Agilent OL Instrument Controller

Installation and Configuration Guide

Agilent Technologies

Notices

Manual Part Number

G4650-90017

Edition

Document Revision 3.3B

February, 2007

Printed in USA

Agilent Technologies, Inc.
6612 Owens Dr.
Pleasanton, CA 94588-3334

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Introduction

This guide describes how to install the Agilent Instrument Controller (AIC) for use with Agilent OL. The Agilent Instrument Controller is a network appliance that controls instruments and acquires data digitally. Each Agilent Instrument Controller can control and acquire digital data from up to 4 GC or LC instruments, or up to 16 analog channels of data (SS420x required), up to 2 photodiode array detectors (PDA) or combinations of the above.

Separate sections in this guide discuss how to install each of the three versions of the Agilent Instrument Controller: AIC 5000, Revision A, and Revision B. The AIC 5000 is black in color and has "AIC 5000 Instrument Controller" stenciled on the front of the unit. Revision A is black in color and is marked with a "Revision A" sticker on the rear or has no sticker. Revision B is silver in color and is marked with a "Revision B" sticker on the rear.

Who Should Read This Guide?

This document is designed for the system administrator who will install the Agilent Instrument Controller.

2 Before You Start

In order to configure the Agilent Instrument Controller device, you will need a computer with Microsoft Internet Explorer and .NET Framework 1.1 or 2.0 installed. You will also need the network crossover cable provided with the Agilent Instrument Controller.

	Note	Place the AIC 5000 on a flat, stable surface. You can position the unit in the upright position using the included stand, or in the horizontal position. Always place AIC Revision A and Revision B units in the upright position, using the included stand.

	Note	The AIC 5000 is shipped with a USB memory stick, which is required in case a Reset to Factory Settings is necessary. Please keep this in a safe place for future use.

3 Installing AIC 5000 for Agilent OL

Use this procedure for installing and configuring the Agilent Instrument Controller AIC 5000. The AIC 5000 is black in color and has "Instrument Controller 5000" stenciled on the front of the unit.
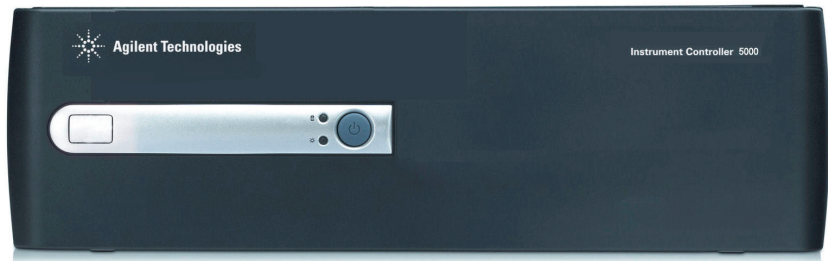
Install the Agilent Instrument Controller Network Appliance

1. Before installing or configuring an Agilent Instrument Controller, make sure all OL ECM and ICM components are installed.

2. Verify which version of the Agilent Instrument Controller you have. Installation of the AIC 5000 version is described in this section. See later sections in this guide for instructions on using the other two versions, Revision B and Revision A.

3. Create an "AIC User" account. (See "Add a New User" in the online help for how to do this.) This should be a unique user with full administrator rights (call this user "aicuser" for example).

4. From the **Administration** tab, click **Global Administration**, and then right click **Agilent Instrument Controller.** In the **General** tab of the **Properties** dialog box, type the AIC user account name and password, along with the account and domain for the user. This will be used by the AICs to communicate with the OL server. Click **OK** to close the dialog box.

5. Disconnect the computer from the network and change the TCP/IP settings to use the static IP address 192.168.1.2. Contact a network administrator if you need assistance doing this.

6. Connect one end of the supplied network crossover cable (Part Number G4690-60000) to the computer and the other end to the AIC network port shown in Figure 1. Be sure to use the network port indicated in Figure 1 — The PCI network interface card installed in the AIC 5000 is reserved exclusively for connecting instruments to the unit.

7. Verify that the 115V/220V voltage selector is set correctly for your location. (See Figure 1.)

8. Connect the AIC 5000 to a properly grounded AC outlet using the supplied power cable. (See Figure 1.)

110/230 VAC
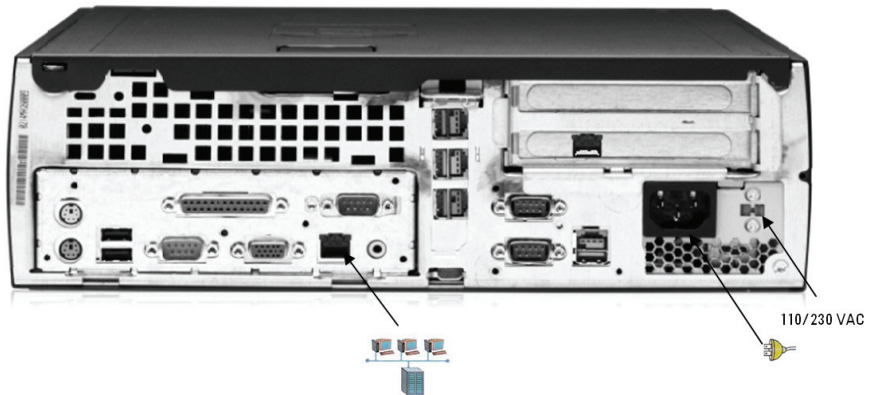
Figure 1. AIC 5000 Connections

9. Power on the AIC 5000 and wait for initialization. The AIC 5000 produces a two-tone beep when initialization is complete.

Configure the Agilent Instrument Controller Device

1. From the configuration computer (see "Before You Start" section), open Internet Explorer and go to the address **http://192.168.1.1/iconsetup/login.aspx.** If you have a proxy server configured in Internet Explorer, you will need to disable it.

2. Log in as **Admin** with no password. (Admin is case-sensitive.)

3. On the General tab, enter the following information:

   Name: for addressing the Agilent Instrument Controller on the network

   Location: physical location where the Agilent Instrument Controller will operate

   Comment: any additional comment you want to make

   OL server URL: for example http://aspen. Be sure to use a fully-qualified host name or address.

4. Click **Submit**.

5. On the **Hardware** tab, click **Configure** to the right of Intel® PRO/100 VE Network, and make the following selections:

   Obtain an IP address automatically

   Obtain DNS server address automatically

6. Click **Submit**.

.

	Note	Static IPs and DNS are also supported. If these are used, they must be within the same subnet range as the web server. See **Configure an Agilent Instrument Controller** in the online help for details.

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7. From the **Advanced** tab on the computer, click **Initialize**.

8. Click **Yes** to confirm you want to initialize the Agilent Instrument Controller. You may need to scroll down to see

this button. A dialog box appears asking you if you want to close the window. Click **Yes**.

9. Immediately disconnect the crossover cable from the Agilent Instrument Controller and connect the laboratory network. The AIC gives a short two-tone beep when initialization is complete. If initialization fails, the AIC gives one or more single longer beeps.

10. To verify the initialization was completed, log into OL as a user with administrator privileges. From the **Administration** tab, click **Global Administration** followed by **Agilent Instrument Controller**.

11. Verify that the AIC appears. If it does not appear, wait 5 minutes, click on another node (such as Account Administration), and then click **Agilent Instrument Controller** again. If the AIC still does not appear, there are several possibilities, given below. Once you have resolved the problem, go back to the beginning of this section and repeat the steps to set up the AIC.

   • The address for the OL server was entered incorrectly. On some networks, it may be necessary to enter a fully-qualified name (for example http://aspen.agilent.com).

   • The laboratory network cable was not connected soon enough after clicking **Initialize** (see step 7-9, above).

Install the SS420x

If your instrument provides an analog detector signal, you must use the SS420x analog to digital converter box. If you are using a digital instrument, you do not need an SS420x.

Connect the SS420x interface to the Agilent Instrument Controller using the serial communications cable provided. Connect one end of the cable to the serial port on the back of the SS420x. Connect the other end of the cable to any serial port on the Agilent Instrument Controller (see Figure 2.) Make sure each connector is tightened.
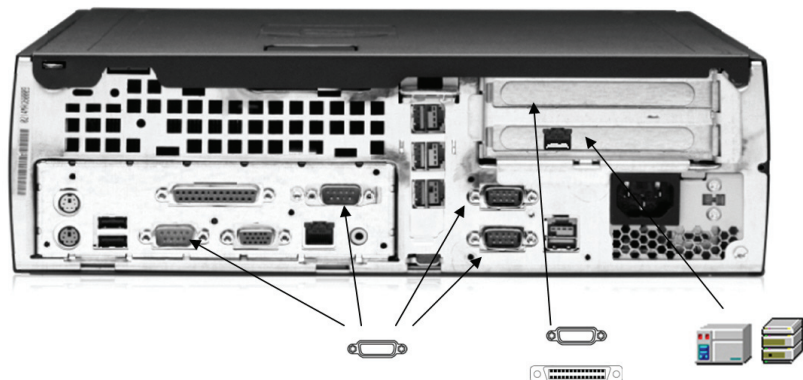
Figure 2. AIC 5000 Instrument and SS420x Connections

Plug the SS420x power supply into an appropriate electrical outlet. Connect the power cord from the power supply into the receptacle on the rear of the SS420x.

The red power LED should light. The four (4) green channel indicator LEDs sequentially light up during the power-up test. When the test is complete, the green LEDs will go off and the interface is ready to use. If this sequence does not successfully complete, the SS420x must be powered off and then on again.

Connect the Instruments

Connect the instruments you will be using with the Agilent Instrument Controller. If you are using a digital instrument, connect it to the Agilent Instrument Controller using the appropriate connector on the back of the Agilent Instrument Controller (see Figure 2). If your AIC 5000 includes an optional RS-232, SCSI, or GPIB interface card, it is installed in the upper PCI slot. The network interface card is installed in the lower PCI slot.

	Note	If you are using a SCSI instrument, it must be powered ON prior to connecting it to the Agilent Instrument Controller.

If you are using an instrument with an analog signal, you need to connect it to an SS420x attached to the Agilent Instrument Controller using the connectors on the rear of the SS420x. For details on how to connect an instrument to the SS420x, see the documentation provided with the SS420x.

If you are connecting an instrument to the AIC 5000 through the optional GPIB interface card, you must use the included GPIB port extender (Part Number 10834A).

If you are connecting an instrument to the AIC using Ethernet, you must use the instrument network connector indicated in Figure 2.

	Note	Use only the Agilent-supplied network interface card in the AIC 5000.

Finish Configuring the Instrument Controller

1. From the OL Explorer, go to the **Administration** tab, choose **Global Administration**, and click **Agilent Instrument Controller**.
2. In the list of Agilent Instrument Controller units, double click on the Agilent Instrument Controller name that you entered earlier.
3. Wait until you see a "Ready" status for the AIC before proceeding. After the Agilent Instrument Controller has finished re-initializing and shows a "Ready" status, you will need to make sure to install all instruments or A/D devices to be used and then set up the Agilent Instrument Controller to recognize these devices. (See **Select Components** section below.) Click **Submit** to continue.

Select Components

Before you can use the Agilent Instrument Controller, you must tell it what instrument components will be in use, so the Agilent Instrument Controller can communicate with them. The following steps are used to select the components.

1. From OL, select the **Administration** tab and then click Global Administration, followed by **Agilent Instrument Controller**.

2. Double-click the name of the Agilent Instrument Controller where the instruments are connected and then select the **Components** tab.

3. Select each hardware component for this Agilent Instrument Controller by clicking the box adjacent to the component name. You may select as many components as you wish. If you are using analog acquisition with an SS420x, select **Generic System**.

4. Press the **Submit** button to finish. If this is the first installation, after selecting the components and clicking **Submit,** click the **Install Now** button. You will be prompted to confirm the installation. If this is not the first installation, go to the **Advanced** tab and click **Restart**. The system will display the "Installing" message. The AIC will "beep" when the installation is complete. Wait until the "Ready" message is displayed to continue.

Configure the SS420x

If you will be using an SS420x attached to the Agilent Instrument Controller (required for analog acquisition), it will need to be configured using the OL software, as described below. If you are not using an SS420x, you may skip this section.

1. From OL, select the **Administration** tab and then click **Global Administration** followed by **Agilent Instrument Controller**.

2. Double-click the name of the Agilent Instrument Controller where the SS420x is connected and then select the **Hardware** tab.

3. Locate SS420x under **Boards** and then click **Configure.**

4. From the SS420x configuration dialog, select the Serial port to which the SS420x is connected and then check the **Installed** box to enable the configuration of the interface. Then proceed to select the appropriate settings for the interface.

Baud Rate

The communication baud rate is displayed. To change the baud rate, click **Set Baud Rate**.

Base Frequency

Select the base frequency. The default setting for the SS420x is 10 Hz, which gives optimal signal to noise, and can be used in countries using either 50Hz or 60Hz. The base frequencies available will depend on the baud rate chosen. If the baud rate is less than 38400bps, the base frequencies 100 and 120 will not be available. If you choose a higher base frequency, you must select a base frequency that can be evenly divided into your line frequency (i.e. 30 for 60Hz countries and 25 for 50Hz countries). If selected incorrectly, you may see line frequency noise on your chromatogram. For best performance, select a base frequency close to the maximum sampling frequency you will be using to acquire data.

Sampling frequencies available in the Acquisition Setup portion of the method will reflect the Base Frequency selected.

Range

For each channel used, select the button next to the signal range for the detector connected to that channel.

Information

This area is for information only. It contains manufacturing information about the interface box that may be required in service situations. If the box is not recognized, the "Connection Status" field will display "Not Connected".

5. After you complete the dialog, click **Submit**. To read the current settings for the SS420x, click **Read SS420x Settings**. To abort the operation without changing any settings, click **Cancel**.

Configure Instruments

Before you can use the Agilent Instrument Controller to acquire data, each instrument must be configured using the Agilent OL software. See the Agilent OL help for instructions on how to configure instruments.

4 Reset the AIC 5000 to Factory Defaults

The AIC 5000 is shipped with a USB memory stick that is used to reset the AIC settings to the factory defaults.

To load the factory default on the USB memory stick,

1. Connect the blank memory stick to an available USB port on a PC with a USB port and a CD ROM drive.

2. Browse the Agilent OL software CD for the **\Addon\AIC Reset to Factory Adapter\SSIConfig** folder, and copy this folder to the root of the memory stick.

3. Verify the presence of the file **{37F06863-452F-4002-AB6C-8D48B175FA82}** (no file extension) in the **\SSIConfig** folder of the memory stick. DO NOT test the memory stick on a configured AIC, as this will cause a reset to factory settings.

To reset an AIC to factory defaults,

1. Turn on AIC. The AIC produces two short beeps when initialization is complete.

2. AFTER power up is completed, plug the Reset to Factory adapter into any USB port on the AIC.

3. The reset to factory will start.

4. The AIC will start beeping.

5. Remove the Reset to Factory adapter. You may remove it as soon as the beeping starts. The adapter must be removed before the AIC restarts itself.

6. The AIC will restart automatically and then proceed with the rest of the reset to factory.

Important notes for the Reset to Factory Adapter

- The Reset to Factory Adapter will cause a reset to factory defaults on any AIC, not just the one it was delivered with.

- It can be reused any number of times.

- Plug the Reset to Factory Adapter in AFTER the AIC is powered on. Don't plug it in before turning on the AIC.

- The Reset to Factory Adapter must be connected to start the reset to factory, but it must not be connected for the restarts of the AIC that are involved in the automatic reset to factory procedure.

- After a reset to factory, the IP address of the AIC will be reset to 192.168.1.1.

5 Replacing an AIC Revision A or B

If you are replacing an AIC Revision A or Revision B with an AIC 5000, install the AIC 5000 by following the instructions in **"Installing the AIC 5000 for Agilent OL"**, above.

6 AIC 5000 Specifications

Dimensions

Height	3.95 inches	10.3 cm
Width	13.3 inches	33.78 cm
Depth	15.1 inches	38.35 cm
Approximate Weight	21 lb	9.53 kg

Temperature Range

Operating	50° to 95° F	10° to 35° C
Nonoperating	-22° to 140° F	-30° to 60° C

Relative Humidity (noncondensing)

Operating	10–90%	10–90%
Nonoperating (38.7° C max wet bulb)	5–95%	5–95%

Maximum Altitude (unpressurized)

Operating	10,000 ft	3048 m
Nonoperating	30,000 ft	9144 m

Note	Operating temperature is derated 1.0° C per 300 m (1000 ft) to 3000 m (10,000 ft) above sea level, no direct sustained sunlight. Maximum rate of change is 10° C/Hr. The upper limit may be limited by the type and number of options installed.

	115 V	230 V
Power Supply		
Operating Voltage Range	90–132 VAC	180–264 VAC
Rated Voltage Range	100–127 VAC	200–240 VAC
Rated Line Frequency	50–60 Hz	50–60 Hz
Power Output	**185 W**	**185 W**
Rated Input Current (maximum)	5 A @ 100 VAC	2.5 A @ 200 VAC
Heat Dissipation		
Maximum	971 BTU/hr	245 kg-cal/hr
Typical (idle)	256 BTU/hr	65 kg-cal/hr

| | **Note** | This system utilizes a passive power factor corrected power supply when used in the 230V mode. This allows the system to pass the CE mark requirements for use in the countries of the European Union. |

7 Installing AIC Revision B for Agilent OL

Use this procedure for the Agilent Instrument Controller Revision B. Revision B of the AIC is silver in color and is marked with a "Revision B" sticker on the rear.

Install the Agilent Instrument Controller Network Appliance

1. Before installing or configuring an Agilent Instrument Controller, make sure all OL ECM and ICM components are installed.

2. Verify which revision of the Agilent Instrument Controller you have. Installation of Revision B (silver in color) is described in this section. Instructions on using Revision A (black in color) is described later in this guide.

3. Create an "AIC User" account. (See **Add a New User** in the online help for how to do this.) This should be a unique user with full administrator rights (call this user "aicuser" for example).

4. From the **Administration** tab, click **Global Administration**, and then right click **Agilent Instrument Controller.** In the **General** tab of the **Properties** dialog box, enter the AIC user account name and password, along with the account and domain for the user. This will be used by the AICs to communicate with the OL server. Click **OK** to close the dialog box.

5. Disconnect the computer from the network and change the TCP/IP settings to use the static IP address 192.168.1.2. Contact a network administrator if you need assistance doing this.

6. Connect one end of the network crossover cable (Part Number G4690-60000) to the computer and the other end to the main network port of the Agilent Instrument Controller if more than one network port is available. (See Figure 1.)

Figure 1. AIC Connectors for Revision B

7. Power on the Agilent Instrument Controller and wait 5 minutes for initialization. The AIC will "beep" when initialization is complete.

Configure the Agilent Instrument Controller Device

1. From the configuration computer (see Before You Start section), open Internet Explorer and go to the address **http://192.168.1.1/iconsetup/login.aspx.** If you have a proxy server configured in Internet Explorer, you will need to disable it.

2. Log in as **Admin** with no password. (Admin is case-sensitive.)

3. On the General tab, enter the following information:

   Name: for addressing the Agilent Instrument Controller on the network

   Location: physical location where the Agilent Instrument Controller will operate

   Comment: any additional comment you want to make

   OL server URL: for example http://aspen.

4. On the **Hardware** tab, click the **Configure** link and make the following selections:

   Obtain an IP address automatically

   Obtain DNS server address automatically

	Note	Static IPs and DNS are are also supported. If these are used, they must be within the same subnet range as the web server. See the **Configure an Agilent Instrument Controller** topic in online help for details.

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5. From the **Advanced** tab on the computer, click **Initialize** and confirm you want to initialize the Agilent Instrument Controller.

6. Immediately disconnect the crossover cable from the Agilent Instrument Controller and connect the laboratory network. The AIC will give two short "beeps" when initialization is complete. If initialization fails, the AIC will give a single longer "beep".

7. To verify the initialization was completed, log into OL as a user with administrator privileges. From the **Administration** tab, click **Global Administration** followed by **Agilent Instrument Controller**.

8. Verify that the AIC appears. If it does not appear, wait 5 minutes, click on another node (such as Account Administration), and then click the **Agilent Instrument Controller** again. If the AIC still does not appear, there are

several possibilities, given below. Once you have resolved the problem, go back to the beginning of this section and repeat the steps to set up the AIC.

- The address for the OL server was entered incorrectly. On some networks, it may be necessary to enter a fully-qualified name (for example http://aspen.agilent.com).
- The laboratory network cable was not connected soon enough after clicking **Initialize** (see steps 5-6, above).

Install the SS420x

If your instrument provides an analog detector signal, you must use the SS420x analog to digital converter box. If you are using a digital instrument, you do not need an SS420x.

Connect the SS420x interface to the Agilent Instrument Controller using the serial communications cable provided. Connect one end of the cable to the serial port on the back of the SS420x. Connect the other end of the cable to the serial port on the Agilent Instrument Controller (see Figure 1.) Make sure each connector is tightened.

Plug the SS420x power supply into an appropriate electrical outlet. Connect the power cord from the power supply into the receptacle on the rear of the SS420x.

The red power LED should light. The four (4) green channel indicator LED's will sequentially light up during the power-up test. When the test is complete, the green LED's will go off and the interface is ready to use. If this sequence does not successfully complete, the SS420x must be powered off and then on again.

Connect the Instruments

Connect the instruments you will be using with the Agilent Instrument Controller. If you are using a digital instrument, connect it to the Agilent Instrument Controller using the appropriate connector on the back of the Agilent Instrument Controller (see Figure 1.)

	Note	If you are using a SCSI instrument, it must be powered ON prior to connecting it to the Agilent Instrument Controller.

If you are using an instrument with an analog signal, you need to connect it to an SS420x attached to the Agilent Instrument Controller using the connectors on the rear of the SS420x. For details on how to connect an instrument to the SS420x, see the documentation provided with the SS420x.

Finish Configuring the Instrument Controller

1. From the OL Explorer, go to the **Administration** tab, choose **Global Administration**, and click **Agilent Instrument Controller**.

2. In the list of Agilent Instrument Controller units, double click on the Agilent Instrument Controller name that you entered earlier.

3. Wait until you see a "Ready" status for the AIC before proceeding. After the Agilent Instrument Controller has finished re-initializing and shows a "Ready" status, you will need to make sure to install all instruments or A/D devices to be used and then set up the Agilent Instrument Controller to recognize these devices. (See **Select Components** section below.) Click **Submit** to continue.

Select Components

Before you can use the Agilent Instrument Controller, you must tell it what instrument components will be in use, so the Agilent Instrument Controller can communicate with them. The following steps are used to select the components.

1. From OL, select the **Administration** tab and then click Global Administration, followed by **Agilent Instrument Controller**.

2. Double-click the name of the Agilent Instrument Controller where the instruments are connected and then select the **Components** tab.

3. Select each hardware component for this Agilent Instrument Controller by clicking the box adjacent to the component name. You may select as many components as you wish. If you are using analog acquisition with an SS420x, select **Generic System**.

4. Press the **Submit** button to finish. If this is the first installation, after selecting the components and clicking **Submit,** click the **Install Now** button. You will be prompted to confirm the installation. If this is not the first installation, go to the **Advanced** tab and click **Restart**. The system will display the "Installing" message. The AIC will "beep" when the installation is complete. Wait until the "Ready" message is displayed to continue.

Configure the SS420x

If you will be using an SS420x attached to the Agilent Instrument Controller (required for analog acquisition), it will need to be configured using the OL software, as described below. If you are not using an SS420x, you may skip this section.

1. From OL, select the Administration tab and then click **Global Administration** followed by **Agilent Instrument Controller**.

2. Double-click the name of the Agilent Instrument Controller where the SS420x is connected and then select the **Hardware** tab.

3. Locate SS420x under **Boards** and then click **Configure.**

4. From the SS420x configuration dialog, select the Serial port to which the SS420x is connected and then check the **Installed** box to enable the configuration of the interface. Then proceed to select the appropriate settings for the interface.

Baud Rate

The communication baud rate is displayed. To change the baud rate, click **Set Baud Rate**.

Base Frequency

Select the base frequency. The default setting for the SS420x is 10 Hz, which gives optimal signal to noise, and can be used in countries using either 50Hz or 60Hz. The base frequencies available will depend on the baud rate chosen. If the baud rate is less than 38400bps, the base frequencies 100 and 120 will not be available. If you choose a higher base frequency, you must select a base frequency that can be evenly divided into your line frequency (i.e. 30 for 60Hz countries and 25 for 50Hz countries). If selected incorrectly, you may see line frequency noise on your chromatogram.   For best performance, select a base frequency close to the maximum sampling frequency you will be using to acquire data.

Sampling frequencies available in the Acquisition Setup portion of the method will reflect the Base Frequency selected.

Range

For each channel used, select the button next to the signal range for the detector connected to that channel.

Information

This area is for information only. It contains manufacturing information about the interface box that may be required in service situations. If the box is not recognized, the "Connection Status" field will display "Not Connected".

5. When the dialog is completed, click **Submit**. To read the current settings for the SS420x, click the **Read SS420x Settings** button. To abort the operation without changing any settings, click **Cancel**.

Configure Instruments

Before you can use the Agilent Instrument Controller to acquire data, each instrument must be configured using the OL software. See the OL help for instructions on how to configure instruments.

8 Installing AIC Revision A for Agilent OL

Use this procedure to install Revision A of the Agilent Instrument Controller. Revision A is black in color and is marked with a "Revision A" sticker on the rear or has no sticker.

Install the Agilent Instrument Controller Network Appliance

1. Before installing or configuring an Agilent Instrument Controller, make sure all OL ECM and ICM components are installed.

2. Create an "AIC User" account. (See **Add a New User** in the online help for how to do this.) This should be a unique user with full administrator rights (call this user "aicuser" for example).

3. From the **Administration** tab, click **Global Administration**, and then do a right mouse click on **Agilent Instrument Controller.** In the **General** tab of the **Properties** dialog box, enter the AIC user account name and password, along with the account and domain for the user. This will be used by the AICs to communicate with the OL server. Click **OK** to close the dialog box.

4. Disconnect the computer from the network and change the TCP/IP settings to use the static IP address 192.168.1.2. Contact a network administrator if you need assistance doing this.

5. Connect one end of the network crossover cable (Part Number G4690-60000) to the computer and the other end to the main network port of the Agilent Instrument Controller if more than one network port is available. (See Figure 1.)

1a	Not used
1b	USB connection
2a	Not used
2b	USB connection
3,4a	Monitor connection
4b	Serial port connection
5	Not used
6	Not used
9	Network connection
12a	Power connection
12b	Power On/Off switch
13	Compact Flash Drive
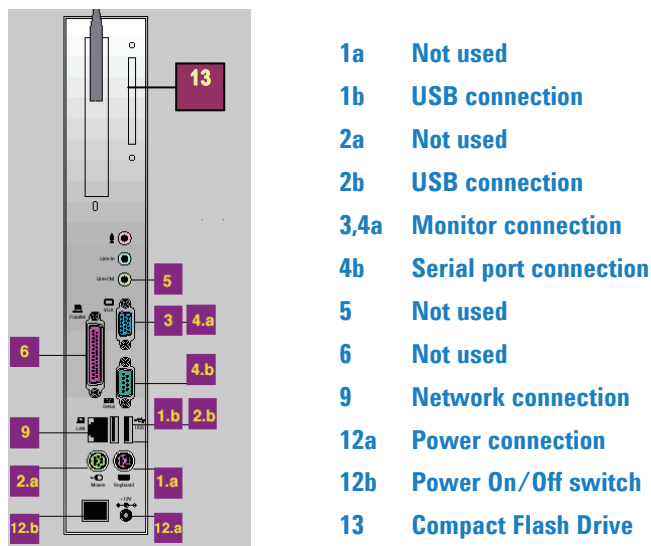
Figure 1

6. Power on the Agilent Instrument Controller and wait 5 minutes for initialization. The AIC will "beep" when initialization is complete.

Configure the Agilent Instrument Controller Device

1. From the configuration computer (see Before You Start section), open Internet Explorer and go to the address **http://192.168.1.1/iconsetup/login.aspx.** If you have a proxy server configured in Internet Explorer, you will need to disable it.

2. Log in as **Admin** with no password. (Admin is case-sensitive.)

3. On the General tab, enter the following information:

    Name: for addressing the Agilent Instrument Controller on the network

    Location: physical location where the Agilent Instrument Controller will operate

Comment: any additional comment you want to make

OL server URL: for example http://aspen.

4. On the **Hardware** tab, click the **Configure** link and make the following selections:

    Obtain an IP address automatically

    Obtain DNS server address automatically

	Note	Static IPs and DNS are are also supported. If these are used, they must be within the same subnet range as the web server. See the **Configure an Agilent Instrument Controller** topic in online help for details.

5. From the **Advanced** tab on the computer, click **Initialize** and confirm you want to initialize the Agilent Instrument Controller.

6. Immediately disconnect the crossover cable from the Agilent Instrument Controller and connect the laboratory network. The AIC will give two short "beeps" when initialization is complete. If initialization fails, the AIC will give a single longer "beep".

7. To verify the initialization was completed, log into OL as a user with administrator privileges. From the **Administration** tab, click **Global Administration** followed by **Agilent Instrument Controller**.

8. Verify that the AIC appears. If it does not appear, wait 5 minutes, click on another node (such as Account Administration), and then click the **Agilent Instrument Controller** again. If the AIC still does not appear, there are several possibilities, given below. Once you have resolved the problem, go back to the beginning of this section and repeat the steps to set up the AIC.

    •   The address for the OL server was entered incorrectly. On some networks, it may be necessary to enter a fully-qualified name (for example http://aspen.agilent.com).

- The laboratory network cable was not connected soon enough after clicking **Initialize** (see steps 5-6, above).

Install the SS420x

If your instrument provides an analog detector signal, you must use the SS420x analog to digital converter box. If you are using a digital instrument, you do not need an SS420x.

Connect the SS420x interface to the Agilent Instrument Controller using the serial communications cable provided. Connect one end of the cable to the serial port on the back of the SS420x. Connect the other end of the cable to the serial port on the Agilent Instrument Controller (see Figure 1.) Make sure each connector is tightened.

Plug the SS420x power supply into an appropriate electrical outlet. Connect the power cord from the power supply into the receptacle on the rear of the SS420x.

The red power LED should light. The four (4) green channel indicator LED's will sequentially light up during the power-up test. When the test is complete, the green LED's will go off and the interface is ready to use. If this sequence does not successfully complete, the SS420x must be powered off and then on again.

Connect the Instruments

Connect the instruments you will be using with the Agilent Instrument Controller. If you are using a digital instrument, connect it to the Agilent Instrument Controller using the appropriate connector on the back of the Agilent Instrument Controller (see Figure 1.)

		If you are using a SCSI instrument, it must be powered ON prior to connecting it to the Agilent Instrument Controller.
	Note	

If you are using an instrument with an analog signal, you need to connect it to an SS420x attached to the Agilent Instrument Controller using the connectors on the rear of the SS420x. For

details on how to connect an instrument to the SS420x, see the documentation provided with the SS420x.

Finish Configuring the Instrument Controller

1. From the OL Explorer, go to the **Administration** tab, choose **Global Administration**, and double click the **Agilent Instrument Controller**.

2. In the list of Agilent Instrument Controller units, double click on the Agilent Instrument Controller name that you entered earlier.

3. Wait until you see a "Ready" status for the AIC before proceeding. After the Agilent Instrument Controller has finished re-initializing and shows a "Ready" status, you will need to make sure to install all instruments or A/D devices to be used and then set up the Agilent Instrument Controller to recognize these devices. (See **Select Components** section below.) Click **Submit** to continue.

Select Components

Before you can use the Agilent Instrument Controller, you must tell it what instrument components will be in use, so the Agilent Instrument Controller can communicate with them. The following steps are used to select the components.

1. From OL, select the **Administration** tab and then click **Global Administration**, followed by **Agilent Instrument Controller**.

2. Double-click the name of the Agilent Instrument Controller where the instruments are connected and then select the **Components** tab.

3. Select each hardware component for this Agilent Instrument Controller by clicking the box adjacent to the component name. You may select as many components as you wish. If you are using analog acquisition with an SS420x, select **Generic System**.

4. Press the **Submit** button to finish. If this is the first installation, after selecting the components and clicking **Submit,** click the **Install Now** button. You will be prompted

to confirm the installation. If this is not the first installation, go to the **Advanced** tab and click **Restart**. The system will display the "Installing" message. The AIC will "beep" when the installation is complete. Wait until the "Ready" message is displayed to continue.

Configure the SS420x

If you will be using an SS420x attached to the Agilent Instrument Controller (required for analog acquisition), it will need to be configured using the OL software, as described below. If you are not using an SS420x, you may skip this section.

1. From OL, select the **Administration** tab and then click **Global Administration** followed by **Agilent Instrument Controller**.

2. Double-click the name of the Agilent Instrument Controller where the SS420x is connected and then select the **Hardware** tab.

3. Locate SS420x under **Boards** and then click **Configure.**

4. From the SS420x configuration dialog, select the Serial port to which the SS420x is connected and then check the **Installed** box to enable the configuration of the interface. Then proceed to select the appropriate settings for the interface.

Baud Rate

The communication baud rate is displayed. To change the baud rate, click the **Set Baud Rate** button.

Base Frequency

Select the base frequency. The default setting for the SS420x is 10 Hz, which gives optimal signal to noise, and can be used in countries using either 50Hz or 60Hz. The base frequencies available will depend on the baud rate chosen. If the baud rate is less than 38400bps, the base frequencies 100 and 120 will not be available. If you choose a higher base frequency, you must select a base frequency that can be evenly divided into your line frequency (i.e. 30 for 60Hz countries and 25 for 50Hz

countries). If selected incorrectly, you may see line frequency noise on your chromatogram. For best performance, select a base frequency close to the maximum sampling frequency you will be using to acquire data.

Sampling frequencies available in the Acquisition Setup portion of the method will reflect the Base Frequency selected.

Range

For each channel used, select the button next to the signal range for the detector connected to that channel.

Information

This area is for information only. It contains manufacturing information about the interface box that may be required in service situations. If the box is not recognized, the "Connection Status" field will display "Not Connected".

5. When the dialog is completed, click **Submit**. To read the current settings for the SS420x, click the **Read SS420x Settings** button. To abort the operation without changing any settings, click **Cancel**.

Configure Instruments

Before you can use the Agilent Instrument Controller to acquire data, each instrument must be configured using the OL software. See the OL help for instructions on how to configure instruments.

9 Using the Reset to Factory Adapter for AIC Rev A/B

The Agilent Instrument Controller (AIC) (Rev A and B only) is shipped with a USB flash drive that, when connected to an AIC, will reset the AIC settings to the factory defaults. To reset an AIC to factory defaults,

1. Turn on AIC. The AIC produces two short beeps when initialization is complete.
2. When power up is done, plug the Reset to Factory adapter into any USB port on the AIC.
3. The reset to factory will start.
4. The AIC will start beeping.
5. Remove the Reset to Factory adapter. You may remove it as soon as the beeping starts.
6. The AIC will restart automatically and then proceed with the rest of the reset to factory.

Important Notes for the Reset to Factory Adapter

- The Reset to Factory Adapter will cause a reset to factory defaults on any AIC, not just the one it was delivered with.
- It can be reused any number of times.
- Plug the Reset to Factory Adapter in AFTER the AIC is powered on. Don't plug it in before turning on the AIC.
- The Reset to Factory Adapter must be connected to start the reset to factory, but it must not be connected for the restarts of the AIC that are involved in the automatic reset to factory procedure.
- After a reset to factory, the IP address of the AIC will be reset to 192.168.1.1.

- If you remove the special file on the Reset to Factory Adapter or rename it, then the device will no longer cause a reset to factory. Don't use the device for anything other than resetting an AIC to factory defaults

10 Updating an AIC

This section applies only to the Revision A and Revision B versions of the Agilent Instrument Controller.

For support purposes, it may occasionally be necessary to replace the compact flash on the Agilent Instrument Controller. To do this, use the following procedure.

1. Turn OFF and unplug the AIC.

2. Locate the compact flash on the upper rear of the AIC and remove the plate covering it with a small screwdriver.

3. Push the ejector button with the tip of a pen or a small screwdriver to remove the existing compact flash card.

4. Insert the update compact flash card.

5. Plug in and turn ON the AIC and complete the steps for Installing the Agilent Instrument Controller described in Section 2 above.

11 Notes

Please review the following notes regarding use of the Agilent Instrument Controller.

- Before the addition or removal of a USB component, please turn off the AIC, unless instructed otherwise.

12 Specifications for AIC Rev A and B

Agilent Instrument Controller Revisions A and B

Environment	Operating temperature: 0°C to 40°C (32°F to 104°F) Nonoperating temperature: -10°C to 60°C (-14°F to 140°F) Humidity: 0% to 90%
Power Switch	1 momentary "soft" power switch
Power Supply	External 40 watt auto-switching power adapter Input: AC 100V-140V and 200V-260V, 45Hz~65Hz Output: DC 12V 40 watt

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