History and release notes for the Rohde & Schwarz Arbitrary / Function Generator AM300

Contents

AM300 driver history

Revision	Date	Note
1.8.1	09/2008	Modifications: Windows Vista support added in installer

1.8	04/2006	Modifications:
		- Removed not supported parameter RSSIAM_ROSC_OCXO:
		     Reference Oscillator Source Setup (rssiam_roscSour)
		     Reference Oscillator Source Query (rssiam_roscSour_Q)
		
		- Updated functions for new unit: Vpp ,Vrms, dBm (for Sinewave only):
		     Output Voltage Setup (rssiam_volt)
		     Output Voltage Query (rssiam_volt_Q)
		     Output Voltage Unit Setup (rssiam_voltUnit)
		     Output Voltage Unit Query (rssiam_voltUnit_Q)
		
		- New function Output Load User Setup (rssiam_outpLoadUser)
		- Updated functions Output Load Setup (rssiam_outpLoad) and
		     Output Load Query (rssiam_outpLoad_Q)
		
		- Added manual trigger source (RSSIAM_TRIGGER_SOUR_BUS (2) - Manual), updated functions are:
		     Trigger Source Setup (rssiam_trigSour)
		     Trigger Source Query (rssiam_trigSour_Q)
		     Send Trigger (rssiam_sendTrigger)
		
		- Reordered structure of FP file. New group "Trigger Subsystem Settings" bundles all related functions in one group.
		
		- New trigger subsystem functions:
		     Trigger Polarity Setup (rssiam_trigPolarity) replacement of
		       Trigger Slope Setup (rssiam_trigSlope)
		     Trigger Polarity Query (rssiam_trigPolarity_Q) replacement of
		       Trigger Slope Query (rssiam_trigSlope_Q)
		     Trigger Frequency Setup (rssiam_trigFrequency)
		     Trigger Frequency Query (rssiam_trigFrequency_Q)
		     Trigger Period Setup (rssiam_trigPeriod)
		     Trigger Period Query (rssiam_trigPeriod_Q)
		
		- New output functions:
		Output Addition Setup (rssiam_outpAddition)
		Output Addition Query (rssiam_outpAdditon_Q)
		     are as replacement of
		Output Summary Setup (rssiam_outpSum)
		Output Summary Query (rssiam_outpSum_Q)
		
		- New sweep functions:
		     Sweep Freq Center Setup (rssiam_freqCenter)
		     Sweep Freq Center Query (rssiam_freqCenter_Q)
		     Sweep Freq Span Setup (rssiam_freqSpan)
		     Sweep Freq Span Query (rssiam_freqSpan_Q)
		
		- Group of functions Marker Settings renamed to the Frequency Marker Settings
		
		- New gate functions:
		     Gate Source Setup (rssiam_gateSource)
		     Gate Source Query (rssiam_gateSource_Q)
		     Gate Polarity Setup (rssiam_gatePolarity)

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Revision	Date	Note
		Gate Polarity Query (rssiam_gatePolarity_Q) Gate Length Setup (rssiam_gateLength) Gate Length Query (rssiam_gateLength_Q) are as replacement of Gate Time Setup (rssiam_gateTime) Gate Time Query (rssiam_gateTime_Q)

1.7	11/2005	Modifications:
		   - Updated (fixed) functions:
		     FM User Modulation Volatile Setup (rssiam_fmUserVolatile)
		     FM User Modulation Dac Volatile Setup (rssiam_fmUserDacVolatile)
		     PM User Modulation Volatile Setup (rssiam_pmUserVolatile)
		     Phase Mod Dev Setup (rssiam_pmDev)
		     PM User Modulation Dac Volatile Setup (rssiam_pmUserDacVolatile)

		Modifications:
		  Rev 1.6, 09/2005 by Martin Koutny
		          - Updated functions (descriptions, parameter ranges):
		  Data Arb Volatile Setup (rssiam_dataVolatile)
		  Data Arb Dac Volatile Setup (rssiam_dataDacVolatile)
		  User Modulation Volatile Setup (rssiam_userVolatile)
		  User Modulation Dac Volatile Setup (rssiam_userDacVolatile)
		          - New functions:
		  FM User Modulation Volatile Setup (rssiam_fmUserVolatile)
		  FM User Modulation Dac Volatile Setup (rssiam_fmUserDacVolatile)
		  AM User Modulation Volatile Setup (rssiam_amUserVolatile)
		  AM User Modulation Dac Volatile Setup (rssiam_amUserDacVolatile)
		  PM User Modulation Volatile Setup (rssiam_pmUserVolatile)

1.5	08/2005	Modifications:
		          - New functions:
		  User Modulation Volatile Setup (rssiam_userVolatile)
		  User Modulation Dac Volatile Setup (rssiam_userDacVolatile)
		  Reference Oscillator Frequency Setup (rssiam_roscFreq)
		  Reference Oscillator Frequency Query (rssiam_roscFreq_Q)
		          - Modified functions (description):
		  Burst Mod Sour Setup (rssiam_bmSour)
		  Burst Mod Sour Query (rssiam_bmSour_Q)
		  Burst Mod Stat Setup (rssiam_bmStat)
		  Burst Mod Stat Query (rssiam_bmStat_Q)
		  Gate Function Setup (rssiam_gateFunction) (new value)

1.4.1	04/2005	Modifications:
		   - Function shape parameters are renamed (Square to Square Low Jitter,
		     Square (variable duty cycle) to Square), descriptions improved:
		       Apply Instrument Setup (rssiam_appl)
		       Apply Instrument Query (rssiam_appl_Q)
		       Output Function Shape Setup (rssiam_funcShap)
		       Output Function Shape Query (rssiam_funcShap_Q)
		   - Warning messages from device are suppressed when the function
		     Output Channel Coupling Setup (rssiam_outpChannelCoupl) is
		executed.

1.4	02/2005	Modifications:
		   - Output Channel Coupling Setup (rssiam_outpChannelCoupl):
		     Fixed side effects of coupled/uncoupled mode. Transition
		       from coupled to uncoupled mode (and vice versa) preserves

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Revision	Date	Note
		(restores) device (channel based) settings (depends on coupling mode, of course). - Output Load Setup (rssiam_outpLoad)

1.3	12/2004	Modifications:
		- Fixed default instrument setup routine when reset is omitted
		- Changed descriptions:
		    Trigger Source Setup (rssiam_trigSour)
		    Send Trigger (rssiam_sendTrigger)
		    Output Voltage High Setup (rssiam_voltHigh)
		    Output Voltage High Query (rssiam_voltHigh_Q)
		    Output Voltage Low Setup (rssiam_voltLow)
		    Output Voltage Low Query (rssiam_voltLow_Q)
		- Changed default values:
		    Output Voltage High Setup (rssiam_voltHigh)
		    Output Voltage Low Setup (rssiam_voltLow)
		- Error handling & status checking improved:
		    State Checking (rssiam_errorCheckState) changed
		    Non exported function Check Status (rssiam_checkStatus) changed

1.2	04/2004	Modifications: - Update of Arbitrary Waveform Setting functions
1.1	03/2004	Modifications: - device identification and logical names management added - hot plug & unplug support added
1.0.2	02/2004	Modifications: - Driver is adopted to instrument module firmware 3.63
1.0.1	01/2004	Modifications: - Driver rebuild (broken type library in dll)
1.0	11/2003	Created

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 AM300 driver before connecting the instrument.

## 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 also logical names. You can pass the logical name instead of the instrument descriptor. For example: "AM300" instead of " USB::0xaad::0x5::100009::INSTR ".

Logical names can be configured with the SiScan application.
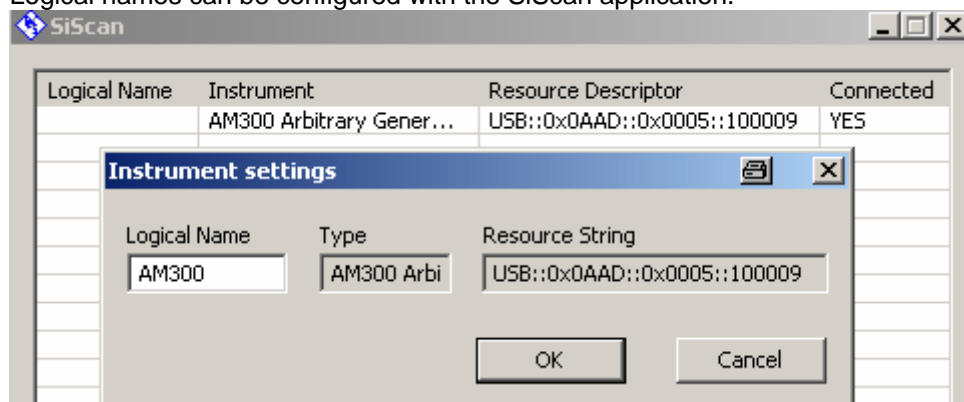
Instrument address descriptor

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 0x5 for AM300
          <serial number> of the AM300 consists of 6 digits. For example 100009.

Example: "USB::0xaad::0x5::100009::INSTR"

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\rssiam directory into your LabVIEW directory (~LabVIEW\instr.lib\rssiam\). 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 6.0** an additional help topic can also be accessed by pressing "Click here for more help" in the Context Help which opens the additional help start page.

LabVIEW 8/LabVIEW 7 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