Agilent Technologies

# Signal Studio Installation Guide

This installation guide contains information on the following items.


- Downloading the Firmware
- Loading the License Keyword
- Installing the Signal Studio Software
- System Requirements
- GPIB Interface
- RS-232 Interface
- Resolving Installation Problems


## Downloading the Firmware

This application requires that the appropriate ESG firmware revision be installed on the signal generator. Refer to Minimum System Requirements, Firmware Version, on the desired Signal Studio software link page for this information.

If you have not already installed the appropriate version of the firmware,

1. Go to the following web site: http://www.agilent.com/find/signal_studio
2. Click on the desired Signal Studio software link.
3. Click on the Software, Firmware and Drivers link, and follow the installation instructions.

## Loading the License Keyword

Although Signal Studio software can be downloaded free of charge for evaluation, a license key is required to load the signals created by the software into the ESG-D/DP series RF Signal Generator. To order a license key, contact your sales engineer or local sales office. A listing of sales offices can be found at the following web site:

http://www.agilent.com/find/assist

To load the keyword into the instrument, complete the following steps:

1. Press **Utility** > **Instrument Adjustments** > **Software Options**.
2. Verify that the host ID shown on the display matches the host ID on the license key certificate.
3. Highlight the desired option using the up/down arrow keys or the front panel knob.
4. Press **Modify License Key**.
5. Enter the 12-character license key using the softkeys and the numeric keypad.
6. Press **Proceed With Configuration** > **Confirm Change**.

# Installing the Signal Studio Software

If you have not already installed the Signal Studio software,

1. Go to the following web site: http://www.agilent.com/find/signal_studio
2. Click on the desired Signal Studio software link.
3. Click on the software link and follow the installation prompts.

# System Requirements

## PC Requirements

- Windows 95® (Service Pack 2 recommended),
  Windows 98®,
  Windows Me®,
  Windows NT® 4.0 (Service Pack 4 or higher recommended), or
  Windows 2000®

  Windows 95®, Windows 98®, Windows Me®, Windows NT® 4.0, and Windows 2000® are U.S. registered trademarks of Microsoft Corporation.

**NOTE** For Windows service packs, contact Microsoft® directly, or go their web site: http://www.microsoft.com

- Pentium PC, 90 MHz or better
- 32 MB RAM
- 50 MB free disk space
- Installed GPIB I/O or RS-232 Com port

# GPIB Interface

## GPIB Control

GPIB (General Purpose Instrument Bus) allows instruments to be controlled by a computer and is the recommended interface. The IEEE 488.1 standard defines the bus and its associated interface operations.

## GPIB Interface Requirements

A GPIB interface card and an I/O library must be installed in your PC. Also required is a GPIB cable to connect the PC to the signal generator.

For information on the GPIB interface cards refer to Table 1 and Table 2.

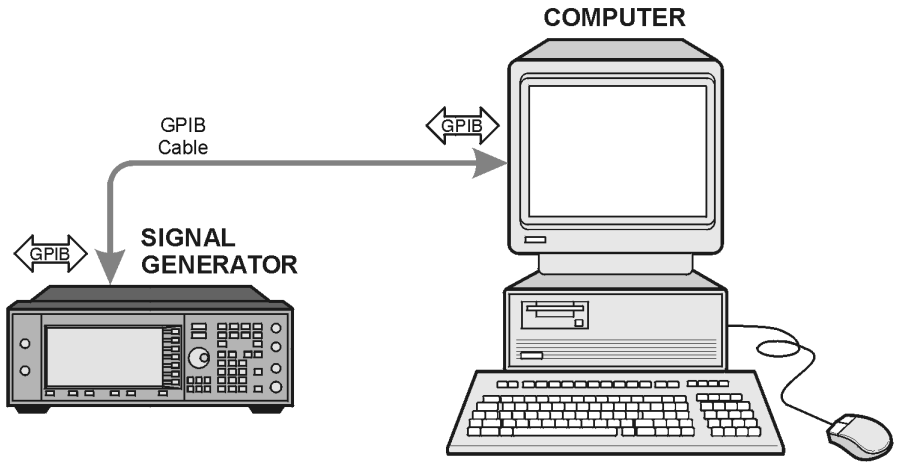
**Table 1 Agilent-GPIB Interface Card for PC-Based Systems**

| Interface Card | Operating System | Agilent I/O Libraries | Backplane/BUS |
|---|---|---|---|
| 82341C for ISA bus computers | Windows 2000 98/95/NT | Agilent VISA J.02.00 or higher | ISA/EISA, 16 bit |
| 82341D Plug&Play for PC | Windows 95 | Agilent VISA J.02.00 or higher | ISA/EISA, 16 bit |
| 82350A for PCI bus computers | Windows 2000/98/95 NT/Me | Agilent VISA J.02.00 or higher | PCI 32 bit |

**Table 2 NI-GPIB Interface Card for PC-Based Systems**

| Interface Card | Operating System | NI I/O Libraries | Backplane/BUS |
|---|---|---|---|
| National Instrument PCI-GPIB | Windows 2000/98/95 NT/Me | NI-VISA and appropriate driver | PCI 32 bit |
| National Instrument PCMCIA-GPIB | Windows 2000/98/95 NT/Me | NI-VISA and appropriate driver | PCMCIA |

## Connecting the GPIB Interface




1. Connect the computer via the GPIB interface to the signal generator as shown in the figure.
2. Turn on the signal generator.

3. On the **Agilent Signal Studio** application menu, click **Configuration**, **Sig Gen IO**.
4. In the **Signal Generator IO Connection** dialog box, ensure that following items are correct:

   In the **Connection** box, select GPIB

   In the **GPIB Board** box, enter the number of your GPIB board. If there is only one GPIB board in the PC, it is usually numbered 0 which is the default setting.

   In the **Primary Address** box, select the number that corresponds to the GPIB Address of the signal generator. The default setting is 19. (On the signal generator, press **Utility** > **GPIB/RS-232** to view the GPIB address.)
5. Click **Check** and if there are no error messages, click **OK**.
6. If an error occurs, refer to Resolving Installation Problems.

## RS-232 Interface

This interface requires an I/O library to communicate with the application. If you do not have an I/O library and want to use a RS-232 interface, you may download the Agilent I/O Library from the following web site:

http://www.agilent.com/find/iolib

**CAUTION** If you already have an I/O library installed, do not install a second I/O library as conflicts may occur. The Agilent I/O Library download is intended only for those users that do not currently have an I/O library.

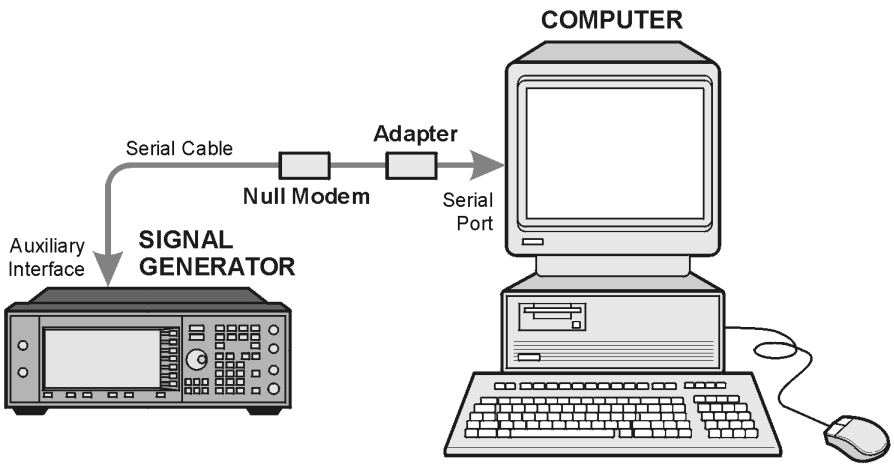
### RS-232 Interface Requirements

The RS-232 interface kit, part number E4400-60049, is required for systems with a RS-232 interface. The interface kit contains one each of the following items:

| Item | Part Number |
|---|---|
| Serial Cable | 8120-6188 |
| Null Modem[1] | 5181-6639 |
| 9-pin D-type Male-Male Adapter | 1252-7824 |
| 9-pin D-type Female-Female adapter | 1252-7825 |

1. This ensures proper pin connections between the computer and the signal generator.

## Connecting the RS-232 Interface




1. Connect the computer via the RS-232 interface to the signal generator as shown in the figure.
2. Turn on the signal generator.
3. Press **Utility** > **GPIB/RS232** and set the following parameters:

   **Remote Language** = SCPI

   **Baud Rate** = 9600

   **Echo** = Off

   Press **RS232** and set the following parameters for the appropriate handshake. It is recommended that the Xon/Xoff handshake, the default, be used.

| Selected Handshake | Transmit Pace | Receiver Pace | RTS/CTS |
|---|---|---|---|
| **None** | None | None | Off |
| **Xon/Xoff** | None[a] | Xon | Off |
| **RTS/CTS** | None | None | RTS/CTS Pacing |

a. This setting is different from the normal one, because we need to download binary data with a software handshake.

4. On the **Signal Studio** application menu, click **Configuration**, **Sig Gen IO**.
5. In the **Signal Generator IO Connection** dialog box, ensure that following items are correct:

   In the **Connection** box, select **RS-232**.

   In the **Port** box, select the number of your signal generator serial port.

   In the **Baud Rate** box, select the number that corresponds to the baud rate of the signal generator.

In the **Handshake** box, select the desired handshake.

6. Click **Check** and if there are no error messages, click **OK**.
7. If an error occurs, refer to Resolving Installation Problems.

## Resolving Installation Problems

If you have clicked the **Check** command button and an error message appeared in the **Status** text box, it is most likely an I/O configuration error.

Use the following steps to clear any errors that might occur.

### GPIB Interface

1. Check to see if the signal generator is turned on.
2. Check the GPIB cable connections.
3. Check the **Primary Address** in the **Signal Generator IO Connection** dialog box and ensure that it is the same as the **GPIB Address** on the signal generator.
4. Check the **GPIB Board** box in the **Signal Generator IO Connection** dialog box and ensure that the number selected corresponds to the GPIB board in use.

### RS-232 Interface

1. Check to see if the signal generator is turned on.
2. Check all of the connections between the PC and the signal generator.
3. Check the **Port box** in the **Signal Generator IO Connection** dialog box and ensure that the number selected corresponds to the port in use on the signal generator. The port can not be shared with any other device, so ensure that you have selected a port that is not already in use.
4. If you are using the Agilent I/O library, ensure that the COM port is properly mapped to the VISA name.

   For example: COM port 1 is mapped to Visa Name: ASRL1 and
   COM port 2 is mapped to Visa Name: ASRL2

   To see if the mapping is correct, use the IO Config application of the Agilent I/O library. Once the configuration is correct, use the VISA Assistant application of the Agilent I/O library to see if the selected port is responding correctly.

E4400-90410

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