Notices

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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
A CAUTION notice denotes a hazard. It calls attention to an operating procedure, practice, or the like that, if not correctly performed or adhered to, could result in damage to the product or loss of important data. Do not proceed beyond a CAUTION notice until the indicated conditions are fully understood and met.

WARNING
A WARNING notice denotes a hazard. It calls attention to an operating procedure, practice, or the like that, if not correctly performed or adhered to, could result in personal injury or death. Do not proceed beyond a WARNING notice until the indicated conditions are fully understood and met.
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

   Before You Begin 10
   Computer Requirements and Recommendations 11
      Hardware 11
      Operating system 12
   Preparing the Computer 13
      Performance settings 13
      Microsoft Windows XP appearance settings 14
      Windows XP Firewall settings 14
      Customer responsibilities 16
      Replacing the operating system 16
   Determine the System Communication Method 18
      LAN communications 18
      GPIB communications 19
      Data acquisition limitations 19
   Other Documentation 20
   Removing Existing Agilent MSD ChemStation Software 21

2 Local Area Network Configuration

   Local Area Network Configuration Checklist and Table 24
   Preparing the Instruments 26
      Designing the LAN instrument network 26
      Cabling the LAN instrument network 26
      Configuring the LAN instrument network 26
   Configuring the LAN Network 28
Configuring IP Addresses from the Instrument Keyboards 31
6890N GC 31
6850 GC 32
5975 or 5973 Series LAN-based MSD with a local control panel 33
Installing Agilent I/O Libraries (SICL Drivers) for TCP/IP Support 35

3 Installing Agilent Bootp Service

Purpose 40
  How Bootp works 40
  Addresses 40
Installation 41
Initial Instrument Setup on Agilent Bootp Service 44
  Determine the MAC address of the instrument 44
  Add Bootp entries 45
Adding Instruments After Initial Bootp Setup 47
  If you know the MAC address 47
  If you do not know the MAC address 48

4 GPIB Driver Installation

Installation Checklist for GPIB-Based Systems 50
Installing Agilent I/O Libraries for GPIB Support 51

5 Installing the Agilent MSD Security ChemStation Software

Installing Agilent MSD Security ChemStation Software 58
6 Supplemental Information

To Update MSD Firmware  64
Upgrading Your MSD Security ChemStation Software  65
Repairing (Reinstalling) MSD Security ChemStation Software  68
Using the Windows Firewall with the Agilent MSD Security ChemStation  69
Windows Security Alert Screen  72

7 Troubleshooting

Network Verification Tests  74
To check the IP Address, subnet mask, and gateway of the ChemStation computer  76
To check the IP Address, subnet mask, and gateway of the GC and MSD  76
Isolate the Problem  78
Try a different computer  78
Re-establish a local instrument LAN  78
Check cabling  79
Check the Agilent MSD Security ChemStation computer  80
Check the GC  81
Check the MSD  83
Intermittent Problems  85
Computer Loopback Test  86
When ping succeeds  86
When ping fails  86
Error Messages  88
Error message: Loopback @ 10.1.1.100 failed the Ping test.  88
Error message: GC @ www.xxx.yyy.zzz failed the Ping test.  88
Error Message: MS @ www.xxx.yyy.zzz failed the Ping test.  89
1 General Information

Before You Begin 10
Computer Requirements and Recommendations 11
Preparing the Computer 13
  Performance settings 13
  Microsoft Windows XP appearance settings 14
  Windows XP Firewall settings 14
  Customer responsibilities 16
  Replacing the operating system 16
Determine the System Communication Method 18
  LAN communications 18
  GPIB communications 19
  Data acquisition limitations 19
Other Documentation 20
Removing Existing Agilent MSD ChemStation Software 21

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
1 General Information

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
1 General Information

**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.
1  General Information

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.

Replacements the operating system

To replace the operating system

<table>
<thead>
<tr>
<th>Step</th>
<th>Action</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Confirm data readiness.</td>
<td>Verify that Customer responsibilities described above have been performed.</td>
</tr>
</tbody>
</table>
| 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)

<table>
<thead>
<tr>
<th>Step</th>
<th>Action</th>
<th>Notes</th>
</tr>
</thead>
</table>
| 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.  
|      | c Select **NTFS** file format. | • Select **Install the most common components**.  
|      | d Select **Install the most common components**. | • Disable power saver features of the computer.  
|      | e Set the computer clock. | • Set the display for a minimum of 1024 x 768 x 65,536 colors.  
|      | f 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.  
|      | b Install Service Pack 4 for Microsoft Windows 2000 Professional.  
|      | b Install Service Pack 4 for Microsoft Windows 2000 Professional.  
|      | b Reboot the computer. | • See Chapter 2 for Installing Agilent I/O Libraries (SICL Drivers) for LAN driver installation.  
|      | b See Chapter 4 for GPIB driver installation. |
| 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.  
|      | b 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>
<thead>
<tr>
<th>Instrument</th>
<th>Model</th>
<th>Supported firmware revision</th>
<th>LAN Board firmware</th>
<th>Supported IP addressing method</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>5975 Series MSD</td>
<td>G3170A</td>
<td>5.01.90↑</td>
<td>—</td>
<td>Set at MSD (preferred) or use Bootp Service</td>
<td>page 33 or page 44</td>
</tr>
<tr>
<td></td>
<td>G3171A</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>G3172A</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>G3174A</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5973N/inert series MSD (5973A LAN upgrade)†</td>
<td>G2577A</td>
<td>5.01.90↑</td>
<td>—</td>
<td>Set at MSD (preferred) or use Bootp Service</td>
<td>page 33 or page 44</td>
</tr>
<tr>
<td></td>
<td>G2578A</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>G2579A</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>G2588A</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>G2589A</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5973A MSD, upgraded to LAN†</td>
<td>G1098A</td>
<td>5.01.90↑</td>
<td>—</td>
<td>Set at MSD (preferred) or use Bootp Service</td>
<td>page 44</td>
</tr>
<tr>
<td></td>
<td>G1099A</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>G1999A</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6890N GC System</td>
<td>G1530N/</td>
<td>N.05.05</td>
<td>LAN Assembly 04.7B3</td>
<td>Set at GC</td>
<td>page 31</td>
</tr>
<tr>
<td></td>
<td>G1540N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6890A/Plus GC System</td>
<td>G1530A/</td>
<td>≥ A.03.08</td>
<td>JetDirect Card J4100 · K.08.32</td>
<td>Use Bootp Service</td>
<td>page 44</td>
</tr>
<tr>
<td></td>
<td>G1540A</td>
<td></td>
<td>J2552 - A.08.32</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
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

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)

<table>
<thead>
<tr>
<th>Step</th>
<th>Action</th>
<th>Notes</th>
</tr>
</thead>
</table>
| 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)

<table>
<thead>
<tr>
<th>Step</th>
<th>Action</th>
<th>Notes</th>
</tr>
</thead>
</table>
| 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

Local Area Network Configuration Checklist and Table  24
Preparing the Instruments 26
  Designing the LAN instrument network 26
  Cabling the LAN instrument network 26
  Configuring the LAN instrument network 26
Configuring the LAN Network 28
Configuring IP Addresses from the Instrument Keyboards 31
  6890N GC 31
  6850 GC 32
  5975 or 5973 Series LAN-based MSD with a local control panel 33
Installing Agilent I/O Libraries (SICL Drivers) for TCP/IP Support 35

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.

<table>
<thead>
<tr>
<th>Unit</th>
<th>Computer</th>
<th>Instrument 1-GC</th>
<th>Instrument 1-MSD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Serial number</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MAC address</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Host name</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IP address</td>
<td>10.1.1.100</td>
<td>10.1.1.101</td>
<td>10.1.1.102</td>
</tr>
<tr>
<td>Hub port (default)</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Subnet mask</td>
<td>255.255.255.0</td>
<td>255.255.255.0</td>
<td>255.255.255.0</td>
</tr>
<tr>
<td>Default gateway</td>
<td>10.1.1.100</td>
<td>10.1.1.100</td>
<td>10.1.1.100</td>
</tr>
</tbody>
</table>

- 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:

<table>
<thead>
<tr>
<th>Device</th>
<th>IP Address</th>
</tr>
</thead>
<tbody>
<tr>
<td>MSD Security ChemStation computer</td>
<td>10.1.1.100</td>
</tr>
<tr>
<td>GC instrument</td>
<td>10.1.1.101</td>
</tr>
<tr>
<td>MSD instrument</td>
<td>10.1.1.102</td>
</tr>
</tbody>
</table>
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

<table>
<thead>
<tr>
<th>Step</th>
<th>Action</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Log on.&lt;br&gt; • Log on as Administrator or other user with Administrator privileges.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 Create the network connection.&lt;br&gt; a On Control Panel, double-click <strong>Network Connections</strong> (Windows XP users) or <strong>Network and Dial-up Connections</strong> (Windows 2000 users).&lt;br&gt; b Right-click <strong>Local Area Connection</strong> and select <strong>Properties</strong>. The <strong>Local Area Connection Properties</strong> dialog box appears.&lt;br&gt; • If <strong>Local Area Connection</strong> does not appear, the Network Interface Card is not installed or detected. Shut down the computer, install the card, and start over.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
To configure the Windows network (continued)

<table>
<thead>
<tr>
<th>Step</th>
<th>Action</th>
<th>Notes</th>
</tr>
</thead>
</table>
| 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. |
2  Local Area Network Configuration

To configure the Windows network (continued)

<table>
<thead>
<tr>
<th>Step</th>
<th>Action</th>
<th>Notes</th>
</tr>
</thead>
</table>
| 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

<table>
<thead>
<tr>
<th>Step</th>
<th>Action</th>
<th>Notes</th>
</tr>
</thead>
</table>
| 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

   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).
2 Local Area Network Configuration

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

<table>
<thead>
<tr>
<th>Step</th>
<th>Action</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Close all running Windows applications.</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Insert the G1732AA MSD Security ChemStation CD-ROM in the drive.</td>
<td>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.</td>
</tr>
<tr>
<td>3</td>
<td>Start the SICL InstallShield wizard.</td>
<td>a Go to the Support page. b Click Install Agilent I/O Libraries (SICL Drivers) M.01.01.04</td>
</tr>
<tr>
<td>4</td>
<td>Read and acknowledge the introductory screens.</td>
<td>a The IO Libraries screen appears; click Next&gt;. b The License Agreement screen appears; click Yes after reading. c The Readme Information screen appears; click Next&gt;.</td>
</tr>
<tr>
<td>5</td>
<td>Select an Installation Option.</td>
<td>• Click Full Installation. The Current Settings screen appears.</td>
</tr>
</tbody>
</table>
2 Local Area Network Configuration

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

<table>
<thead>
<tr>
<th>Step</th>
<th>Action</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>Accept the Current Settings.</td>
<td>• Click Next. • Files are copied to disk.</td>
</tr>
<tr>
<td>7</td>
<td>Run IO configuration. When the success screen appears: Select Run IO Config. Click Finish. If prompted, select Manually configure interfaces and click Next.</td>
<td>To run IO configuration only, follow Start &gt; Programs &gt; Agilent IO Libraries &gt; IO Config.</td>
</tr>
<tr>
<td>8</td>
<td>Select the interface to be configured.</td>
<td>a The Agilent IO Libraries Configuration-IO Config screen appears. Select TCPIP *LAN Client (LAN Instruments). Click Configure. This screen appears:</td>
</tr>
<tr>
<td></td>
<td></td>
<td><img src="image" alt="LAN Client Configuration Screen" /></td>
</tr>
<tr>
<td>9</td>
<td>Select SICL-LAN.</td>
<td>a Select SICL-LAN as the Default Protocol. Click OK. • The confirmation screen appears.</td>
</tr>
</tbody>
</table>
To install the I/O Libraries (SICL Drivers) for LAN (continued)

<table>
<thead>
<tr>
<th>Step</th>
<th>Action</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>10</strong> Confirm TCP/IP configuration.</td>
<td>a  Note that <strong>TCPIP0 lan</strong> appears in the <strong>Configured Interfaces</strong> box.</td>
<td>• These entries confirm LAN support from the IO libraries.</td>
</tr>
<tr>
<td></td>
<td>b  Click <strong>OK</strong>.</td>
<td></td>
</tr>
<tr>
<td><strong>11</strong> Reboot the computer.</td>
<td>a  Remove the CD from the drive.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>b  Restart the computer to make the support settings permanent.</td>
<td></td>
</tr>
</tbody>
</table>
2 Local Area Network Configuration
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:

<table>
<thead>
<tr>
<th>Device</th>
<th>Address</th>
</tr>
</thead>
<tbody>
<tr>
<td>PC</td>
<td>10.1.1.100</td>
</tr>
<tr>
<td>GC</td>
<td>10.1.1.101</td>
</tr>
<tr>
<td>MSD</td>
<td>10.1.1.102</td>
</tr>
<tr>
<td>Gateway</td>
<td>10.1.1.100</td>
</tr>
<tr>
<td>Subnet mask</td>
<td>255.255.255.0</td>
</tr>
</tbody>
</table>
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

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.
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:

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.
3 Installing Agilent Bootp Service

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

Installation Checklist for GPIB-Based Systems  50
Installing Agilent I/O Libraries for GPIB Support  51

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.

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

<table>
<thead>
<tr>
<th>Step</th>
<th>Action</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Close all running Windows applications.</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Insert the G1732AA MSD Security ChemStation CD-ROM in the drive.</td>
<td></td>
</tr>
</tbody>
</table>
  
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”. |
## 4 GPIB Driver Installation

To install the GPIB drivers (continued)

<table>
<thead>
<tr>
<th>Step</th>
<th>Action</th>
<th>Notes</th>
</tr>
</thead>
</table>
| 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. |  - Select GPIB 82350 PCI GPIB Card.
 |       |       |  b. Click *Configure*.
 |       |       |  c. If the following message appears, click *OK* to show the IO Configuration screen. |

**IO Libraries Configuration**

It is highly recommended that you check each interface that was just added to make sure it is correct.

*NOTE:* Auto Config will not automatically configure VISA LAV Client. You must manually configure this interface.

*Auto Config* will not remove any interfaces that are no longer installed in your computer. You must manually remove these yourself.

Also note that if you have an 82341 USB GPIB card, it is no longer added automatically. It must be manually configured.
To install the GPIB drivers (continued)

<table>
<thead>
<tr>
<th>Step</th>
<th>Action</th>
<th>Notes</th>
</tr>
</thead>
</table>
| 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. |
|      |        | ![82350 PCI GPIB Card Configuration](image) |
|      |        | 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. |
| 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)

<table>
<thead>
<tr>
<th>Step</th>
<th>Action</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>c</td>
<td>Click <strong>Edit</strong>. The GPIB Card Configuration screen appears.</td>
<td></td>
</tr>
<tr>
<td>d</td>
<td>Click <strong>Edit VISA Config</strong>. The <strong>Show Devices</strong> screen appears.</td>
<td></td>
</tr>
<tr>
<td>e</td>
<td>Click <strong>Auto Add devices</strong>. The <strong>Auto Configuration</strong> screen appears.</td>
<td></td>
</tr>
<tr>
<td>f</td>
<td>Click <strong>Continue</strong>.</td>
<td></td>
</tr>
</tbody>
</table>
To install the GPIB drivers (continued)

<table>
<thead>
<tr>
<th>Step</th>
<th>Action</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>12</td>
<td>Possible message!</td>
<td>- 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.</td>
</tr>
</tbody>
</table>

![GPIB Card Configuration SICL Interface Name = hp82341 and Bus Address = 30.](image)

| 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

<table>
<thead>
<tr>
<th>Step</th>
<th>Action</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Log on.</td>
<td>- Log on as Administrator or other user with Administrator privileges.</td>
</tr>
<tr>
<td>2</td>
<td>Close programs.</td>
<td>- Close all Windows programs.</td>
</tr>
</tbody>
</table>
| 3    | Confirm the default printer. | - 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. | - 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”.

Software Installation
To install Agilent G1732AA MSD Security ChemStation software (continued)

<table>
<thead>
<tr>
<th>Step</th>
<th>Action</th>
<th>Notes</th>
</tr>
</thead>
</table>
| 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. |
| 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)

<table>
<thead>
<tr>
<th>Step</th>
<th>Action</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td>Set the default printer.</td>
<td>• 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.</td>
</tr>
<tr>
<td>9</td>
<td>Configure the instruments.</td>
<td>• See Chapter 3 of the MSD Manager Guide.</td>
</tr>
</tbody>
</table>
Installing the Agilent MSD Security ChemStation Software
6 Supplemental Information

To Update MSD Firmware 64
Upgrading Your MSD Security ChemStation Software 65
Repairing (Reinstalling) MSD Security ChemStation Software 68
Using the Windows Firewall with the Agilent MSD Security ChemStation 69

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.

   ![Agilent MSD ChemStation 0.01.00 Warning Message]

   This will remove Agilent MSD ChemStation 0.01.00 from your computer. Do you wish to proceed?

   Yes No

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.
Supplemental Information

Windows Security Alert Screen

If in the future you receive a Windows Security Alert screen, follow 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

Network Verification Tests  74
Isolate the Problem  78
  Try a different computer  78
  Re-establish a local instrument LAN  78
  Check cabling  79
  When ping succeeds  86
  When ping fails  86
  Check the Agilent MSD Security ChemStation computer  80
  Check the GC  81
  Check the MSD  83
Intermittent Problems  85
Computer Loopback Test  86
Error Messages  88
  Error message: Loopback @ 10.1.1.100 failed the Ping test.  88
  Error message: GC@www.xxx.yyy.zzz failed the Ping test.  88
  Error Message: MS @ www.xxx.yyy.zzz failed the Ping test.  89

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.

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.zzz* 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 \texttt{www.xxx.yyy.zzz} represents an IP address, then \texttt{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 \texttt{Control Panel}.
2 From the Control Panel, double-click the \texttt{Network + Dialup Local Area Connection} (Windows 2000) or \texttt{Network Connections} (Windows XP) icon to display the Network dialog box.
3 Double-click \texttt{Local Area Connection}.
4 Click \texttt{Properties}.
5 Highlight the \texttt{Internet Protocol (TCP/IP)} item.
6 Click \texttt{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 \texttt{Options} and select \texttt{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**

<table>
<thead>
<tr>
<th>Step</th>
<th>Action</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Cycle power to the hub or switch.</td>
<td>• If the hub or switch has a ‘POST’ (&quot;Power-On and Self-Test&quot;) described in its manual, verify it is correct.</td>
</tr>
</tbody>
</table>
| 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

<table>
<thead>
<tr>
<th>Step</th>
<th>Action</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Clear and save the <strong>System</strong> and <strong>Application Logs</strong>.</td>
<td>On Control Panel, select <em>Administrative Tools &gt; Event Viewer</em>. Right-click <strong>Application</strong>. Select <strong>Clear all events</strong>. Reply <strong>Yes</strong> to the question about saving the log. Supply a name and <strong>Save</strong> the log. Repeat actions b through e for the <strong>System Log</strong>.</td>
</tr>
<tr>
<td>2</td>
<td>Reboot and log in.</td>
<td>Reboot the computer. Log in with administrative privileges.</td>
</tr>
<tr>
<td>3</td>
<td>Examine the logs for new entries.</td>
<td>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.</td>
</tr>
<tr>
<td>4</td>
<td>Perform a loopback test.</td>
<td>From <strong>Start</strong>, select <strong>Run</strong>. Type <strong>cmd</strong> and select <strong>OK</strong>. A command window opens. Type <strong>ping 10.1.1.100</strong> and press <strong>Enter</strong>. Type <strong>Exit</strong> 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.</td>
</tr>
</tbody>
</table>
**Check the GC**

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

<table>
<thead>
<tr>
<th>Step</th>
<th>Action</th>
<th>Notes</th>
</tr>
</thead>
</table>
| 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. | |
7 Troubleshooting

To check out the GC (continued)

<table>
<thead>
<tr>
<th>Step</th>
<th>Action</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>Test the LAN configuration (for 6890A/Plus GCs).</td>
<td>a</td>
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<td></td>
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<td></td>
<td></td>
<td>c</td>
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<tr>
<td>4</td>
<td>Check the GC LAN status (for 6850)</td>
<td>a</td>
</tr>
<tr>
<td></td>
<td></td>
<td>b</td>
</tr>
</tbody>
</table>

• 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

<table>
<thead>
<tr>
<th>Step</th>
<th>Action</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Test the MSD LAN hardware.</td>
<td>a</td>
</tr>
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<td></td>
<td></td>
<td>b</td>
</tr>
<tr>
<td></td>
<td></td>
<td>c</td>
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</table>
7 Troubleshooting

To check the MSD (continued)

<table>
<thead>
<tr>
<th>Step</th>
<th>Action</th>
<th>Notes</th>
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</thead>
</table>
| 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 locate 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)
Troubleshooting

- 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
7 Troubleshooting

**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.