
DEMRFID	RFID analysis.	Option 21	No spurious or ACPR measurements.
DEMG-SMEDGE	GSM/EDGE modulation analysis.	Option 24	No in-band spurious measurement.
DEMFLCD-MA2K	cdma2000 forward link analysis.	Option 25	No ACPR, channel power, SEM, OBW, or Intermodulation measurements.
DEMRLCD-MA2K	cdma2000 reverse link analysis.	Option 25	No ACPR, channel power, SEM, OBW, or Intermodulation measurements.
DEMFL1XE VDO	cdma2000 1xEV-DO forward link analysis.	Option 26	No ACPR, channel power, SEM, OBW, or Intermodulation measurements.
DEMRL1X EVDO	cdma2000 1xEV-DO reverse link analysis.	Option 26	No ACPR, channel power, SEM, OBW, or Intermodulation measurements.
DEM WLAN	IEEE 802.11a/b/g analysis.	Option 29	No spectrum mask.
DEMSW-LAN	IEEE 802.11n (nx1) analysis.	Option 29	No spectrum mask.
TIMS-SOURCE	Signal source analysis.	Option 21	No phase noise or spurious measurements.

Table 3 lists the measurement modes that are not supported by the remote interface.

Table 3: Unsupported Measurement Modes

Mnemonic	Description	Option
SANORMAL	Normal spectrum analysis.	
SASGRAM	Spectrum analysis with spectrogram.	
SAUL3G	W-CDMA uplink spectrum analysis.	Option 23

Table 3: Unsupported Measurement Modes (Cont.)

Mnemonic	Description	Option
SADLR5_3G	3GPP-R5 downlink spectrum analysis.	Option 27
SAULR5_3G	3GPP-R5 uplink spectrum analysis.	Option 27
DEMTD_SCDMA	TD-SCDMA modulation analysis.	Option 28

Functional Groups

Full Support Groups

The following groups are fully supported by the remote interface (all commands are supported).

Table 4: Full Support Groups

Group	Description
:CONFigure	The :CONFigure commands set up the analyzer to the default settings for the specified measurement.
:CONFigure (Option)	Commands for optional analysis software.
:DISPlay	The :DISPlay commands control how to show measurement data on the screen.
:DISPlay (Option)	Commands for optional analysis software.
:FETCh	The :FETCh commands retrieve the measurements from the data taken by the latest INITiate command.
:FETCh (Option)	Commands for optional analysis software.
:FORMat	The FORMat commands define the data output format.
:HCOPy	The :HCOPy commands control screen hardcopy.
:INSTrument	The :INSTrument commands set the measurement mode. Before you can start a measurement, you must set the mode appropriate for the measurement using these commands.

Table 4: Full Support Groups (Cont.)

Group	Description
:MMEMory	The :MMEMory commands allow you to manipulate files on the hard disk or floppy disk. For details on file manipulation, refer to the <i>RSA3408A 8 GHz Spectrum Analyzer User Manual</i> .
:PROGram	The :PROGram commands control running a macro program.
:SENSe (Option)	Commands for optional analysis software.
:STATus	The :STATus commands control the SCPI-defined status reporting structures.
:SYSTem	The :SYSTem commands set up the system-related conditions.
:UNIT	The :UNIT commands specify fundamental units for measurement.

Limited Support Groups

Commands in the following groups have limited support from the remote interface.

Table 5: Limited Support Groups

Group	Commands not supported
IEEE Common	*CAL? *TRG *TST?
:CALCulate	:MARKer:SET:CENTer
:CALibration	:ALL :AUTO :FLATness :OFFSet :RF

Table 5: Limited Support Groups (Cont.)

Group	Commands not supported
:SENSe	:AVERage :CORRection :FEED :FREQuency (set mode) :ROSCillator :SPECTrum:AVERage :SPECTrum:BANDwidth :SPECTrum:DETEctor :SPECTrum:FILTter :SPECTrum:FFT:ERESolution :SPECTrum:FFT:LENGth :SPECTrum:FFT:WINDow:TYPE
:TRIGger	:LEVel :MODE :POSition (set mode) :SAVE :SLOPe :SOURce

Unsupported Groups

Commands in following groups are not supported by the remote interface.

Table 6: Unsupported groups

Group	Description
:ABORt	Resets the trigger system and related actions such as data acquisition and measurement.
:INITiate	The :INITiate commands control data acquisition.
:INPut	The :INPut commands control the characteristics of the signal input.
:OUTPut	The :OUTPut commands control the characteristics of the analyzer's output port.

Table 6: Unsupported groups (Cont.)

Group	Description
:READ	The :READ commands acquire an input signal once in the single mode and obtain the measurement results from that data.
:READ (Option)	Commands for optional analysis software.
:TRACe	The :TRACe commands set up display of Trace 1 and 2.

Loading a TIQ Format File Using Remote Commands

You can use a remote command to load a tiq-format file (RSA6100A Series file) into the RSAVu software. The same command is used to load tiq-format files and iqt-format files. However, to load a tiq-format file, you must include the filename extension. If you do not use a filename extension, the program assumes that the file to be loaded is an iqt format file.

To load a tiq-format file named `example.tiq` into the software, use this command:

```
:MMEMory:LOAD:IQT example.tiq
```

To load a iqt file named `example.iqt` into the software, use either of these commands:

```
:MMEMory:LOAD:IQT example.iqt
```

```
:MMEMory:LOAD:IQT example
```