Agilent G1732AA MSD Security ChemStation

Installation Manual

Agilent Technologies

Notices

Manual Part Number

G1732-90009

Edition

First Edition, November 2005

Printed in USA

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Wilmington, DE 19808-1610 USA

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Software Revision

This manual is valid for A.02.xx revisions of the Agilent G1732AA MSD Security ChemStation software, where xx refers to minor revisions of the software that do not affect the technical accuracy of this manual.

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Safety Notices

CAUTION

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In this manual...

This manual contains the information needed by a person experienced with Microsoft Windows operating systems to install the Agilent G1732AA MSD Security ChemStation software on a properly equipped personal computer.

1 General Information

This chapter presents the hardware and operating system requirements for the Agilent MSD Security ChemStation software and software removal instructions.

2 Local Area Network Configuration

This chapter contains the information needed to set up the system using Local Area Network (LAN) communications.

3 Installing Agilent Bootp Service

Some older GCs and MSDs require use of the Agilent Bootp Service to supply LAN addresses. This chapter describes those situations and how to install and use the service.

4 GPIB Driver Installation

This chapter describes the processes for installing GPIB communications.

5 Installing the Agilent MSD Security ChemStation Software

After communications have been set up, according to either Chapter 2 or Chapter 4, this chapter contains the procedure for installing the Agilent MSD Security ChemStation software.

6 Supplemental Information

This chapter contains additional helpful information, including updating MSD firmware and upgrading the software.

7 Troubleshooting

This chapter describes diagnostic procedures for LAN network communications.

Contents

1 General Information

This chapter describes hardware and software requirements for installation of the Agilent MSD Security ChemStation software, and includes instructions for removing existing Agilent MSD ChemStation software.

Before You Begin

This manual contains instructions to install and configure the Agilent G1732AA MSD Security ChemStation software. Your service representative must finish installing your MSD hardware before you begin the software installation.

If your system already has a version of Agilent MSD Security ChemStation software, upgrade your existing version of the software (Chapter 5).

Installation of the Agilent MSD Security ChemStation or upgrading from the Agilent MSD Productivity ChemStation includes these steps:

1. Verify computer requirements before you start (this chapter).
2. Confirm that you have a correct operating system (this chapter).

   OR

   Install a correct operating system (this chapter).
3. Prepare Microsoft Windows XP® Professional for software installation (this chapter).
4. Configure the LAN network (Chapter 2). Applies to LAN-based instruments only: 5973 and 5975 Series MSD systems and 6850 and 6890N or upgraded 6890 GCs.

   OR

   Install and configure GPIB (Chapter 4). Applies to GPIB-based instruments only: 5973 MSD systems and 6890 GCs.
5. Install and configure the Agilent MSD Security ChemStation software (Chapter 5).

Computer Requirements and Recommendations

This section describes the hardware recommendations and operating system requirements for the computer that will run the MSD Security ChemStation software.

Hardware

Agilent recommends a computer that meets or exceeds the configuration listed below:

- A Pentium IV 2.8 GHz or faster CPU
- Super VGA adapter set at 1024 × 768 or higher resolution, and 65,536 (16-bit) or higher colors
- Color monitor
- DVD/CD-ROM drive (A DVD drive is not required for installation, but is recommended for viewing support documentation.)
- 512 MB RAM
- 10/100 Base-T Ethernet (803.3) interface card for LAN-based instrument control
- A PC slot available for the 82350B GPIB adapter (only required if using GPIB instrument control)
- Hewlett-Packard LaserJet 2200D or 2300 printer with PostScript drivers version 5.02.
  - HP DeskJet printers are not tested/supported
  - HP LaserJet 4050 or 4100 printers, although not tested with this release, are supported due to testing on older revisions. Supported drivers include PCL 5e or 6, revision 5.02.
- A sound card and speakers or headphones
- A Windows 2000- or XP-supported mouse
- A data backup device

Operating system

The MSD Security ChemStation requires the following operating system:

- Microsoft Windows XP Professional with Service Pack 2, or Microsoft Windows 2000 Professional with Service Pack 4
- Microsoft Internet Explorer 5.5 with Service Pack 2 or Internet Explorer 6.0

Throughout the manual, references to “Windows 2000” and “Windows XP” imply “Microsoft Windows 2000 Professional” and “Microsoft Windows XP Professional,” respectively.

Preparing the Computer

Before installing the MSD ChemStation software, prepare the computer as follows:

1. Disable all power-saving features of the BIOS—see the PC manual.
2. Disable all power-saving programs—see the PC manual.
3. Backup any important data and other files.
4. Verify that all disk partitions on the MSD Security ChemStation computer hard drives are formatted for NTFS and that active file systems are uncompressed. See the Windows manual.
5. Verify that the TCP/IP networking protocols are installed and enabled. See the Windows manual.
6. Create a Windows 2000 or XP repair disk and recovery disks. See the Windows manual.

Some devices supported by Windows 2000 or XP are not supported by MSD Security ChemStation software (for example, magneto-optical drives and external CD-ROM writers). Do not use these devices.

Performance settings

To increase system performance, Agilent recommends minimizing the Windows 2000 or XP desktop configuration as follows:

- No unnecessary desktop icons displayed
- No screen saver enabled
- No background or tray applications

Microsoft Windows XP appearance settings

Certain appearance changes will make installation easier. The rest of this manual assumes that these changes have been made.

1. To switch to Windows classic folders, open Windows Explorer. Click the **Views** icon at the right end of the toolbar and select **List**. Select **Tools/Folder Options**. In **Tasks**, select **Use Windows classic folders**. Click **Apply**.
2. To display full paths in titles, select **View** and check **Display the full path in the title bar**.
3. To display file extensions, clear (uncheck) **Hide extensions for known file types**. Select **Apply to All Folders**. Reply **Yes** to the Folder views screen, click **OK**, and exit Windows Explorer.

Windows XP Firewall settings

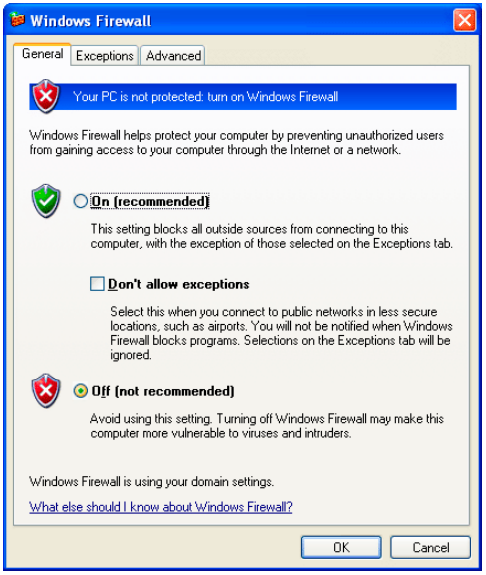
The Windows XP Service Pack 2 comes with an updated version of the Internet Connection Firewall named Windows Firewall. The Windows Firewall is automatically activated during Service Pack 2 installation. Windows Firewall is known to cause conflicts with the functionalities of the Agilent MSD Security ChemStation.

If you purchased a bundled computer from Agilent, the firewall is disabled by default.

If the Windows Firewall is not needed, disable it as follows:

1. Log onto the computer with administrative privileges.
2. Select **Start/Control Panel/Security Center** to display the Windows Security Center.

3 To display the Windows Firewall configuration dialog, select the **Windows Firewall** icon. Select **Off**, then click **OK**.



If using the Windows Firewall, see "Using the Windows Firewall with the Agilent MSD Security ChemStation"on page 69.

Customer responsibilities

CAUTION If upgrading requires formatting the computer hard disk, this procedure will result in loss of all data on the hard disk. Be sure to back up the following files, as well as any other files you may need in the future:

- Methods and data
- Sequences
- Tune Files (*.U) and comma-separated value (*.CSV) files
- User-created libraries
- User macros

The computer BIOS may need to be updated for the new Windows operating system. Verify the BIOS version on your computer and check with the manufacturer of the PC for the correct BIOS for your new operating system.

Some software applications may not work with your new Windows operating system. Check with the manufacturers.

Some hardware accessories and drivers may not work with the new operating system. Check the hardware compatibility list via Microsoft's or your PC manufacturer's website.

Replacing the operating system

To replace the operating system

Step	Action	Notes
1 Confirm data readiness.	• Verify that Customer responsibilities described above have been performed.	
2 Confirm hardware readiness.	**a** Verify that the computer meets hardware requirements. **b** Verify that the correct network card is installed in the computer.	• See Chapter 1 of this manual for the specific hardware requirements.

To replace the operating system (continued)

Step	Action	Notes
3 Install the new operating system.	**a** Insert the CD-ROM of the new operating system in the drive. **b** Make these selections: • Format the hard drive. • Select **NTFS** file format. • Select **Install the most common components**. • Disable power saver features of the computer. • Set the computer clock. • Set the display for a minimum of 1024 x 768 x 65,536 colors.	• See the operating system documentation for details. • The new system must be either Microsoft Windows XP Professional or Microsoft Windows 2000 Professional.
4 Configure the network.		• See Chapter 2.
5 Install the supported Service Pack for your operating system.	**a** Install Service Pack 2 for Microsoft Windows XP Professional. Install Service Pack 4 for Microsoft Windows 2000 Professional. **b** Reboot the computer.	
6 Install I/O Libraries (SICL Drivers) M.01.01.04.		• See Chapter 2 for Installing Agilent I/O Libraries (SICL Drivers) for LAN driver installation. • See Chapter 4 for GPIB driver installation.
7 Install the Agilent MSD Security ChemStation software.		• See Chapter 5.

Determine the System Communication Method

Before continuing, determine how the instruments will communicate with the MSD Security ChemStation. Depending on the instrument models, the MSD ChemStation can control them using LAN or GPIB (a proprietary serial communications method). If upgrading, skip to the next section.

LAN communications

If using LAN communications, set the IP addresses at the instruments if possible, or use the Agilent Bootp Service. Refer to Table 1 below. DHCP is not supported for assignment of instrument IP addresses.

Note that all 5975 and any 5973 Series MSDs with a local control panel **require** LAN communications.

Table 1 LAN addressing for the MSD ChemStation

Instrument	Model	Supported firmware revision	LAN Board firmware	Supported IP addressing method	Reference
5975 Series MSD	G3170A G3171A G3172A G3174A	5.01.90*	—	Set at MSD (preferred) or use Bootp Service	page 33 or page 44
5973N/inert series MSD (5973A LAN upgrade)†	G2577A G2578A G2579A G2588A G2589A	5.01.90*	—	Set at MSD (preferred) or use Bootp Service	page 33 or page 44
5973A MSD, upgraded to LAN†	G1098A G1099A G1999A	5.01.90*	—	Set at MSD (preferred) or use Bootp Service	page 44
6890N GC System	G1530N/ G1540N	N.05.05	LAN Assembly 04.7B3	Set at GC	page 31
6890A/Plus GC System	G1530A/ G1540A	≥ A.03.08	JetDirect Card J4100 - K.08.32 J2552 - A.08.32	Use Bootp Service	page 44

Table 1 LAN addressing for the MSD ChemStation (continued)

Instrument	Model	Supported firmware revision	LAN Board firmware	Supported IP addressing method	Reference
6850 GC System	G2630A	A.05.04	LAN Assembly‡ 04.7B3	Set at GC	page 32
		≥ A.03.03	JetDirect Card J4100 - K.08.32 J2552 - A.08.32	Use Bootp Service	page 44

* This was the latest MSD firmware version when this manual was released. For more information, see "To Update MSD Firmware" on page 64.

† Requires accessory upgrade kit G1088A

‡ 6850 GCs with Serial Number ≥ US10243001 are supported.

GPIB communications

The 5973A MSD supports only GPIB communications. The 5973 MSDs which require GPIB do not have a local control panel (models G1098A, G1099A, and G1999A).

Only 6890A and 6890 Plus GCs can use GPIB with the appropriate communications card installed.

The supported firmware version for GPIB MSDs is 2.04.87 on the LAN/MS Control Card SmartCardII+. The supported 6890A and 6890 Plus GC firmware is A.03.08 or greater.

Data acquisition limitations

The MSD ChemStation software requires that each GC/MSD use the same communication method (for example, you cannot use a LAN GC with a GPIB MSD).

Other Documentation

Additional information is contained in the following:

- Agilent MSD Security ChemStation Online Help
- Agilent MSD Security User Guide
- Agilent MSD Security Manager Guide
- Agilent 5973 and 5975 Series MSD Hardware Manuals
- Agilent 5973 and 5975 Series MSD Hardware Installation Manuals
- Local Control Panel Quick Reference

Product update news

For the latest information on the Agilent MSD Security ChemStation software, access http://www.agilent.com. See Life Sciences / Technical Support. You must enter your product registration number to access the Software Status Bulletin information.

Removing Existing Agilent MSD ChemStation Software

If you are upgrading an existing version of Agilent G1732AA MSD Security ChemStation or the G1701CA/DA Productivity ChemStation installed on your system, **do not** uninstall it. It will be upgraded to the new version during installation (Chapter 6).

However, if upgrading an earlier MSD Productivity ChemStation, remove it as described below.

To remove existing Agilent MSD Productivity ChemStation software (G1701AA/BA)

Step	Action	Notes
1 Backup data.	**a** Archive all critical MSD data, methods, sequences, and/or libraries to an external device. **b** Confirm that archive worked.	
2 Remove old Agilent MSD ChemStation software.	**a** Run the Configuration program and delete all instruments. Exit the program. **b** On the Control Panel, select **Add or Remove Programs.** **c** Select and remove **MSD ChemStation.** **d** Reboot the computer. **e** Delete directory **MSDCHEM** (**HPCHEM** on older systems). Also delete the file **msdchem.ini**.	• The Configuration program is part of the existing installation.
3 Remove Agilent Bootp Service, if desired.	**a** Run the Agilent Bootp Service program. **b** Remove all entries. **c** On the Control Panel, select **Add or Remove Programs**. **d** Select and remove **Agilent Bootp Service**. **e** Reboot the computer.	

To remove existing Agilent MSD Productivity ChemStation software (continued)(G1701AA/BA)

Step	Action	Notes
4 Remove communications drivers.	**a** On the taskbar (lower right corner of screen), click **IO** and select **Run IO Config**. **b** Delete all entries from **Configured Interfaces**. **c** Exit program. **d** On the Control Panel, select **Add or Remove Programs**. **e** Select and remove **Agilent IO Libraries**. **f** Reboot the computer.	• In action **e**, the entry may be **SICL drivers**.

2
Local Area Network Configuration

This chapter describes how to install the MSD Security ChemStation software for use with the following LAN-based instruments:

- 5975 or 5973 Series MSD
- 6890 or 6850 GC with LAN capability

The checklist on the next page summarizes steps required for installation and configuration of the MSD Security ChemStation software for LAN-based instruments. More information for each step required to configure the LAN is given in the remainder of this Chapter.

See also Chapter 5, “Installing the Agilent MSD Security ChemStation Software”.

If you have a GPIB-based system, skip this chapter and go to Chapter 4.

Local Area Network Configuration Checklist and Table

Use this checklist to install and configure the GC and MSD on a LAN.

- ❑ Prepare the computer
  - ❑ Determine the IP addresses to use for the GC, MSD, and ChemStation computer and record them.

Unit	Computer	Instrument 1-GC	Instrument 1-MSD
Model			
Serial number			
MAC address			
Host name			
IP address	10.1.1.100	10.1.1.101	10.1.1.102
Hub port (default)	3	2	1
Subnet mask	255.255.255.0	255.255.255.0	255.255.255.0
Default gateway	10.1.1.100	10.1.1.100	10.1.1.100

  - ❑ Determine the network subnet mask.
  - ❑ Verify that Microsoft Windows XP Professional or Microsoft Windows 2000 Professional is the operating system.
  - ❑ Verify that Service Pack 2 is installed for Microsoft Windows XP Professional, or Service Pack 4 is installed for Microsoft Windows 2000 Professional.
  - ❑ Install the Network Interface Card in the ChemStation computer if it is not installed. Remember to follow all electrostatic discharge safety precautions.
  - ❑ Install (Microsoft Windows 2000 only) and configure TCP/IP on the computer if it is not installed.

- ❏ Prepare the GC
  - ❏ Install an MIO JetDirect card in the 6890 (not 6890N) GC.
  - ❏ Install an MIO JetDirect card in the 6850 (serial number ≤US00003200) GC.
- ❏ Create the LAN
  - ❏ Connect a LAN cable from the hub or switch to the GC. Do not use a crossover cable. Do not use port 8.
  - ❏ Connect a LAN cable from the hub or switch to the MSD. Do not use a crossover cable. Do not use port 8.
  - ❏ Connect a LAN cable from the hub or switch to the computer. Do not use a crossover cable. Do not use port 8.
- ❏ Configure the instruments
  - ❏ **Computer:** Configure the computer IP address and subnet.
  - ❏ **6890N, 6850 Network, and 6850 Series II GC:** Configure IP address and subnet address via the front panel.
  - ❏ **6890 and 6850 GC with JetDirect card:** Install Agilent Bootp Service to assign IP addresses. Add Bootp entry for GC.
  - ❏ **5975 and 5973 MSDs:** Assign the IP address via the keyboard, or install Agilent Bootp Service to assign IP addresses. If using Bootp, add a Bootp entry for the MSD.
- ❏ Install and configure SICL LAN drivers.
- ❏ Install and configure the Agilent MSD Security ChemStation software as described in Chapter 5.
- ❏ Download firmware drivers to the LAN/MS Control Card, if needed.
- ❏ Start up the instrument session to confirm operation.

Preparing the Instruments

Agilent Technologies 5975 and 5973 Series MSDs have an integrated LAN interface within each instrument. The GC may have an integrated LAN interface (such as the 6890N or any 6850 GC), or may be upgraded to LAN capability (6890A or 6890 Plus). To configure a GC/MSD system, both the GC and the MSD must have a LAN interface. An older 5973 MSD system with a 6890 Series GC must use GPIB communications if not upgraded to LAN-based communication.

Designing the LAN instrument network

The system must be configured initially as an isolated local network. An isolated local network is easier to configure and to verify performance. Even if the system will be connected to your site LAN, it must be qualified first as a local network.

Cabling the LAN instrument network

Connect standard (not crossover) EtherTwist cables from the network interface connectors on each instrument and on the Agilent MSD Security ChemStation computer to an EtherTwist hub or switch. Do not use the cascade port or port 8 on the hub.

Configuring the LAN instrument network

For isolated instrument networks, the IP addresses used are public addresses and are not recognized by a site LAN or the Internet. It is recommended that the first segment of the IP addresses be 10, as this number indicates that the address is an unassigned or public address. The first three segments in the IP addresses of the instruments and the Agilent MSD Security ChemStation computer must be the same, and the last segment must be different for each node and be in the range from 1 to 254. For example, the following IP addresses represent a typical isolated instrument network:

MSD Security ChemStation computer	10.1.1.100
GC instrument	10.1.1.101
MSD instrument	10.1.1.102

The subnet mask must be the same for all nodes on the local instrument network (typically: 255.255.255.0). For an isolated instrument network, which is not connected to a site LAN, the gateway entry may be left blank.

NOTE

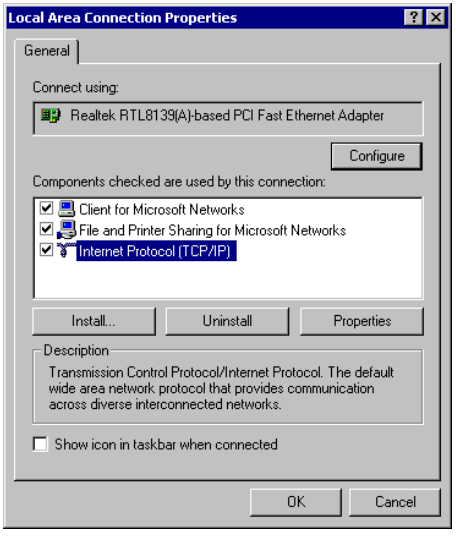
Once the IP addresses are assigned, you can specify a host name for each node. While host names are optional, they are easier to identify than IP addresses. Host names are associated with instruments during Agilent Bootp Service configuration described later in this chapter. Host names are not required for operation of the GC/MS system.

Configuring the LAN Network

This procedure describes how to set up LAN networking. Have your original Microsoft Windows XP Professional or Microsoft Windows 2000 Professional CD-ROM available as you might be prompted to place it in the drive. The network card must be installed prior to installation of TCP/IP drivers, otherwise an error is reported and the process is terminated.

To configure the Windows network

Step	Action	Notes
1 Log on.	• Log on as Administrator or other user with Administrator privileges.	
2 Create the network connection.	**a** On Control Panel, double-click **Network Connections** (Windows XP users) or **Network and Dial-up Connections** (Windows 2000 users). **b** Right-click **Local Area Connection** and select **Properties**. The **Local Area Connection Properties** dialog box appears.	• If **Local Area Connection** does not appear, the Network Interface Card is not installed or detected. Shut down the computer, install the card, and start over.

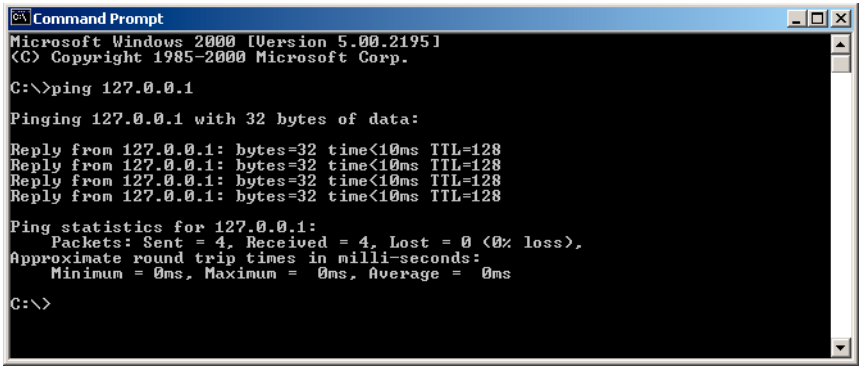


To configure the Windows network (continued)

Step	Action	Notes
3 Set the network protocol.	**a** Select **Internet Protocol (TCP/IP)**. **b** Select **Properties**. The **Internet Protocol (TCP/IP) Properties** dialog box appears.	
4 Set the **IP address** and **Subnet Mask** for the computer.	**a** Click **Use the following IP address.** **b** Enter the **IP address**, **Subnet Mask**, and **Gateway** to be used for the computer. **c** Click **OK**. The **Local Area Connection Properties** dialog box appears.	• The default IP address is 10.1.1.100. • The default Subnet Mask is 255.255.255.0. • The default Gateway is 10.1.1.100.
5 Confirm the network card configuration.	**a** In the Local Area Connection Properties dialog box, click **Configure** and respond **Yes** to the popup message. The **General** tab of the Ethernet Adapter appears. **b** Click the **Resources** tab. If any device conflicts exist, they will be identified in the lower field. **c** Deselect the **Power Management** tab. A dialog box appears. Select the **Allow the computer to turn off this device to save power** checkbox. **d** Click **OK**.	• The name of the adapter depends on the manufacturer. • Do not change the default settings. • The **General** field should state that **This device is working properly**. If it does not, click **Troubleshooter** for online help.

To configure the Windows network (continued)

Step	Action	Notes
6 Verify network installation and configuration.	**a** From Windows **Start**, select **Run**. **b** Type **cmd** and click **OK**. The Command window opens. **c** Type `cd c:\` and press **Enter**. **d** Type `ping 127.0.0.1` and press **Enter**. If successful, a message like the following will appear.	• The address 127.0.0.1 performs a loopback test. • If not successful, TCP/IP is not configured.



7 Close all windows.

Configuring IP Addresses from the Instrument Keyboards

6890N GC

The Agilent 6890N GC communicates with a ChemStation via the LAN. It does not require or use Agilent Bootp Service software.

This procedure applies only when adding a 6890N GC. If Agilent Bootp Service is already installed to provide IP addresses to instruments, Agilent Bootp Service should remain installed and enabled.

To configure the IP address for a 6890N GC

Step	Action	Notes
1 Display the **Communication** screen.	**a** Press **[Options]** on the GC keyboard. **b** Scroll to **Communication** and press **[Enter]**. This screen appears: **COMMUNICATION SETPTS** **--- LAN ----** **IP: 000.000.000.000 <** **GW: 000.000.000.000** **SM: 000.000.000.000** **Enable DHCP OFF** **---- RS-232 ----**	
2 Enter the IP Address for the GC.	**a** Enter the numbers separated by dots. **b** Press **[Enter]**. Press **Clear.**	• A message tells you to power cycle the GC. *Do not power cycle at this time.*
3 Enter the Gateway number.	**a** Scroll to **GW**. **b** Leave the entry blank. **c** Press **[Enter]**. Press **[Clear]**.	• A message tells you to power cycle the GC. *Do not power cycle at this time.*
4 Enter the Subnet Mask.	**a** Scroll to **SM** and press **[Mode/Type]**. **b** Scroll to the appropriate subnet mask from the list of modes. **c** Press **[Enter]**. **d** Power cycle the GC to apply the setpoints to the LAN card.	
5 Confirm the setpoints.	**a** Press **[Options]**, scroll to **Communications** and press **[Enter]**.	• Confirm that the correct setpoints are present.

6850 GC

The Agilent 6850N/6850 Series II GC communicates with a ChemStation via the LAN. It does not require or use Bootp Service software. Set its IP address at the instrument (only one instrument for G1732).

To enter the IP address into a 6850 GC:

1. Turn the GC off.
2. Press and hold **LOAD** and turn the GC on. Continue to hold **LOAD** until five dots appear in the GC display.
3. When the GC finishes initializing, the display should read:

   DHCP mode **or** **IP Address**
   DISABLED **XXX.XXX.XXX**

   If the **DHCP MODE** is **ENABLED**, change the mode to **DISABLED** by pressing ▲ or ▼.

   Press **LOAD** to continue to the **IP ADDRESS**.

   If the GC does not display either of the above two screens, your GC uses card J2552B or card J4100A and firmware that does not support local IP addressing. If this is the case, either update the firmware or use Agilent bootp Service to obtain the IP address. See "Determine the System Communication Method"on page 18.
4. The display will now read:

   IP ADDRESS
   XXX.XXX.XXX
5. Press **LOAD** to adjust the **IP ADDRESS** values. Press ▲ or ▼ to change values and **LOAD** to move from one value to the next.
6. When **IP ADDRESS** is completed, the display reads:

   DEFAULT GATEWAY
   XXX.XXX.XXX.XXX

   Change the **DEFAULT GATEWAY** as you did the **IP ADDRESS**.
7. Change the **SUBNET MASK** value in the same manner.
8. Cycle the GC power for new settings to take effect.

5975 or 5973 Series LAN-based MSD with a local control panel

To set the IP addresses for a 5975 or 5973 Series MSD from the instrument:

1 When a 5975 or 5973 Series MSD is initially turned on, it will look for Bootp Service. To disable the Bootp Service/Server query, hold down the **[No/Cancel]** key on the local control panel for approximately 5 seconds.

You will see a display that Bootp has been disabled and that firmware is being downloaded.

2 On the local control panel, press **[Menu]** until the Network menu is displayed and then press **[Item]**.

The default IP address will be `0.0.0.0` if the Bootp Service was aborted or `10.1.1.102` if the IP address was downloaded from the Bootp Service:

MSD IP via Bootp Service

0.0.0.0

3 To assign a new IP address without using Bootp Service, press the **[Yes/Select]** key on the local control panel.

The following is displayed and you can update the first numbers of the IP address:

EDIT MSD IP

>000<000.000.000

4 Enter the new IP address.

- Use the up arrow key to increase the value.
- Use the down arrow key to decrease the value.
- Use the **[Item]** key to move to the next group of numbers to edit.
- When you have finished entering all the numbers for the IP address, press the **[Yes/Select]** key to temporarily save the IP address (the IP address is permanently saved when you update the flash memory below).

5 Press the **[Item]** key to edit the Gateway IP and/or subnet mask. Press **[Yes/Select]** to edit or **[Item]** to go to the next item.

6 Press **[Item]** until you see the prompt **Reboot with new network settings?** or **Cycle MSD power now to activate changes**.

7 If you see **Reboot with new network settings**, press **[Yes/Select]**.

If you see **Cycle MSD power now to activate changes**, manually power cycle the MSD.

Installing Agilent I/O Libraries (SICL Drivers) for TCP/IP Support

The supported Standard Instrument Control Library (SICL) drivers are supplied on the G1732AA MSD Security ChemStation CD-ROM. If another version of the SICL drivers is installed, it must be removed prior to the installation of the supported version.

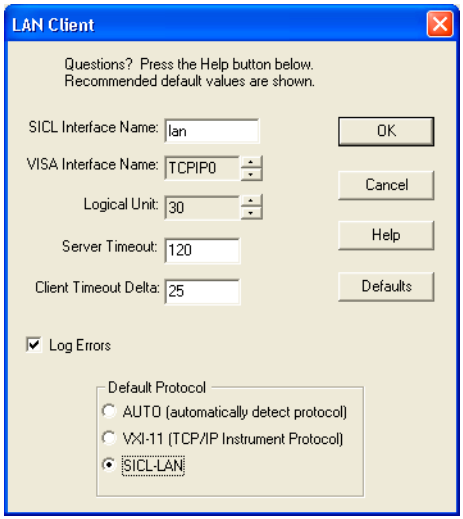
Drivers are provided to support either a LAN-based system or a GPIB-based system:

- If your system is LAN-based, continue with this section to install drivers for TCP/IP support.
- If your system is GPIB-based, skip this section and continue to Chapter 4 where installation of the appropriate GPIB drivers is described.

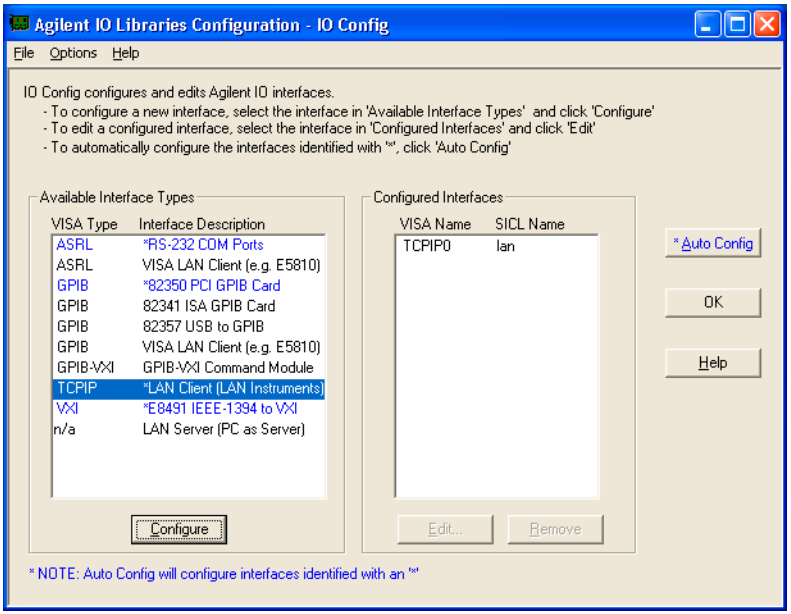
To install the I/O Libraries (SICL Drivers) for LAN

Step	Action	Notes
1 Close all running Windows applications.		
2 Insert the G1732AA MSD Security ChemStation CD-ROM in the drive.	**a** Insert the CD-ROM in the drive. **b** If it does not start automatically, double-click **Welcome.htm** in the root directory of the CD-ROM. **c** The Agilent Welcome screen appears.	• The Agilent MSD ChemStation software will be installed later.
3 Start the SICL InstallShield wizard.	**a** Go to the **Support** page. **b** Click **Install Agilent I/O Libraries (SICL Drivers) M.01.01.04**	• Navigate through the CD contents by clicking on the links in the upper left corner under “Contents”.
4 Read and acknowledge the introductory screens.	**a** The IO Libraries screen appears; click **Next>.** **b** The License Agreement screen appears; click **Yes** after reading. **c** The Readme Information screen appears; click **Next>**.	
5 Select an **Installation Option**.	• Click **Full Installation**. The Current Settings screen appears.	• Components to be installed are listed.

To install the I/O Libraries (SICL Drivers) for LAN (continued)

Step	Action	Notes
6 Accept the **Current Settings**.	• Click **Next**.	• Files are copied to disk.
7 Run IO configuration.	When the success screen appears: **a** Select **Run IO Config**. **b** Click **Finish**. **c** If prompted, select **Manually configure interfaces** and click **Next**.	To run IO configuration *only*, follow **Start > Programs > Agilent IO Libraries > IO Config**.
8 Select the interface to be configured.	**a** The Agilent IO Libraries Configuration-IO Config screen appears. **a** Select **TCPIP *LAN Client (LAN Instruments)**. **b** Click **Configure**. This screen appears: 	
9 Select SICL-LAN.	**a** Select **SICL-LAN** as the **Default Protocol**. **b** Click **OK**.	• The confirmation screen appears.

To install the I/O Libraries (SICL Drivers) for LAN (continued)

Step	Action	Notes
		
10 Confirm TCP/IP configuration.	**a** Note that **TCPIP0 lan** appears in the **Configured Interfaces** box. **b** Click **OK**.	• These entries confirm LAN support from the IO libraries.
11 Reboot the computer.	**a** Remove the CD from the drive. **b** Restart the computer to make the support settings permanent.	

3
Installing Agilent Bootp Service

Agilent Bootp Service software is only required for older GCs (6890 and 6850 GCs with a JetDirect card installed). If desired, it can assign IP addresses to the 5975 and 5973 Series MSD with LAN communications.

Agilent Bootp Service **cannot** be used with the 6890N GC or with 6850 GCs with serial number ≥US10243001.

Purpose

Agilent Bootp Service provides central administration of IP addresses for Agilent instruments residing on a LAN. This service can run on any Windows 2000 or XP PC on the instrument LAN. The PC running Agilent Bootp Service must be running TCP/IP network protocol and cannot run a DHCP server or another Bootp server.

How Bootp works

When an instrument is first powered on, an Agilent JetDirect card, located in the instrument, broadcasts a request for an IP address or Host Name and provides its hardware address as an identifier. The request may continue for up to 5 minutes. The Agilent Bootp Service can answer this request and pass a previously-defined IP address and Host Name associated with the hardware address to the requesting instrument.

When the instrument receives its IP address and Host Name from the Bootp Service, it stops broadcasting the request. The instrument maintains the IP address as long as it is powered on. Powering down the instrument causes it to lose its IP address and the Agilent Bootp Service must be running when the instrument is next powered on to re-establish the correct address.

Addresses

Prior to installing and configuring Bootp service, you need to know the IP addresses of the computer and the instruments, the subnet mask, and the gateway.

Since the system is initially on an isolated LAN, use the following default addresses:

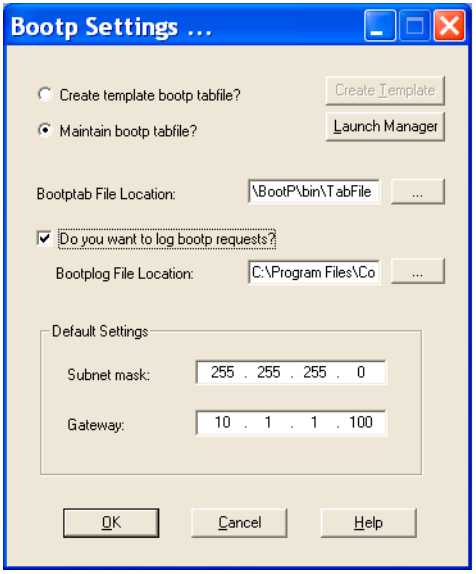
Device	Address
PC	10.1.1.100
GC	10.1.1.101
MSD	10.1.1.102
Gateway	10.1.1.100
Subnet mask	255.255.255.0

Installation

To install the Agilent Bootp Service:

1. Log onto the computer as Administrator or other user with Administrator privileges.
2. Close all Windows programs.
3. Insert the G1732AA MSD Security ChemStation Software CD into the CD-ROM drive. If it does not start automatically, double-click **Welcome.htm** in the root directory of the CD-ROM. The Agilent Welcome screen appears.
4. Go to the **Support** page and click **Install Agilent Bootp Service**.
5. If necessary, click the **Agilent BootP Service...** icon in the taskbar.
6. Another Welcome screen appears. Click **Next>**.
7. After reviewing the License Agreement, click **Yes** to continue and install Agilent Bootp Service.
8. The Agilent Bootp Service README is available for printing. It can be accessed from **C:\Program Files\Common Files\ Agilent Shared\Bootp\bin\Readme.htm**.
9. Files load. When finished, the “Install Wizard Complete” screen, the **Bootp Settings** screen, and the README all appear.
10. Close the README file after reading it. Be sure you know where you saved the file.

11 At this time, the **Bootp Settings** screen shows unconfigured default settings.



12 Select **Maintain bootp tabfile**.

13 Check **Do you want to log Bootp requests?**

NOTE This box will be unchecked when finished configuring instruments or the logfile will quickly fill up disk space.

14 In the **Default Settings** part of the screen, enter the subnet mask and gateway. Entries in the screen above are the default subnet mask and gateway.

- See your network administrator if you do not know the subnet mask and gateway.
- The default subnet mask is 255.255.255.0.
- The default gateway is 10.1.1.100.

15 In the “Install Wizard Complete screen, select **Yes, I want to restart my computer now**, remove the CD-ROM from the drive, and click **Finish**.

This completes Bootp Service installation. After rebooting your PC, Bootp must be configured as described in the next section.

Initial Instrument Setup on Agilent Bootp Service

Agilent Bootp Service maintains association between a unique identification code (MAC address) provided with the LAN card installed in a given instrument and the specific IP address assigned to that instrument. Therefore, whether adding a new instrument, exchanging an instrument (or its LAN card), or changing the IP address assigned to an instrument, all require defining or redefining this association.

Determine the MAC address of the instrument

1 Determine the MAC address of the GC with the JetDirect card installed **EITHER** using Agilent Bootp Service's logfile or by examining the card.

Using Agilent Bootp Service's logfile

a Turn off the MSD.

- Since the logfile lists all Bootp requests, start one device at a time to distinguish between them.

b Power cycle the GC.

c After the GC completes self-test, open the logfile using Notepad. The contents will be similar to that shown below.

- The default location for the logfile is **My Computer\Local Disk\Program Files\Common Files\Agilent Shared\Bootp\bin\logfile**.
- The logfile will not update if it is open.

02/25/04 15:30:49 PM
Status: BOOTP Request received at outer most layer
Status: BOOTP Request received from hardware address: 0010835675AC
Error: Hardware address not found in BOOTPTAB: 0010835675AC
Status: BOOTP Request finished processing at outer most layer

d Record the MAC address (0010835675AC, here called the hardware address).

e Close the logfile, then turn on the MSD.

Examining the JetDirect card

a Turn off the GC.

b Remove the JetDirect card.

CAUTION Use a grounded wrist strap and connect it to a bare metal surface of the GC to avoid damaging the PC board electronics.

c Read the MAC address from the label. The MAC address is printed on a label on the noncomponent side of the JetDirect card. It is the number *below* the bar code and *after* the colon (:) and usually begins with the letters **AD**.

d Reinstall the card and turn on the GC.

Reading the MSD Local Control Panel

2 Determine the MAC address of the MSD. On the Local Control Panel, press the **[Menu]** key to get to **Network**, then press **[Item]** to get to **MAC address**. Record the MAC address.

- The displayed colons (:) are not part of the address.
- Alternatively, read the MAC address from the logfile as described in step 1 above.

Add Bootp entries

1 From your Windows desktop Start button, select **Start**/ **Settings (Windows 2000)**/ **Control Panel**/**Administrative Tools**/**Services**. The Service screen appears.

2 Right-click **Agilent Bootp Service.**

3 Select **Stop**.

4 After stopping Bootp service, close the Services and Administrative tools screens.

5 Add the GC to the network.

   a Follow **Start/Programs/Agilent Bootp Service/Edit Bootp Settings**; the Bootp Settings screen appears.

   b Uncheck **Do you want to log Bootp requests?**

   c Click **Launch Manager**. The Bootp Manager screen appears.

   d Click **Add...** The **Add Bootp Entry** screen appears.

   e Make these entries for the GC:

   - MAC Address
   - Host Name
   - IP Address
   - Comment, if desired
   - Subnet Mask
   - Gateway address

   f Click **OK**.

6 Add the MSD to the system. Repeat step 5 to add the MSD.

7 When finished, click **Exit Manager**, then click **OK**.

8 Select **Start**/**Settings (Windows 2000)**/**Control Panel**/ **Administrative Tools**/ **Services**. The Service screen appears.

9 Right-click on **Agilent Bootp Service**.

10 Select **Start** to restart Bootp service.

11 Close the Services and Administrative Tools screens.

12 Power cycle the GC and add MSD to implement the changes.

   - For the MSD, alternatively, press the **[Item]** key until you see **Reboot with new network settings?** Press **[Yes/Select]** to reboot the MSD.

13 Ping the IP addresses to verify.

Adding Instruments After Initial Bootp Setup

It is possible to add instruments to Agilent Bootp Service any time after you have completed the initial Bootp setup.

If you know the MAC address

If at a later time you wish to add another instrument and you know the MAC address:

1. From your Windows desktop Start button, select **Start**/**Settings (Windows 2000)**/**Control Panel**/**Administrative Tools**/**Services**. The Service screen appears.
2. Right-click **Agilent Bootp Service.**
3. Select **Stop**.
4. After stopping Bootp service, close the Services and Administrative tools screens.
5. Add the instrument to the network.
   a. Follow **Start/Programs/Agilent Bootp Service/Edit Bootp Settings**; the Bootp Settings screen appears.
   b. Uncheck **Do you want to log Bootp requests?**
   c. Click **Launch Manager**. The Bootp Manager screen appears.
   d. Click **Add...** The **Add Bootp Entry** screen appears.
   e. Make these entries for the GC:
      - MAC Address
      - Host Name
      - IP Address
      - Comment, if desired
      - Subnet Mask
      - Gateway address
   f. Click **OK**.
6. When finished, click **Exit Manager**, then click **OK**.
7. Select **Start**/**Settings (Windows 2000)**/**Control Panel**/**Administrative Tools**/ **Services**. The Service screen appears.

8 Right-click on **Agilent Bootp Service**.

9 Select **Start** to restart Bootp service.

10 Close the Services and Administrative Tools screens.

11 Power cycle the new instrument to implement the changes.

- For an MSD, alternatively, press the **[Item]** key until you see **Reboot with new network settings?** Press **[Yes/Select]** to reboot the MSD.

12 Ping the IP address to verify.

If you do not know the MAC address

If you wish to add another instrument to the Agilent Bootp Service but you do not know the MAC address:

1 From your Windows desktop Start button, select **Start**/**Settings (Windows 2000)**/**Control Panel**/**Administrative Tools**/**Services**. The Service screen appears.

2 Right-click **Agilent Bootp Service.**

3 Select **Stop**.

4 After stopping Bootp service, close the Services and Administrative tools screens.

5 Follow **Start/Programs/Agilent Bootp Service/Edit Bootp Settings**; the Bootp Settings screen appears.

6 Check **Do you want to log Bootp requests?** and click **OK**.

7 Start the Agilent Bootp Service from the same menu you used to stop it (only this time, select **Start**).

8 After you have completed the steps above, see "Determine the MAC address of the instrument"on page 44 and follow the steps to the end.

4
GPIB Driver Installation

This chapter describes how to install and configure GPIB drivers required for 5973 MSDs and/or GPIB-based 6890 GC instruments.

Installation Checklist for GPIB-Based Systems

This checklist summarizes the installation and configuration steps for GPIB-based systems (5973 MSD and/or 6890 GC).

- ❏ Verify operating system prerequisites described in Chapter 1.
- ❏ Verify that an 82350B GPIB card is installed in the ChemStation computer.

NOTE Some PCs may require the 10834-2310 GPIB adapter connector to extend the GPIB from the back of the PC.

- ❏ Design the GPIB instrument system.

  It is best to connect GPIB devices in a “chain” where a GPIB device is connected to the next GPIB device, and it, in turn, is connected to the next, and so on. If at all possible, avoid “star” configurations (connecting all devices to a central point).
- ❏ Install and configure GPIB SICL drivers from the G1732AA MSD Security ChemStation CD-ROM.
- ❏ Install the Agilent MSD Security ChemStation software (Chapter 5).

Installing Agilent I/O Libraries for GPIB Support

The supported Standard Instrument Control Library (SICL) drivers are supplied on the G1732AA MSD Security ChemStation CD-ROM. If another version of the SICL drivers is installed, it must be removed prior to the installation of the current version.

- If your system is GPIB-based, continue with this section to install drivers for GPIB support.
- If your system is LAN-based, skip this chapter and go to Chapter 2 where installation of the appropriate LAN drivers is described.

NOTE

A GPIB card must be installed in your PC or installed drivers cannot be configured. GPIB SICL drivers must be version M.01.01.04.

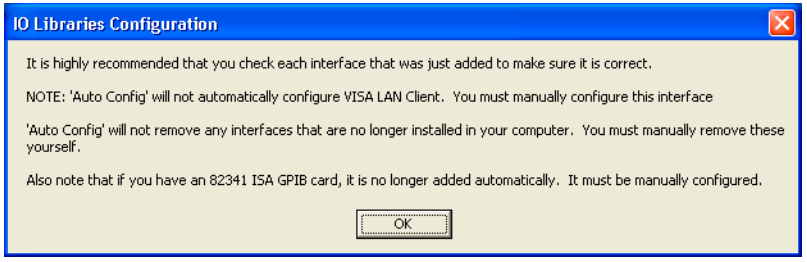
If your PC is being rebooted following installation of a GPIB card, the Found New Hardware Wizard screen will appear. **If the New Hardware Wizard starts, click Cancel to exit immediately.**

To install the GPIB drivers

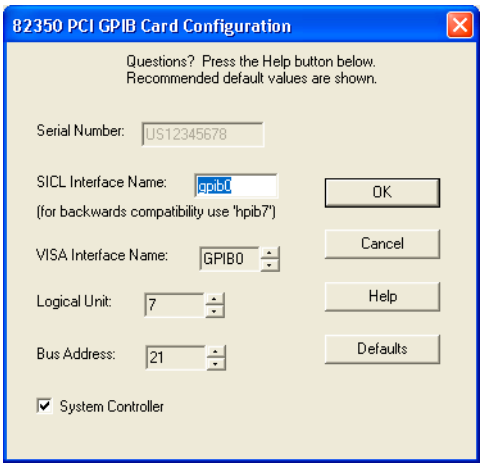
Step	Action	Notes
1 Close all running Windows applications.		
2 Insert the G1732AA MSD Security ChemStation CD-ROM in the drive.	**a** Insert the CD-ROM in the drive. **b** If it does not start automatically, double-click **Welcome.htm** in the root directory of the CD-ROM. **c** The Agilent Welcome screen appears.	• The Agilent ChemStation software will be installed later (Chapter 5).
3 Start the SICL InstallShield Wizard.	**a** Go to the **Support** page. **b** Click **Install Agilent SICL Drivers M.01.01.04.**	• Navigate through the CD contents by clicking on the links in the upper left corner under “Contents”.

To install the GPIB drivers (continued)

Step	Action	Notes
4 Read and acknowledge the introductory screens.	• The Agilent IO Libraries screen appears, click **Next>**. • The License Agreement screen appears; read and click **Yes**. • The Readme Information screen appears; click **Next>**.	• The **Readme** file can be printed at the end of installation.
5 Select an **Installation Option**.	• Click **Full Installation**. The Current Settings screen appears.	• Components to be installed are listed.
6 Accept the **Current Settings**.	• Click **Next>**. Installation begins.	• Files are copied to disk.
7 Run IO configuration.	After installation finishes: **a** Select **Run IO Config**. **b** Click **Finish**. **c** If prompted, select **Manually configure interfaces** and click **Next**.	• **IO Config** can be run later, either from the **IO** icon on the taskbar or from the **Agilent IO Libraries** group on the **Start > Programs** menu.
8 Select the interface to be configured.	**a** Select **GPIB 82350 PCI GPIB Card.** **b** Click **Configure**. **c** If the following message appears, click **OK** to show the IO Configuration screen.	

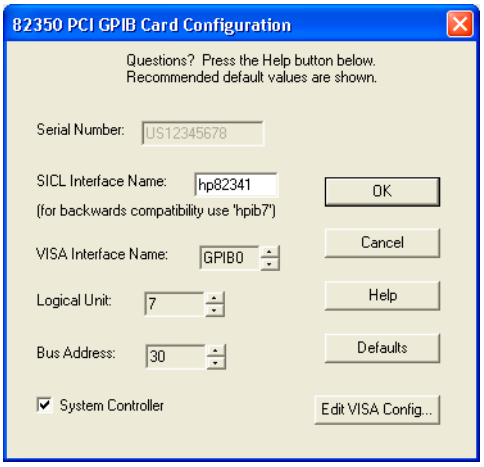


To install the GPIB drivers (continued)

Step	Action	Notes
9 Set the configuration parameters.	**a** In the **Configured Interfaces** column, select **GPIB0**. **b** Click **Edit**. The GPIB Card Configuration screen appears.	• The screen now contains a GPIB entry in the **Configured Interfaces** column.
		
	c Change the **SICL Interface Name** to **hp82341** (hp must be lower-case). **d** Use the scroll arrows to change **Bus Address** to **30**. **e** Click **OK**. Configuration is complete.	• Configure the 823450 as hp82341.
10 Reboot the computer.	• Power cycle the computer to make the support settings permanent.	
11 After rebooting.	**a** Follow **Start > Programs > Agilent IO Libraries > IO Config** to verify the configured GPIB interface. **b** Select **GPIB0 hp82341** in the **Configured Interfaces** box.	

To install the GPIB drivers (continued)

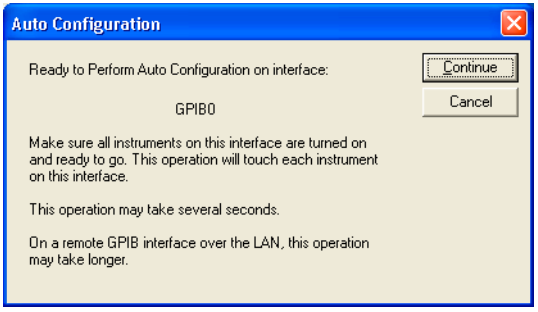
Step	Action	Notes
	c Click **Edit**. The GPIB Card Configuration screen appears.	



d Click **Edit VISA Config**. The **Show Devices** screen appears.

e Click **Auto Add devices.** The **Auto Configuration** screen appears.

f Click **Continue**.



To install the GPIB drivers (continued)

Step	Action	Notes
12 Possible message!	• If you get the following message, possible causes include: incorrect GPIB card configuration, GPIB cables not connected, instruments not turned on, unsupported hardware devices. Power cycle the computer as the first step in troubleshooting.	
13 Auto Configuration Complete!	**a** **GPIB0::20** identifies the MSD (default address 20). **b** **GPIB0::15** identifies the GC (default address 15). **c** Click **OK**.	• The new devices were found if auto configuration succeeds.
14 Confirm devices are online.	**a** Click **OK**. The **GPIB Card Configuration** screen appears. **b** Click **Cancel**. The **IO Config** screen appears. **c** Click **OK** to exit.	• Note SICL Interface Name = hp82341 and Bus Address = 30.

4 GPIB Driver Installation

5
Installing the Agilent MSD Security ChemStation Software

This chapter describes how to install the Agilent MSD Security ChemStation software.

Installing Agilent MSD Security ChemStation Software

Before you start:

- Make sure the ChemStation computer has Microsoft Windows XP Professional or Microsoft Windows 2000 Professional software installed and configured as described in Chapter 1.
- The computer file system must be NTFS. See the Windows documentation on how to convert to NTFS.
- 5975 and LAN-capable 5973 Series MSDs: make sure the LAN is configured as described in Chapter 2.
- 5973 MSD: make sure GPIB is configured as described in Chapter 4.
- 6890 or 6850 LAN based GCs make sure GC is configured as described in Chapter 2.
- 6890 without LAN capability: make sure 6890 is configured as described in Chapter 4.
- CA and DA versions of Agilent MSD Productivity ChemStation software and G1732AA/42AA versions of Agilent MSD Security ChemStation software will be upgraded by the installation software.

NOTE

If you already have a version of G1732AA/42AA MSD Security ChemStation installed on your system, go to "Upgrading Your MSD Security ChemStation Software" on page 65.

To install Agilent G1732AA MSD Security ChemStation software

Step	Action	Notes
1 Log on.	• Log on as Administrator or other user with Administrator privileges.	
2 Close programs.	• Close all Windows programs.	
3 Confirm the default printer.	**a** Navigate to the **Control Panel** and open the list of printers on your system (under **Printers** or **Printers and Faxes**). **b** Look for the printer or device with a very small check mark in its icon.	• If there is no default printer, right-click one and check the **Set as Default Printer** line. • The default printer *must* be local. **Networked printers are not supported.**
4 Load the software.	**a** Insert the CD-ROM in the drive. **b** If it does not start automatically, double-click **Welcome.htm** in the root directory of the CD-ROM. **c** The Agilent Welcome screen appears. **d** SICL drivers must be installed before software installation. Use only the version of the Agilent SICL Drivers provided on the **Support** page. **e** If you are using an older GC (with a JetDirect card installed) go to the **Support** page to install Agilent BootP Service (see Chapter 3, "Installing Agilent Bootp Service"" for more information). **f** To install the Agilent MSD Security software, navigate to the **MSD ChemStation** page and click **G1732AA MSD Security ChemStation.** **g** Continue to step 5 for installation instructions.	• Agilent recommends reviewing the **Welcome** and **What's New** pages before installing MSD Security ChemStation to your system. • Navigate through the CD contents by clicking on the links in the upper left corner under "Contents".

To install Agilent G1732AA MSD Security ChemStation software (continued)

Step	Action	Notes
5 Respond to InstallShield.	**a** The InstallShield Welcome screen appears. Click **Next>**. **b** The License Agreement screen appears. To continue with the installation, select **I accept the terms of the licensing agreement.** Click **Next>**. **c** The Customer Information screen appears. Enter **User Name**, **Company Name**, and the **Software Registration Number**, then click **Next>**. **d** The Choose Destination Location screen appears. Select the largest available partition. Click **Next>**. **e** The Select Features screen appears. Select the features you want to install, and deselect the features you do not want to install. Click **Next>**. **f** The **Ready to Install the Program** screen appears. It shows that the MSD Security Software is ready to be installed. Click **Install**. Installation begins.	• The **Software Registration Number** is on a separate paper. • The default location for installation is **D:\MSDChem**, which is recommended. If you prefer a different location, the folder name cannot contain spaces.
6 Complete installation.	**a** When installation ends, the InstallShield Wizard Complete screen appears. **b** Remove the CD-ROM from the drive and store it with the Software Registration Number. **c** Select **Finish**. **d** Restart the PC if prompted.	
7 Arrange the desktop.	**a** There are two new icons on the desktop. Arrange them as desired. **b** The **MSD Security Monitor** appears in the lower right corner of the screen.	• The new icons are **Config** and **Set Default Printer**.

To install Agilent G1732AA MSD Security ChemStation software (continued)

Step	Action	Notes
8 Set the default printer.	• Double-click the **Set Default Printer** icon.	• The default printer is defined in the Windows Control Panel. The **Set Default Printer** icon transfers this definition into the secure software. • This operation must be done before configuring the instruments.
9 Configure the instruments.	• See Chapter 3 of the MSD Manager Guide.	

5 Installing the Agilent MSD Security ChemStation Software

6
Supplemental Information

This chapter describes additional information which applies to some systems but is not required for all users.

To Update MSD Firmware

During startup of an instrument control session, the MSD Security ChemStation compares the firmware revision of the MSD against the firmware version stored under the \MSDChem\msexe\firmware folder for the MSD model. If there is a mismatch, a popup warning appears.

If the MSD Security ChemStation detects a firmware mismatch, and the MSD firmware is **older** than the available version, update the MSD as follows:

1. Close any MSD Security ChemStation sessions, if open.
2. Open the MSD Configuration program. Log in as Manager.
3. Select **Help\Check Networking and Update MSD Firmware**. The MSD Configuration program will download the available firmware version to the MSD and install it.

If there is a mismatch, but the MSD has **newer** firmware than available, do not update the MSD firmware. If experiencing any problems running the instrument session or collecting data, contact your Agilent service representative.

Upgrading Your MSD Security ChemStation Software

The install program for the G1732AA A.02.xx MSD Security ChemStation software will automatically detect and offer to upgrade any previously-installed Security version and Productivity versions CA or DA. Using this upgrade procedure maintains security.

To upgrade the software to version A.02.xx:

1. Log on to the computer as a user with Administrator privileges.
2. Verify the GC/MSD performance by performing an autotune and a quick method.
3. Backup all critical data, methods, sequences and/or libraries and any other specific information critical to the system.
4. Uninstall the CAG Bootp Server program, if installed.
   a. Run the CAG Bootp Server program.
   b. Record the MSD and/or GC MAC addresses.
   c. Remove all Bootp Entries.
   d. Exit from program.
   e. **Start/Settings (Windows 2000)/Control Panel/Add/Remove Programs/ Remove CAG Bootp Server**.
   f. Reboot the MSD ChemStation (recommended even if not prompted).
5. If a pre-existing version of the Agilent I/O Libraries (SICL drivers) does not match the version supplied on the software CD, uninstall it.
   a. Select **Start/Settings (Windows 2000)/Control Panel**, then select **Add or remove Programs**.
   b. Select **Remove SICL Drivers** or **Agilent I/O Libraries/Remove**, as applicable.

6 Install the supported version of the Agilent I/O Libraries as described in “Installing Agilent I/O Libraries (SICL Drivers) for TCP/IP Support” on page 35 and /or “Installing Agilent I/O Libraries for GPIB Support” on page 51.

7 If needed, install the Bootp Service as described in “Installing Agilent Bootp Service” on page 39.

8 Insert the G1732AA MSD Security ChemStation CD into the CD-ROM drive. If it does not start automatically, double-click the file **Welcome.htm** in the root directory of the CD-ROM. The Agilent Welcome screen appears.

9 Navigate to the **MSD ChemStation** page by clicking the link in the upper left corner under “Contents”. On the **MSD ChemStation** page, click the link **G1732AA MSD Security ChemStation.**

10 The InstallShield Welcome screen appears. Click **Next**.

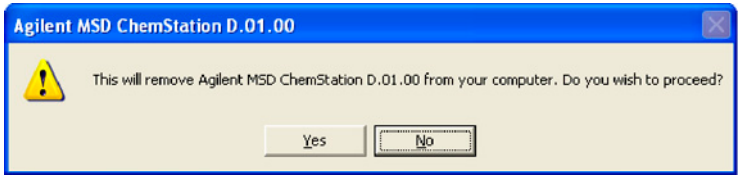
11 The install program will detect the previous installation and prompt you to upgrade. Click **Yes**.

12 The Customer Information screen appears. Enter the necessary information and click **Next>**.

Your registration number is on the software registration certificate provided in your software kit.

13 Select the features you want installed on your system and click **Next>**.

14 A message will appear like the one below. Proceed with the uninstallation by clicking **Yes**.



15 The install program will notify you when the old MSD Security ChemStation has been successfully removed from your system. Click **OK**.

16 The InstallShield Wizard Complete screen appears. Remove the CD-ROM from the drive, select **Yes, I want to restart my computer now** and click **Finish**.

17 After reboot, reconfigure your instruments.

- If installing over a working installation, the MSD configuration program will remember the configuration details, but needs to run in order to create new instruments with updated information. Refer to the G1732AA Manager's Guide. However, you will only need to provide the new instrument name, and to verify the previous settings.
- Note that the old instrument directory will be renamed during this process to include the extension ".old." Any previous ".old" directory is overwritten.
- Remember that earlier versions of the software did not include 6850 GC control. Re-configure the 6850 now.

Repairing (Reinstalling) MSD Security ChemStation Software

This procedure contains tips to help you reload the MSD Security ChemStation software on an existing system.

1. Backup all important files and folders, including the msdchem directory (<n>:\msdchem, where <n> is the drive where the MSD productivity software is installed).
2. Insert the G1732AA MSD Security ChemStation CD into the CD-ROM drive. If it does not start automatically, double-click the file **Welcome.htm** in the root directory of the CD-ROM. The Agilent Welcome screen appears.
3. Navigate to the **MSD ChemStation** page by clicking the link in the upper left corner under “Contents”. On the **MSD ChemStation** page, click the link **G1732AA MSD Security ChemStation**. The Modify/Repair/Remove screen appears.
4. Select **Repair** and click **Next>** to reinstall Agilent MSD Security ChemStation. The Setup Status screen appears. Reinstallation may take a few moments to complete.
5. Once configuration is complete, select **Yes, I want to restart my computer now**, remove the CD-ROM from the drive, and click **Finish** to restart your computer.

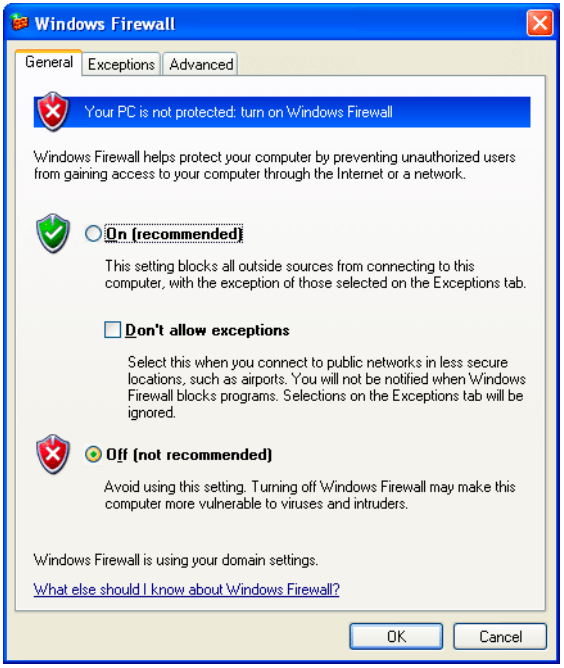
Using the Windows Firewall with the Agilent MSD Security ChemStation

The Windows Firewall is installed with Windows XP Service Pack 2 and is automatically activated once the installation is complete. The Windows Firewall is known to cause conflicts with the functionalities of the MSD Security ChemStation. To resolve these conflicts, install the MSD Security ChemStation software, then add the MSD Security ChemStation applications to the Windows Firewall exceptions list as described below:

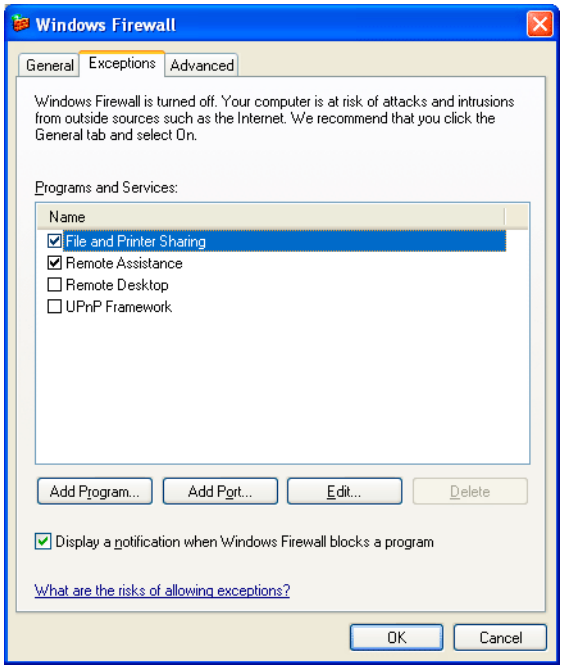
1 Log onto your computer with administrative privileges.

2 Select **Start/Control Panel/Security Center** to display the Windows Security Center.

3 To display the Windows Firewall configuration dialog, select the **Windows Firewall** icon. Make sure that the **Don't allow exceptions** box is unchecked (that is, allow exceptions).

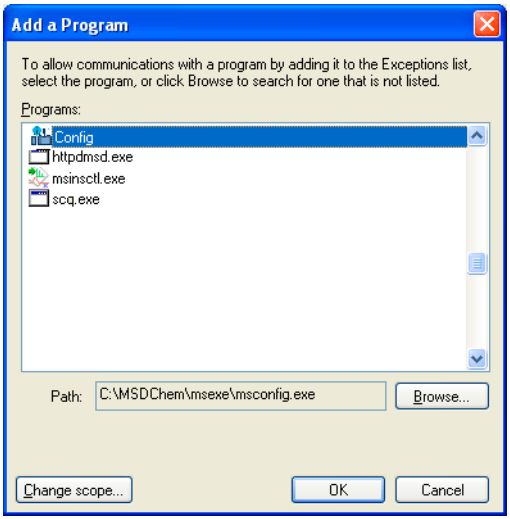


4 Select the **Exceptions** tab.



5 Check the **Display a notification when Windows Firewall blocks a program** box so that the Windows Security Alert window appears every time Windows Firewall blocks a program.

6 Select **Add Program** and browse to the MSD Security ChemStation installation directory. The default location is C:\MSDChem.



7 Select **msconfig.exe** and click **OK**.

8 Repeat steps 6 and 7 for **msinctl.exe**, **scq.exe**, and **httpdmsd.exe**.

The Windows Firewall is now configured to allow operation of the MSD Security ChemStation.

Windows Security Alert Screen

If in the future you receive a Windows Security Alert screen, follows the steps below:

1 Make sure you want to unblock the detected program.

2 Click **Unblock**.

3 Repeat this process until the program has started and is functioning properly.

7 Troubleshooting

This chapter describes procedures to help isolate and solve any communication issues your system might incur.

Network Verification Tests

The ChemStation software employs several tests to verify that the networking environment and analytical instrumentation are functioning. To start the tests, log in as Manager, then select **Check Networking** from the Help menu in the MSD Configuration program. To open MSD Configuration, select: **Programs\MSD Security ChemStation\Config** from the Windows Start menu (Windows 2000), or **All Programs\MSD Security ChemStation\ Config** (Windows XP).

When using the MSD Configuration program to configure the analytical instruments in your system, initiate network verification tests by selecting **Check Networking** from the Help menu.

If no errors are detected, the following messages appear:

MSD@ www.xxx.yyy.zzz Passed all Network Tests

OK to run the ChemStation

where **www.xxx.yyy.zzz** is the IP address for the MSD.

If there is a detectable problem you will see one of the following messages:

- **Loopback @ 10.1.1.100 failed the Ping test.**
- **GC @ 10.1.1.101 failed the Ping test.**
- **MSD @ 10.1.1.102 failed the Ping test.**
- **MSD @ 10.1.1.102 failed the Ping by name test.**
- **MSD @ 10.1.1.102 failed the RPCINFO test.**
- **MSD @ 10.1.1.102 failed the SCQ test.**
- **Network Problem must be fixed prior to running MSD Security ChemStation.**

Note that the following default IP addresses were used in the examples above:

ChemStation computer	10.1.1.100
GC	10.1.1.101
MSD	10.1.1.102

Generally, if the networking tests are successful, the Agilent MSD Security ChemStation will start up properly and the instrument will run properly. If you do get one of the error messages, review troubleshooting information in the remainder of this chapter.

In addition to tests described in the previous section, several other network verification tests are performed whenever a LAN-based GC/MSD is started up. If these tests succeed, the instrument will start up. If the tests fail, you will see one of the following messages and Agilent MSD Security ChemStation startup will halt:

- **GC at IP address www.xxx.yyy.zzz Did Not Respond.**
- **MSD at IP address www.xxx.yyy.zzz Did Not Respond.**
- **Warning: Configure Instruments to be in the same subnet with Agilent BootP Service.**

The first two messages indicate the GC or MSD did not respond to the ping test. The third message indicates there may be something fundamentally wrong with the IP address or subnet mask assignments for the computer, the GC, and/or the MSD.

NOTE

If you get any of these error messages when starting up the MSD Security ChemStation, run Check Networking in the MSD Configuration program as described in the previous section. Also run Check Networking if networking tests in the MSD Security ChemStation succeed but the instrument fails to run correctly, or messages such as "MSD did not respond." are displayed.

For most networking situations, the following rules should be followed. Do not deviate from these rules unless you are knowledgeable about IP addresses, subnet masks, and gateways.

1. The subnet mask for the ChemStation computer, the GC, and the MSD should be **255.255.255.0**.
2. The first three segments of the IP address for the ChemStation computer, the GC, and the MSD should be the same. If **www.xxx.yyy.zzz** represents an IP address, then **www.xxx.yyy** should be the same for the ChemStation computer, the GC, and the MSD.

3 The last segment of the IP address for the ChemStation computer, the GC, and the MSD must be different for each. If **www.xxx.yyy.zzz** represents an IP address, then **zzz** must be different for the ChemStation computer, the GC, and the MSD.

If the organization possesses a gateway, the IP of the gateway should be the same for the ChemStation computer, the GC, and the MSD.

To check the IP Address, subnet mask, and gateway of the ChemStation computer

Windows 2000 or XP

1 Open the **Control Panel**.

2 From the Control Panel, double-click the **Network + Dialup Local Area Connection** (Windows 2000) or **Network Connections** (Windows XP) icon to display the Network dialog box.

3 Double-click **Local Area Connection**.

4 Click **Properties**.

5 Highlight the **Internet Protocol (TCP/IP)** item.

6 Click **Properties** and make sure DHCP is not selected.

NOTE If the computer must be part of a site LAN, then DHCP may be enabled. However, verify that the computer was assigned a static IP address by the LAN administrator.

To check the IP Address, subnet mask, and gateway of the GC and MSD

6890 GC

At the control panel, press **Options** and select **Communications**.

6890A/Plus GC

1 Select **Start\All Programs\Agilent Bootp Service\Edit Bootp Settings**.

2 Check the **Default Settings** to make sure they match the correct configuration. Correct default settings are:

- Subnet mask 255.255.255.0
- Gateway 10.1.1.100

3 Select **Launch Manager** to display hardware (MAC) address, **Host Name**, **IP Address**, **Comment**, **Subnet Mask**, and **Gateway**.

4 Check all entries. To fix a bad entry, select it and then select **Modify**.

6850 GC

From the handheld controller Status screen, select **Setup\ Configure\LAN Communication**. (Alternately, see "6850 GC"on page 32.)

5975 or 5973 Series MSD with LAN communication

Use the local control panel to display the IP address.

Check the **Default Settings** to make sure they match the correct configuration. Correct default settings are:

- Subnet mask 255.255.255.0
- Gateway 10.1.1.100

5973 MSD with GPIB communication

1 Select **Start\All Programs\Agilent Bootp Service\Edit Bootp Settings**.

2 Select **Launch Manager** to display hardware (MAC) address, **Host Name**, **IP Address**, **Comment**, **Subnet Mask**, and **Gateway**.

3 Check all entries. To fix a bad entry, select it and then select **Modify**.

Isolate the Problem

Here are some approaches you can try to help determine what part of the system is causing a problem. First, characterize the problem as a constant or intermittent failure. Intermittent failures are discussed later in this chapter.

Try a different computer

If you have another computer with the same revision of software, can you configure and run the analytical instrument that is not working? If so, the problem may be the computer.

If you do not have another computer already configured, you can install the SICL drivers, Agilent Bootp Service (if required), and Agilent MSD Security ChemStation software on another computer for diagnostic purposes.

If you have other computers on the same LAN, can they Ping the Agilent MSD Security ChemStation computer, the GC, or the MSD? If they can, then you know that certain equipment is probably good. It is important to rule out malfunctioning of even the smaller network components, such as hubs, switches, and LAN cables.

Re-establish a local instrument LAN

If the system has been connected to a site LAN, it must be reconfigured as a local instrument LAN as described in Chapter 2 so components in the network are limited to:

- The computer with its network card
- The GC with LAN communication network printer addresses
- The MSD with its embedded LAN/MS Control card
- The hub or switch
- Three LAN cables

Run the Check Networking tests described on page 74. If the system passes the tests, try to run the system. If the system operates normally as an isolated LAN, but fails on the site LAN, the problem might be LAN traffic, duplicate IP addresses, or other network configuration problems.

Remember to check network printer IP addresses. If a printer is turned on or off, it can cause intermittent failures if its address duplicates that of an instrument.

Check cabling

Before examining PC hardware and drivers, check the cabling.

To check the LAN cabling

Step	Action	Notes
1 Cycle power to the hub or switch.	• If the hub or switch has a 'POST' ("Power-On and Self-Test") described in its manual, verify it is correct.	
2 Check the cables and hub or switch.	**a** Physically trace the three cables back to the computer, to the GC, and to the MSD. **b** Verify cables are plugged in firmly. **c** Verify the cascade port of the hub or switch is not being used. **d** Verify the power cord of the power adapter is firmly plugged in. **e** Try moving the cables. This can reveal a faulty connector.	• If you have a crossover LAN cable, verify it is *not* being used. Do not connect crossover cables to the hub or switch.
3 Try installing new LAN cables.		

Check the Agilent MSD Security ChemStation computer

If the cabling is correct, check the computer.

To check the Agilent MSD Security ChemStation computer

Step	Action	Notes
1 Clear and save the **System** and **Application Logs**.	**a** On Control Panel, select **Administrative Tools** > **Event Viewer**. **b** Right-click **Application**. **c** Select **Clear all events**. **d** Reply **Yes** to the question about saving the log. **e** Supply a name and **Save** the log. **f** Repeat actions **b** through **e** for the **System Log**.	
2 Reboot and log in.	**a** Reboot the computer. **b** Log in with administrative privileges.	
3 Examine the logs for new entries.	• Use Event Viewer to examine the System and Application logs for network-related error messages.	• Look for hardware problems with the network card, TCP/IP configuration errors, duplicate IP addresses, etc.
4 Perform a loopback test.	**a** From **Start**, select **Run**. **b** Type `cmd` and select **OK**. A command window opens. **c** Type `ping 10.1.1.100` and press **Enter**. **d** Type `Exit` to close the window.	• If test is successful, the Agilent MSD Security ChemStation computer, its network card, and TCP/IP configuration are good. • If test fails or times out, a serious LAN problem is present and must be resolved before proceeding. Resolving the problem requires complete access to the original media for all operating system software and drivers for hardware peripherals such as mouse and printer. Resolution may even require that the computer be completely reinstalled or rebuilt.

Check the GC

If the cabling and computer tests have been passed, proceed to check out the GC.

To check out the GC

Step	Action	Notes
1 Test the LAN communications to the GC.	**a** From **Start**, select **Run**. **b** Type `cmd` and select **OK**. A command window opens. **c** Ping the GC. For example, type `ping 10.1.1.101` and press **Enter**. **d** The response should be similar to the results shown on page 30. **e** Type `Exit` to close the window.	
2 Check the GC LAN status (for 6890N).	**a** Press **[Options]** on the GC keyboard. **b** Scroll to **Diagnostics** and press **[Enter]**. **c** Scroll to **LAN Status** and press **[Enter]**.	• If the 6890N LAN card is installed, configured, and operating properly, the card serial number, firmware version, and MAC address will be displayed. • If the LAN Status is **Not Installed**, there is a problem in the GC. Contact Agilent for service.

To check out the GC (continued)

Step	Action	Notes

3 Test the LAN configuration (for 6890A/Plus GCs).	**a** Cycle power to the GC and wait 40 seconds to determine if Agilent Bootp Service detected the Bootp request.
	b If the Agilent Bootp Service *did* detect the Bootp request:
	Did the Bootp request supply the correct IP address?
	• **Yes**. Can you ping the GC?
	  • **Yes**. The GC is configured properly on the network.
	  • **No**. The GC could be controlled by another Bootp server. Check network.
	• **No**. Add the new MAC address to the Bootp Server; delete the old MAC address that had been assigned to that IP address. Now can you ping it?
	  • **Yes**. The GC is configured properly on the network.
	  • **No**. Verify hardware connections.
	c If the Agilent Bootp Service *did not* detect the Bootp request:
	Replace the LAN cables to the Agilent MSD Security ChemStation computer and the GC. Repeat the tests in this section.	

4 Check the GC LAN status (for 6850)	**a** Using the handheld controller, go to **Status/Setup/Configure/LAN Comm**. **b** If the handheld controller is not available, see "6850 GC" on page 32.	• If LAN communications are installed, configured, and operating properly, the IP address, subnet mask, gateway, and control mode will be displayed.

Check the MSD

If the cabling, computer, and GC tests have been passed, proceed to check out the MSD.

To check the MSD

Step	Action	Notes
1 Test the MSD LAN hardware.	**a** Power cycle the MSD. **b** Examine the LEDs at the back of the instrument. Beneath the LAN RJ-45 cable, there are two LEDs: a power LED and a heartbeat LED. **c** Is the Power LED on or off? • **ON**. Power and power cord are okay. • **OFF**. Power and power cord should be checked. Are they okay? • Yes. There is a hardware problem with the MSD. • No. Check circuit breaks and replace power cord as necessary. **d** Is the heartbeat LED blinking? • Yes. Is it blinking on/off/on/off evenly? • **Yes**. The hardware is okay. • **No**. Report the blinking pattern to your service representative. • **No**. Flash memory has been corrupted or the LAN/MS control card is defective. Place service call.	

To check the MSD (continued)

Step	Action	Notes

2 Test the LAN configuration (*for instruments using Bootp*).	**a** Cycle power to the MSD and wait 25 seconds to determine if Agilent Bootp Service detected the Bootp request.
	b If the Agilent Bootp Service *did* detect the Bootp request:
	Did the Bootp request supply the correct IP address?
	• **Yes**. Can you ping the MSD?
	  • **Yes**. The MSD is configured properly on the network.
	  • **No**. The MSD could be controlled by another Bootp server. Check network.
	• **No**. Add the new MAC address to the Bootp Server; delete the old MAC address that had been assigned to that IP address. Now can you ping it?
	  • **Yes**. The MSD is configured properly on the network.
	  • **No**. Verify hardware connections.
	c If the Agilent Bootp Service *did not detect* the Bootp request:
	Replace the LAN cables to the ChemStation computer and the MSD. Repeat the tests in this section.	

Intermittent Problems

Intermittent problems are much more difficult to identify and solve. Executing the following commands from the Windows Command Prompt may help located the problems.

If the networking configuration is working most of the time, probing the reliability and performance of the LAN by using ping can help with system diagnostics.

ping -t -w 1000 -n 1 -l 1024

-t = ping continuously until interrupted by Ctrl-C

-w 1000= 1000 millisecond timeout

-n 1= 1 packet per ping

-l 1024= 1024 byte packets

When this command is executed, you should see a continuous stream of packet returns. If you see occasional “timed out” messages, it indicates that something caused the packet not to be returned within the timeout period.

ipconfig /all

When this command is executed, you should see a series of network connections set up on the computer. This could be useful to help identify incorrectly entered IP Addresses (Subnet Masks, Gateways, and so forth).

Optionally, redirect the output to a text file on the root of the C:\ drive.

ipconfig /all >C:\ipconfig.txt

Computer Loopback Test

When ping succeeds

If ping succeeds, it implies the device specified by the IP address in the MSD Configuration program exists and basics of network communications are functional. What you learn if ping succeeds:

- The instrument exists
- The network drivers are installed correctly on the Agilent MSD Security ChemStation computer and on the device
- TCP/IP as a protocol is running and adequately configured on the Agilent MSD Security ChemStation computer and device
- LAN cables are good and no gateway, router, or switch is presenting any obvious problem
- Subnet masks are not presenting a problem

What you still do not know even if ping succeeds:

- If the selected device is a GC or an MSD
- If the device is ready to be controlled by an Agilent MSD Security ChemStation
- If the GC has the right firmware (note that ping is the only network diagnostic available for the GC)

When ping fails

If ping fails, it implies that something is fundamentally wrong and could be one or more of the following:

- Bad network card in the Agilent MSD Security ChemStation computer. If the network card is bad, there should be a message in the Event Viewer system log to indicate the problem.

- TCP/IP software is not installed (*Microsoft Windows 2000 Professional only*). Check **Control Panel > Network and Dial-up Connections > Local Area Connection > Properties**. If TCP/IP is not there, it must be installed. Do not forget to reload Service Pack(s) after you change your network configuration.
- Bad LAN cables or connections. Physically inspect LAN cabling. Use a computer connected to the same hub if necessary. Change LAN cables with cables known to be good.
- One or more network device(s) is/are not powered up.
- For a GC/MS system using Agilent Bootp Services, perhaps its IP address was not received at the device, or it received the wrong IP address from a second Bootp server. Make sure the appropriate Bootp service is running. Power cycle the device to “restore” Bootp service. Wait for the Bootp server to receive the Bootp request and issue the IP address. Use the logging feature to check this.
- The LAN card (GC) or LAN/MS Control card (MSD) has failed. For a 6890A/Plus GC card, consult the manufacturer. For the 6890N and 6850, contact an Agilent service representative. For the LAN/MS Control card, verify the bottom LED is on and that the next LED is blinking at 1 Hz. If it is blinking S-O-S, LAN/MS control card firmware needs to be updated. If it is not blinking after a power cycle, it is either defective or it did not receive its IP address.
- If the problem is NOT the Agilent MSD Security ChemStation software or SICL drivers, then it might be the Agilent Bootp server.

When ping fails, everything must be checked because the computer, the device, and/or the network could be at fault. The problem could be hardware, software, firmware, configuration, or the network. The most expedient approach is to restart the installation procedure. If your network has other computers with TCP/IP networking, try to ping the Agilent MSD Security ChemStation, the MSD, and the GC from one of the other computers.

Error Messages

Error message: Loopback @ 10.1.1.100 failed the Ping test. Help message: Loopback Failure

This is a fundamental problem with TCP/IP networking protocol and generally means networking drivers are not correctly bound to the network card or that TCP/IP is not installed correctly. It could also mean the network card is defective or that there is an IRQ conflict.

Reinstall/reconfigure the system as an isolated LAN, then try again. If still bad, do the following:

1. Verify BIOS enables LAN.
2. Check the system log using the operating system Event Viewer for network errors (indicated in red).
3. Reinstall and reconfigure TCP/IP (*Microsoft Windows 2000 Professional only*) or reset the TCP/IP stack (*Microsoft Windows XP Professional only*).
4. Verify drivers.
5. Verify port (aui, 10baseT, and so forth).
6. Reinstall current Windows Service Pack(s).

Error message: GC @ www.xxx.yyy.zzz failed the Ping test. Help message: Ping GC Failure (loopback has succeeded!)

Possible causes

- Incorrect IP address
- No physical connection
- GC powered down
- Bootp service not up (6890A/Plus GCs and 6850 GCs with JetDirect card)
- JetDirect card failure (6890A/Plus GCs and 6850 GCs with JetDirect card)

- Agilent MSD Security ChemStation computer network card failure
- Bad cables

Solution

1. Run Agilent Bootp Service.
2. Verify IP and MAC addresses in Bootp settings.
3. Turn the GC off, then on.
4. Wait 40 seconds for the GC to complete self test.
5. Verify the GC sent a Bootp request and that Bootp service delivered an IP address. Verify that GC MAC and IP addresses are consistent with the instrument configuration in the MS Configuration program.
6. Run the MS Configuration program and execute the Help/Check Networking item again.

If the problem persists, reinstall/reconfigure the system as an isolated LAN, then try again.

Error Message: MS @ www.xxx.yyy.zzz failed the Ping test. Help message: Ping MS Failure (loopback has succeeded!) (Ping GC, if present, has succeeded)

Possible causes

- Incorrect IP address
- No physical connection
- MSD powered down
- Bootp service not up
- MSD LAN/MS Control card failure
- Agilent MSD Security ChemStation computer network card failure
- Bad cables

Solution

1. Run Agilent Bootp Service.
2. Verify IP and MAC addresses in Bootp settings.
3. Reboot the MSD from the Local Control Panel (Controller/Reboot Controller).
4. Wait 25 seconds for the MSD to complete its bootup.
5. Verify that the MSD sent a Bootp request and that Bootp service delivered an IP address. Verify that MSD MAC and IP addresses are consistent with the instrument configuration in the MS Configuration program.
6. Run the MS Configuration program and execute the Help/Check Networking item again.

If the problem persists, reinstall/reconfigure the system as an isolated LAN, then try again.

Agilent Technologies

Printed in USA, November 2005

G1732-90009