

Agilent M9330A Series Arbitrary Waveform Generator Modules



Startup Guide

M9330-90001
March 15, 2011

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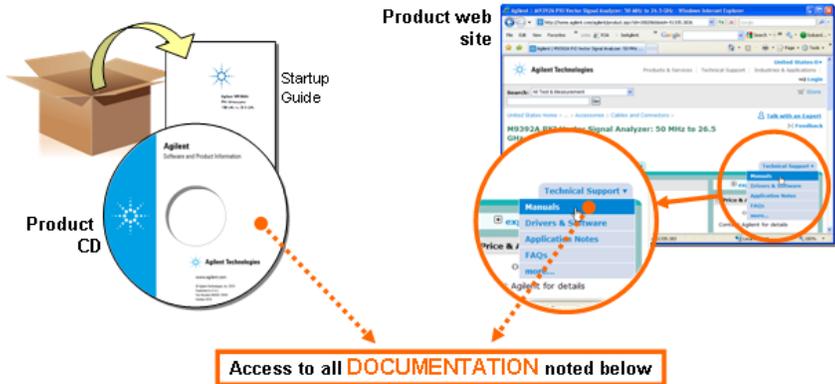
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NOTE

Preliminary notice: This document covers both modules **M9330A** and **M9331A**

Documentation Map



Startup Guide



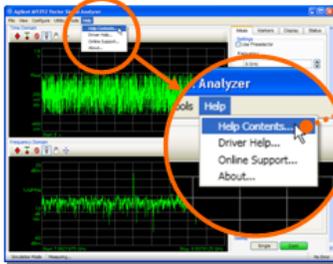
- Unpack product
- Verify shipment
- Install software
- Install & connect hardware
- Verify operation

Data Sheet

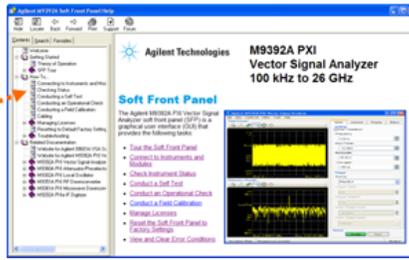


- Product description
- Technical specifications

Soft Front Panel (SFP) user interface



SFP help system



- Product theory of operation
- Configuration
- Self test
- Field calibration
- Error reports

Visual Studio



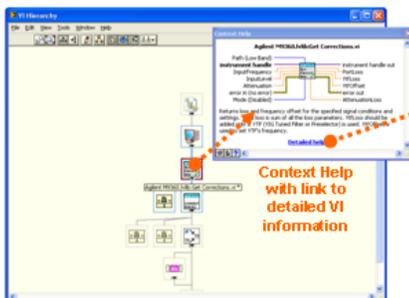
Press F1 with focus on Method

IVI Driver help system



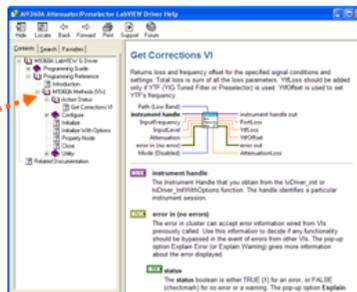
- IVI-COM and IVI-C driver programmer's reference

LabVIEW



Context Help with link to detailed VI information

LabVIEW Driver help system



- LabVIEW driver programmer's reference

Installation and Operation Verification

Introduction

The scope of this Startup Guide is to detail the processes of receiving and installing the Agilent M9330A series Arbitrary Waveform Generator modules, installing the required software, and verifying the basic module operation. If you have any questions after reviewing this information, please contact your local Agilent Technologies Inc. representative or contact us through our website at: www.agilent.com/find/awg



Prior to installation of any Agilent Technologies M9330A Series AWG Modules, an embedded controller or interface card must be installed in Slot-1 of the CompactPCI/PXI chassis. For information on this installation process, refer to the documentation provided by the chassis manufacturer.

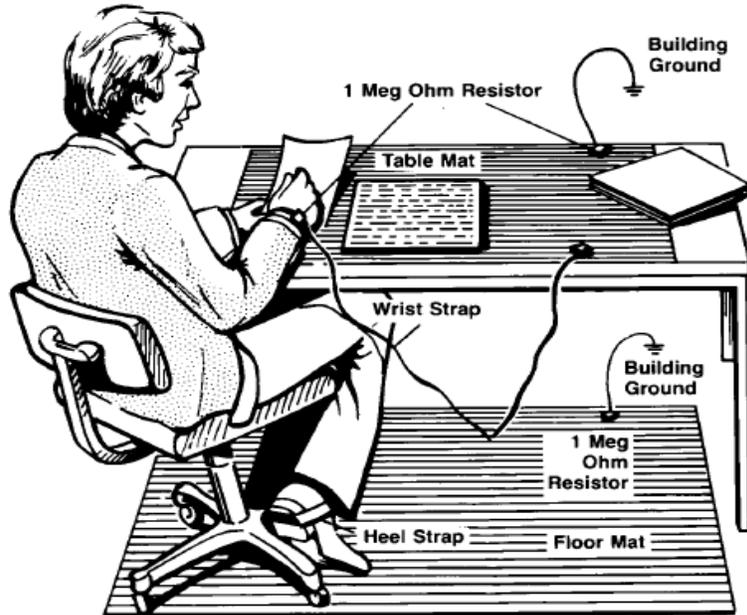
Step1: Check the Shipment

- ✓ M9330A Series AWG Modules
- ✓ M9330A CD (M9330-10001)
- ✓ Agilent IO Libraries Suite (E2904-60003)
- ✓ M9330A Series AWG Modules Quick Start Guide (this document)

Step2: Unpack and Inspect the Module

CAUTION

The module is shipped in materials which prevent damage from static. the module should only be removed from the packaging in an anti-static area ensuring that correct anti-static precautions are taken. Store all modules in anti-static envelopes when not in use.



Electrostatic discharge (ESD) can damage or destroy electronic components. All work on assemblies should be performed at a static-safe workstation. The preceding figure shows an example of a static-safe workstation using 2 types of ESD protection.

- Conductive table-mat and wrist-strap combination.
- Conductive floor-mat and heel-strap combination.

Inspect the module

After unpacking the module, carefully inspect if for any shipping damage. Report any damage to the shipping agent immediately, as such damage is not covered by the warranty.

CAUTION

To avoid damage when handling a module, do not touch any exposed connector pins.

Information on preventing damage to your Agilent equipment can be found at www.agilent.com/find/tips.

Step 3: Check System Requirements

Software Requirements

- IVI Compliance Package, Version 4.1 or greater, which includes the IVI Shared Components. Available from: www.ni.com/ivi/ivi_prod.htm
- Agilent IO Libraries Suite (IOLS), version 16.0 (or newer) which includes the Agilent Connection Expert (ACE)

The following table lists the system configurations that Agilent tested the IO Libraries version 16.0 on, and are therefore guaranteed to work. In general, any x86 or x64 (except Itanium) processor should work but there may be a decrease in performance.

Topic	Requirements		
	Windows XP	Windows Vista®	Windows 7
Operating systems	Windows XP, Service Pack 3	Windows Vista®, SP1 and SP2 (32-bit and 64-bit), Business, Ultimate, Enterprise, Home Basic, and Home Premium	Windows 7 (32-bit and 64-bit) Starter, Home Basic, Home Premium, Professional, Ultimate, Enterprise
Processor speed	600MHz or higher required 800MHz recommended	1Ghz 32-bit (x86), 1GHz 64-bit (x64), no support for Itanium64	1Ghz 32-bit (x86), 1GHz 64-bit (x64), no support for Itanium64
Available memory	256 MB minimum (1 GB or greater recommended)	1 GB minimum	1 GB minimum
Available disk space	1.5 GB available hard disk space, includes: - 1GB available for Microsoft .NET Framework 3.5 SP1 - 100MB for Agilent IO Libraries Suite		
Video	Super VGA (800x600) 256 colors or more	Support for DirectX 9 graphics with 128MB graphics memory recommended (Super VGA supported)	Support for DirectX 9 graphics with 128MB graphics memory recommended (Super VGA supported)
Browser	Microsoft Internet Explorer 6.0 or greater	Microsoft Internet Explorer 7 or greater	Microsoft Internet Explorer 7 or greater

Table 1 System requirements

NOTE

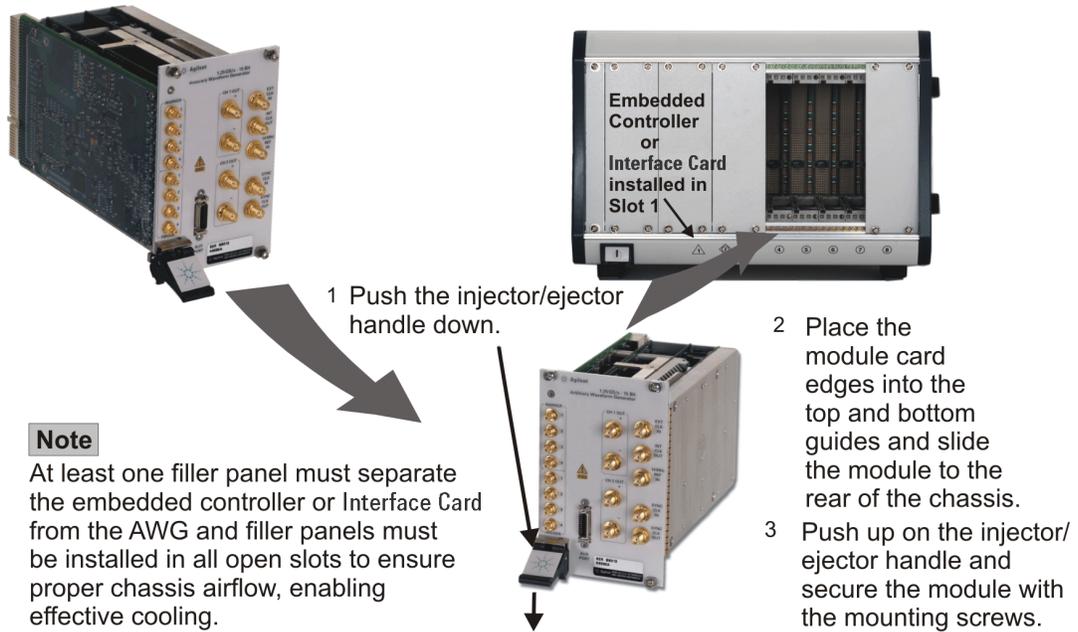
Version 16.0 (or newer) of the Agilent IO Libraries Suite is required.

Step 4: Installing the Software

- 1 From the Agilent IOLS CD (E2904-60003) browser launch the installer.
- 2 Follow the installer prompts to install the IO libraries.
- 3 Insert the M9330A CD (M9330-10001) into the CD drive and follow the instructions.
- 4 If the install application fails to start automatically, navigate to the CD drive and double-click setup.bat.

Step 5: Installing the Module in a Chassis

Before installing the module in the chassis, turn off the controller and make sure the chassis is switched off.



Step 6: Operation Verification and Waveform Generation

The following steps guide you through operation verification and basic waveform generation.

NOTE

In the case of an external controller, the chassis must be switched on before the controller is turned on.

For operation verification, an Agilent E4440A spectrum analyzer or equivalent is needed.

- 1 Connect a 10 MHz reference to the M9330A Series AWG modules front panel connector. If you are using a PXI chassis, use the backplane 10 MHz reference.
- 2 Connect the M9330A Series AWG modules front panel **CH 1 OUT (+)** connector to the spectrum analyzer RF input connector.
- 3 Open the user interface by double-clicking the **M9330A Control Utility** icon placed on the desktop during installation.



NOTE

If you do not have an icon, go to **Start > Programs > Agilent > M933x > Soft Front Panel** to open the user interface.

- 4 Select the **Output** tab and configure the signal conditioning path to include the 500 MHz reconstruction filter through CH1 OUT on channel 1. Enable single-ended output by closing the CH1 (+) switch (toggle the switch).
- 5 Select the **Clock** tab and configure the clock to either the **Backplane 10 MHz** (PXI chassis only) or the **10 MHz REF IN**.
- 6 In the **Quick Play** section of the user interface, browse and select the **100 MHz** waveform found on the CD for the Channel 1 Waveform.
- 7 Click **Play**.

The spectrum analyzer cabled to channel 1 should display a spectral purity of at least -65 dBc for the M9330A Series AWG module, and at least -50 dBc for the M9331A Series AWG module as shown in [Figure 1](#) and [Figure 2](#) respectively.

Figure 1 Spectral Purity of the M9330A Series AWG Module

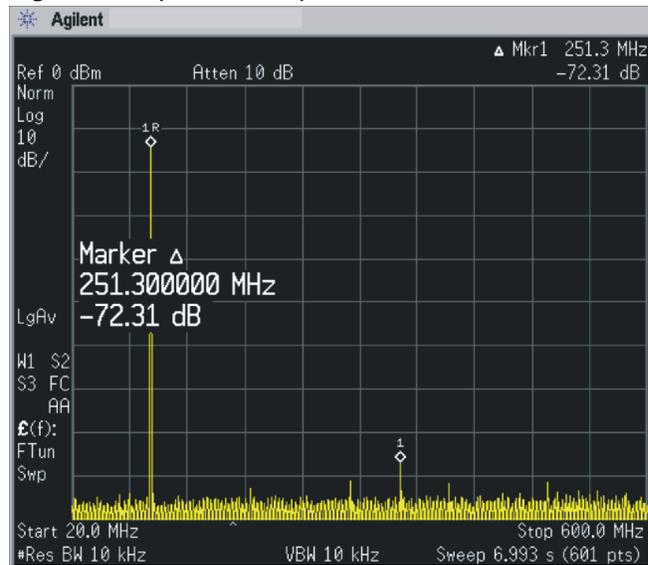
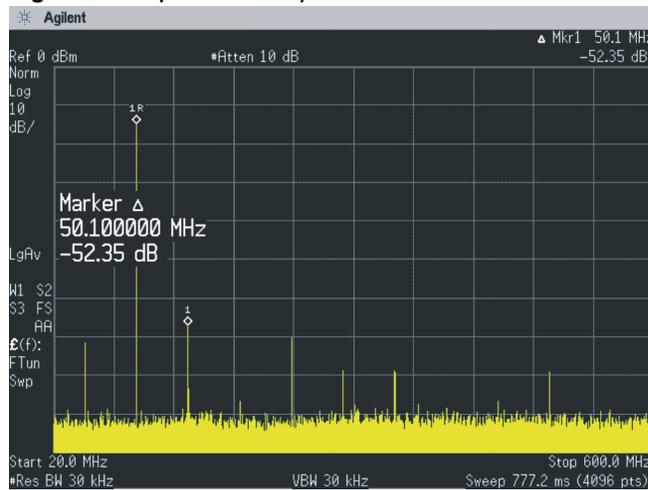


Figure 2 Spectral Purity of the M9331A Series AWG Module



Step 7: Shutting Down the System

Perform the following to shut down the M9330A Series AWG system.

- 1 Close the M9330A Control Utility.
- 2 Shut down Windows (**Start > Shut Down**).
- 3 When Windows is completely shut down, power off the chassis.