

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

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AM300 driver history

Revision	Date	Note
1.8.1	09/2008	Modifications: Windows Vista support added in installer
1.8	04/2006	<p>Modifications:</p> <ul style="list-style-type: none"> - 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) Gate Polarity Query (rssiam_gatePolarity_Q)

AM300 driver history

Revision	Date	Note
		<p>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)</p>
1.7	11/2005	<p>Modifications:</p> <ul style="list-style-type: none"> - Updated (fixed) functions: <ul style="list-style-type: none"> 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)
		<p>Modifications: Rev 1.6, 09/2005 by Martin Koutny</p> <ul style="list-style-type: none"> - Updated functions (descriptions, parameter ranges): <ul style="list-style-type: none"> 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: <ul style="list-style-type: none"> 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	<p>Modifications:</p> <ul style="list-style-type: none"> - New functions: <ul style="list-style-type: none"> 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): <ul style="list-style-type: none"> 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	<p>Modifications:</p> <ul style="list-style-type: none"> - Function shape parameters are renamed (Square to Square Low Jitter, Square (variable duty cycle) to Square), descriptions improved: <ul style="list-style-type: none"> 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	<p>Modifications:</p> <ul style="list-style-type: none"> - Output Channel Coupling Setup (rssiam_outpChannelCoupl): <ul style="list-style-type: none"> Fixed side effects of coupled/uncoupled mode. Transition from coupled to uncoupled mode (and vice versa) preserves (restores) device (channel based) settings (depends on coupling mode, of course).

AM300 driver history

Revision	Date	Note
		- 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 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

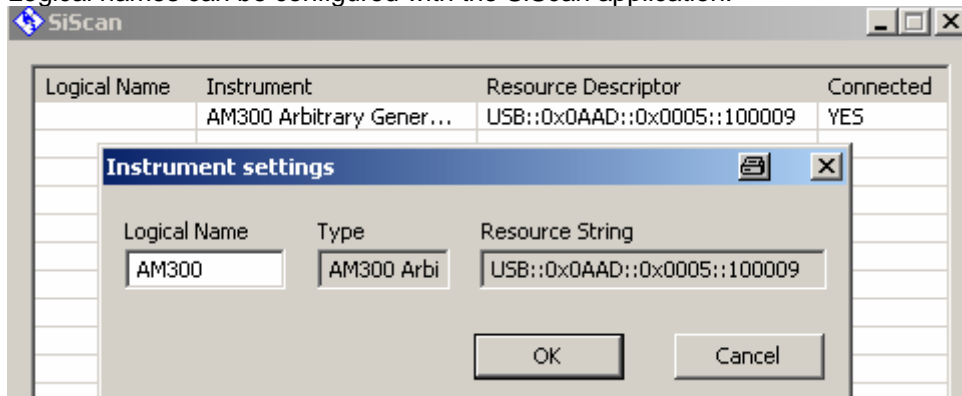
For finding the instrument address on the USB bus easily, use the SiScan application, which is installed with the VXIPnP driver and found in the menu

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"

LabWindows/CVI

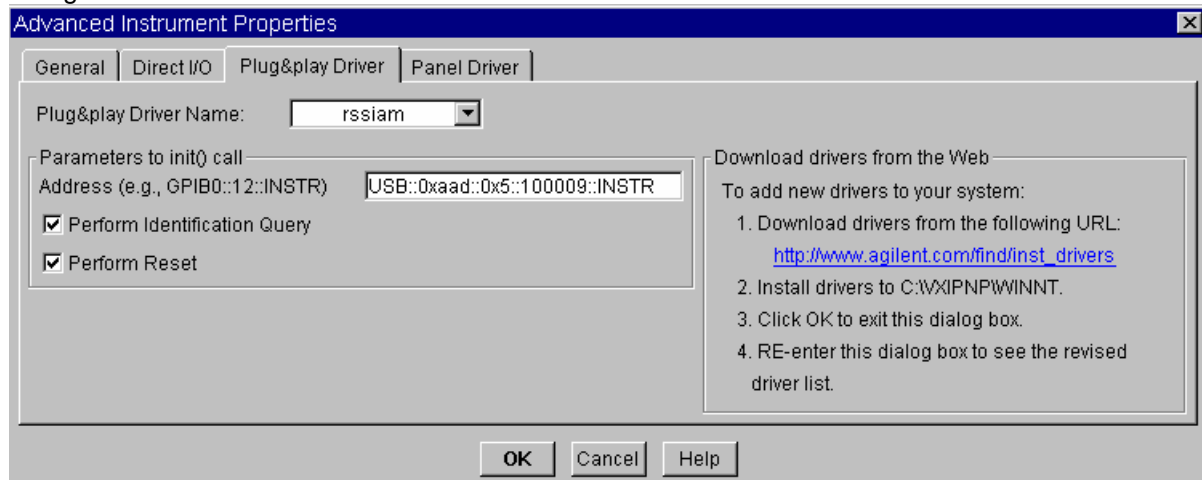
To use the LabWindows/CVI driver it is necessary to install the VXIPnP instrument driver first.

VEE

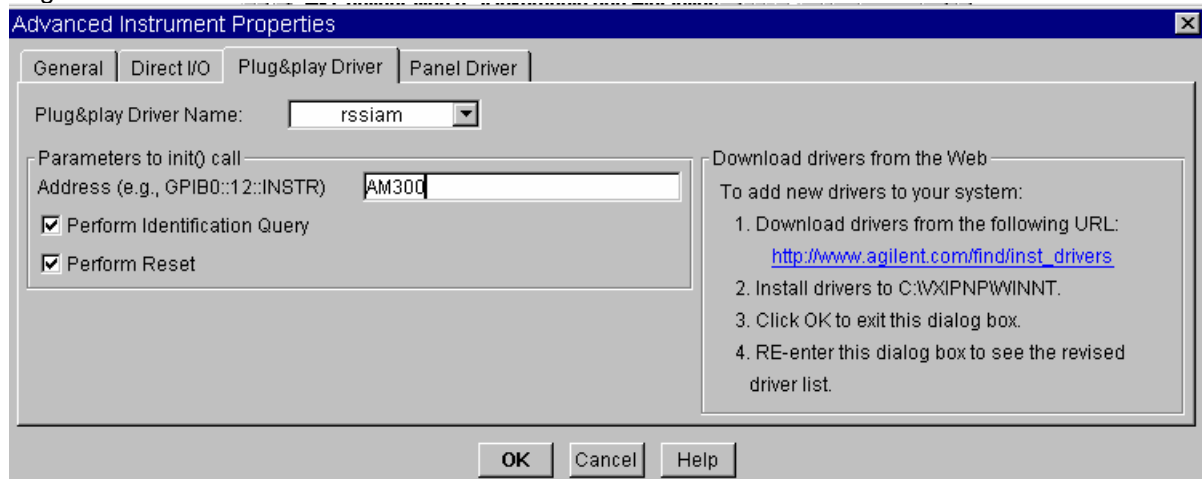
Set **Plug&Play Driver Name** to rssiAm and **Address** to the AM300 address in the menu *IO > Instrument Manager > Advanced > Plug&Play Driver*.

Example:

Using Instrument address:



Logical name set to AM300 with SIScan:



Additional Help

LabWindows/CVI

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.

VXIplug&play Instrument Driver

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 ~\VXI\pnp\WinNT\rsiam directory.

For more information regarding the VXIPnP instrument drivers, please read the readme.txt file that comes with each driver.

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>