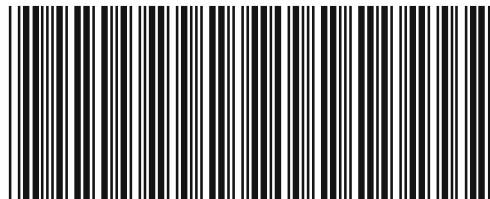


Agilent N5161A/62A/81A/82A/83A MXG Signal Generators Firmware Upgrade Guide



Agilent Technologies

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Introduction

Product Affected:	N5161A/62A/81A/82A/83A
Serial Numbers:	All
Options:	All
To Be Performed By:	(X) Agilent Technologies Service Center (X) Personnel Qualified by Agilent Technologies (X) Customer
Estimated Installation Time:	N5161A/62A/81A/82A/83A: 5 minutes
Estimated Verification Time:	1 minute

The instructions in this firmware upgrade guide enable you to upgrade firmware on an Agilent MXG signal generator from either the Agilent Technologies website or a CD-ROM.

Before using this guide, you should be familiar with the basic operation of the signal generator. If you are not comfortable with using the signal generator's menus and with entering parameter values, refer to the instrument's *User's Guide* and familiarize yourself with the basic operation information.

Basic Upgrade Process

1. Confirm required equipment ([page 4](#)).
2. Run the signal generator's functionality check ([page 5](#)).
3. Connect the signal generator to a PC ([page 6](#)).
4. Download and install the firmware ([page 7](#)).
5. Rerun signal generator's functionality check ([page 5](#)).

Step 1. Confirm Required Equipment

PC Requirements	
450 MHz Pentium® II or higher	
Operating System, Windows XP, or Windows 2000 (with Service Pack 4)	
128 MB RAM	
20 MB free disk space	
Internet browser to download firmware files from the Internet, or to view firmware release information on your PC over the Internet. Either browser must be Java enabled with Java 1.02 or above.	
	Microsoft® Internet Explorer 4.01 or later Netscape Navigator 4.0 or later
If upgrading from a CD, a CD-ROM drive	
<p>If using GPIB:</p> <ul style="list-style-type: none"> • an installed and configured GPIB IO interface card and a GPIB cable • either the Agilent or National Instruments I/O Libraries 	
<p>If using LAN:</p> <ul style="list-style-type: none"> • an installed and configured LAN interface card and LAN cable • To connect directly to the PC, use a LAN crossover cable • To connect to the PC through the LAN, use a 100Base-T LAN cable <p>If you encounter problems, contact your network administrator.</p>	
<p>If using USB:</p> <ul style="list-style-type: none"> • an unused USB port • a USB cable with mini-B connector • the Agilent I/O Library 14.1 or later or the National Instruments VISA library 4.0 or later, if the Agilent MXG firmware is A.01.20 or later. 	

Step 2. Run the Signal Generator's Functionality Check

Use the following procedure to confirm that the signal generator powers up and that the internal check identifies no errors. The internal check evaluates the operation of the signal generator and returns an error message if it detects a problem.

NOTE The N5161A/62A MXG ATE is identical to the N5181A/82A with the exception that they do not have front panel functionality (no display or keys). Instead all functionality is controlled via SCPI commands or through the Web-Enabled MXG. For signal generator functionality, refer to the *Users Guide*. For information on Web-Enabled MXG, refer to the *Installation Guide*, the *Programming Guide* and the *SCPI Command Reference*.

1. Turn on power to the signal generator and let it warm up for at least five minutes.
2. Check to see if the ERR annunciator is on.
 - If the ERR annunciator is *off*, the signal generator's functionality check passed.
 - If the ERR annunciator is *on*:
 - a. View the error queue:
Press **Error**.
Error message in the error queue appear in the display text area. Refer to the signal generator error messages list on the documentation CD for information about each error message.
 - b. Resolve all problems causing errors.
If you are unable to resolve the errors, contact Agilent Technologies (see [page 10](#)).
 - c. Clear the error queue: Press **Clear Error Queue(s)** and go to [Step 3](#).
3. Repeat the functionality check:
Cycle the signal generator's power.
4. Repeat [Step 2](#).

Step 3. Connect the Signal Generator to the PC

NOTE The N5161A/62A MXG ATE is identical to the N5181A/82A with the exception that they do not have front panel functionality (no display or keys). Instead all functionality is controlled via SCPI commands or through the Web-Enabled MXG. For signal generator functionality, refer to the *Users Guide*. For information on Web-Enabled MXG, refer to the *Installation Guide*, the *Programming Guide* and the *SCPI Command Reference*.

Using LAN

Connect the signal generator to the PC:

Either

- use a crossover cable to connect the signal generator directly to the PC,
or
- connect the PC to the LAN and use a 100Base-T LAN cable to connect the signal generator to the DHCP Server.

There are numerous ways to configure the signal generator to connect to the LAN. Refer to:

- Agilent Technologies IO Libraries USB/LAN/GPIB Interfaces Connectivity Guide (E2094-90009).
- Agilent MXG FAQ's "How do I connect to the LAN?"
- Agilent MXG *Programming Guide* or,
- www.agilent.com/find/mxg.

Depending on the signal generator's current LAN settings and which procedure you choose, the signal generator's LAN settings may be changed. Since these settings are persistent (retained through presets and power cycles) it is recommended that you record the current LAN settings so you can restore them back to their original settings after upgrading the firmware. Information on the LAN softkeys is provided in key **Help** of the instrument. See also the *User's Guide*.

Using GPIB

1. Connect a GPIB cable between the PC and the signal generator.
2. Set the GPIB address:

Press **Utility > I/O Config > GPIB Setup > GPIB Address > 19**

The signal generator's GPIB address is set to 19 at the factory. The acceptable range of addresses is 0 through 30. Once initialized, the state of the GPIB address is not affected by a signal generator preset or by a power cycle. Other instruments on the GPIB cannot use the same address as the signal generator.

NOTE If there is more than one signal generator on the same bus whose GPIB address is 19, turn the power off to the instrument(s) or change the address of the signal generator of interest.

Using USB

Connect a USB cable between the PC and the signal generator's rear panel mini-B Device USB connector.

If the "Found New Hardware" wizard activates, select **Install the Software Automatically**.

Step 4. Download and Install the Firmware Files

From the Agilent Technologies website

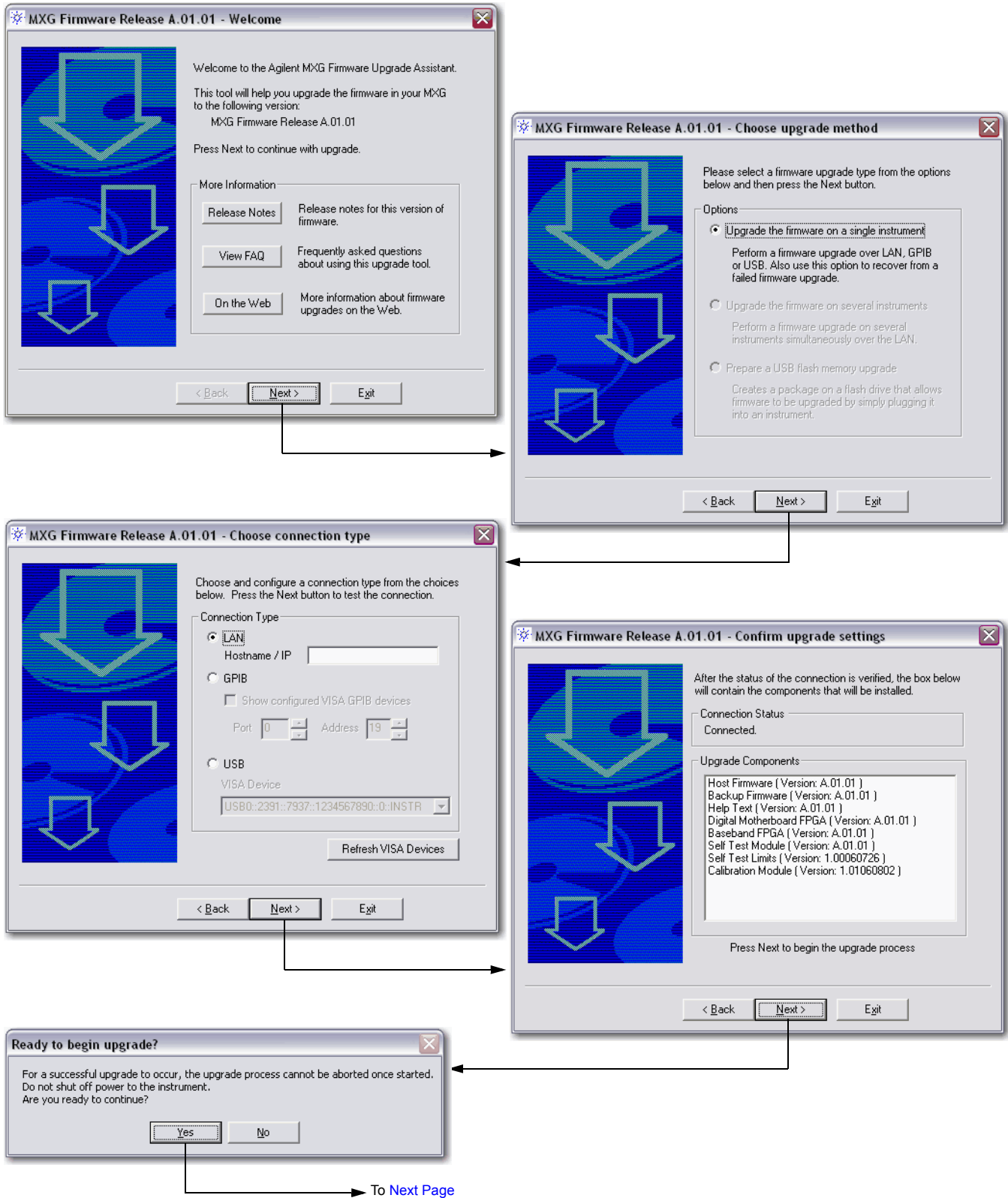
1. In an Internet browser, enter *http://www.agilent.com/find/upgradeassistant*.
2. Download and run the latest Agilent MXG Firmware Package.
3. Once the upgrade assistant starts, follow the program's prompts (see [page 8](#)).
4. After the upgrade completes, press the signal generator's **Local** hardkey to return front panel control.
5. Run the signal generator's functionality check (see [page 5](#)).

From CD-ROM

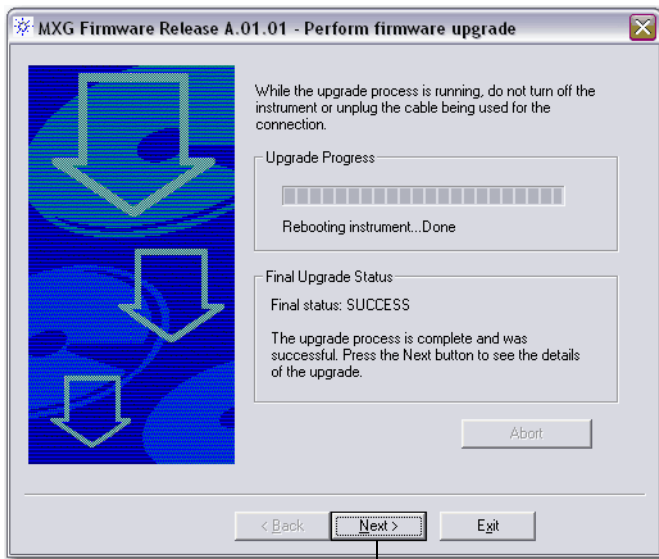
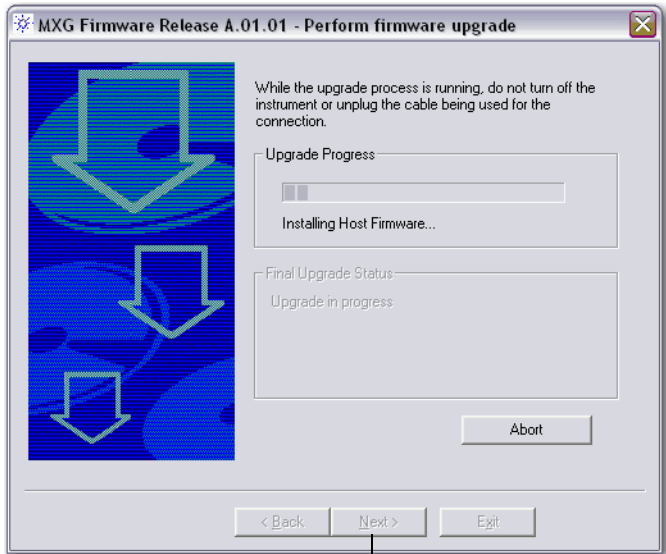
1. Insert the firmware upgrade CD-ROM into the computer's CD-ROM drive.
If the MXG FW_Upgrade Assistant fails to auto-execute go to [Step 2](#).
2. Browse the CD for the latest Agilent MXG Firmware Package.
This file will be in the following format example: MXG_FWUpgrade_A0143_Release_200805221340.exe.
3. Double-click the .exe file.
4. Once the upgrade assistant starts, follow the program's prompts (see [page 8](#)).
5. After the upgrade completes, press the signal generator's **Local** hardkey to return front panel control.
6. Run the signal generator's functionality check (see [page 5](#)).

NOTE If the upgrade is interrupted, the instrument tries to load a recovery image; if errors appear, they can be safely ignored. Run the Upgrade Assistant again to install the proper firmware; additional errors may appear, but these can also be ignored unless pressing **Error > Clear Error Queue** does not clear them. If you cannot clear the errors, contact Agilent Technologies (see [page 10](#)).

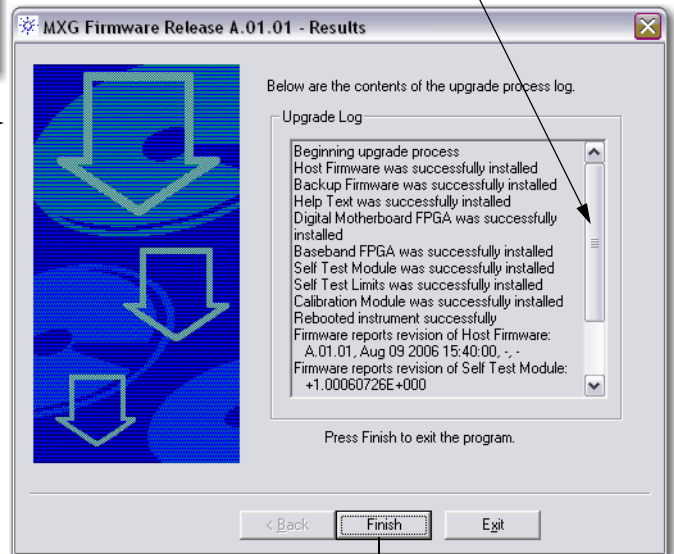
Running the Upgrade Assistant



From Previous Page



Scroll to see the complete log.



On the signal generator, press the **Local** hardkey to return front panel control of the instrument.

Contacting Agilent Technologies

- assistance with test and measurements needs, and information on finding a local Agilent office: <http://www.agilent.com/find/assist>
- accessories or documentation: <http://www.agilent.com/find/mxg>
- new firmware releases: <http://www.agilent.com/find/upgradeassistant>

If you do not have access to the Internet, please contact your field engineer.

NOTE In any correspondence or telephone conversation, refer to the signal generator by its model number and full serial number. With this information, the Agilent representative can determine whether your unit is still within its warranty period.

Returning a Signal Generator to Agilent

Use the following steps to return a signal generator to Agilent Technologies for servicing:

1. Gather as much information as possible regarding the signal generator's problem.
2. Call the phone number listed on the Internet (<http://www.agilent.com/find/assist>) that is specific to your geographic location. If you do not have access to the Internet, contact your Agilent field engineer.

After sharing information regarding the signal generator and its condition, you will receive information regarding where to ship your signal generator for repair.

3. Ship the signal generator in the original factory packaging materials, if available, or use similar packaging to properly protect the signal generator.