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VARIAN

Galaxie™

Chromatography Data System

Installation Guide

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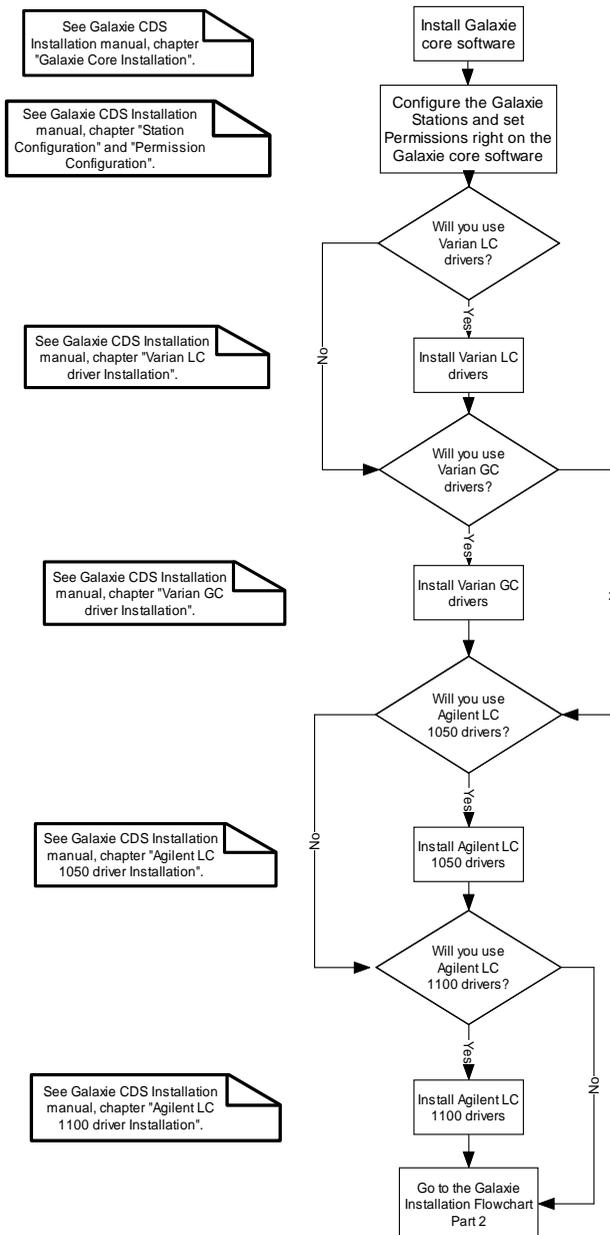
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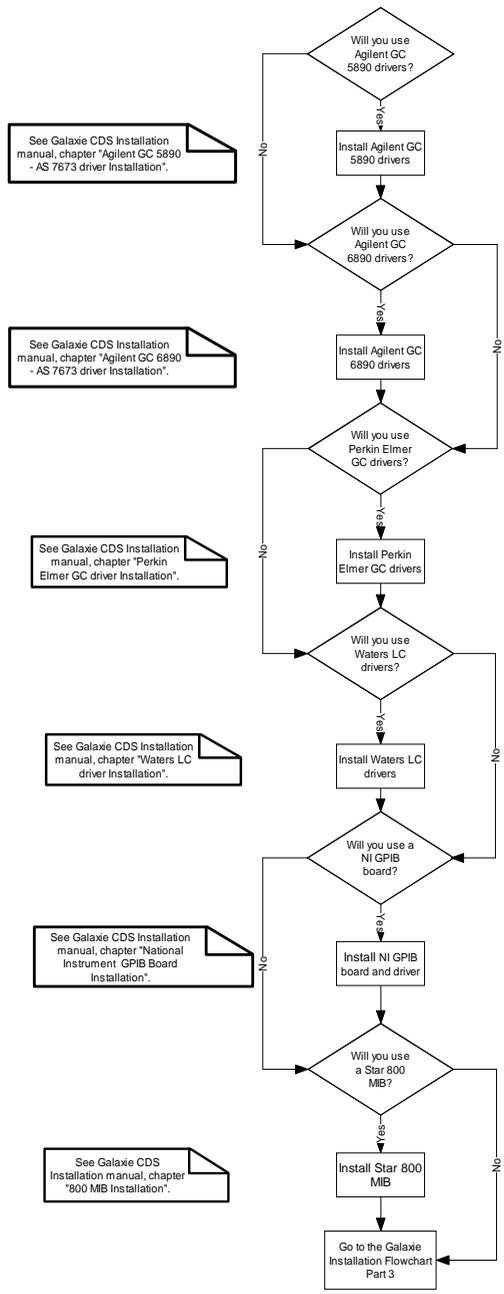
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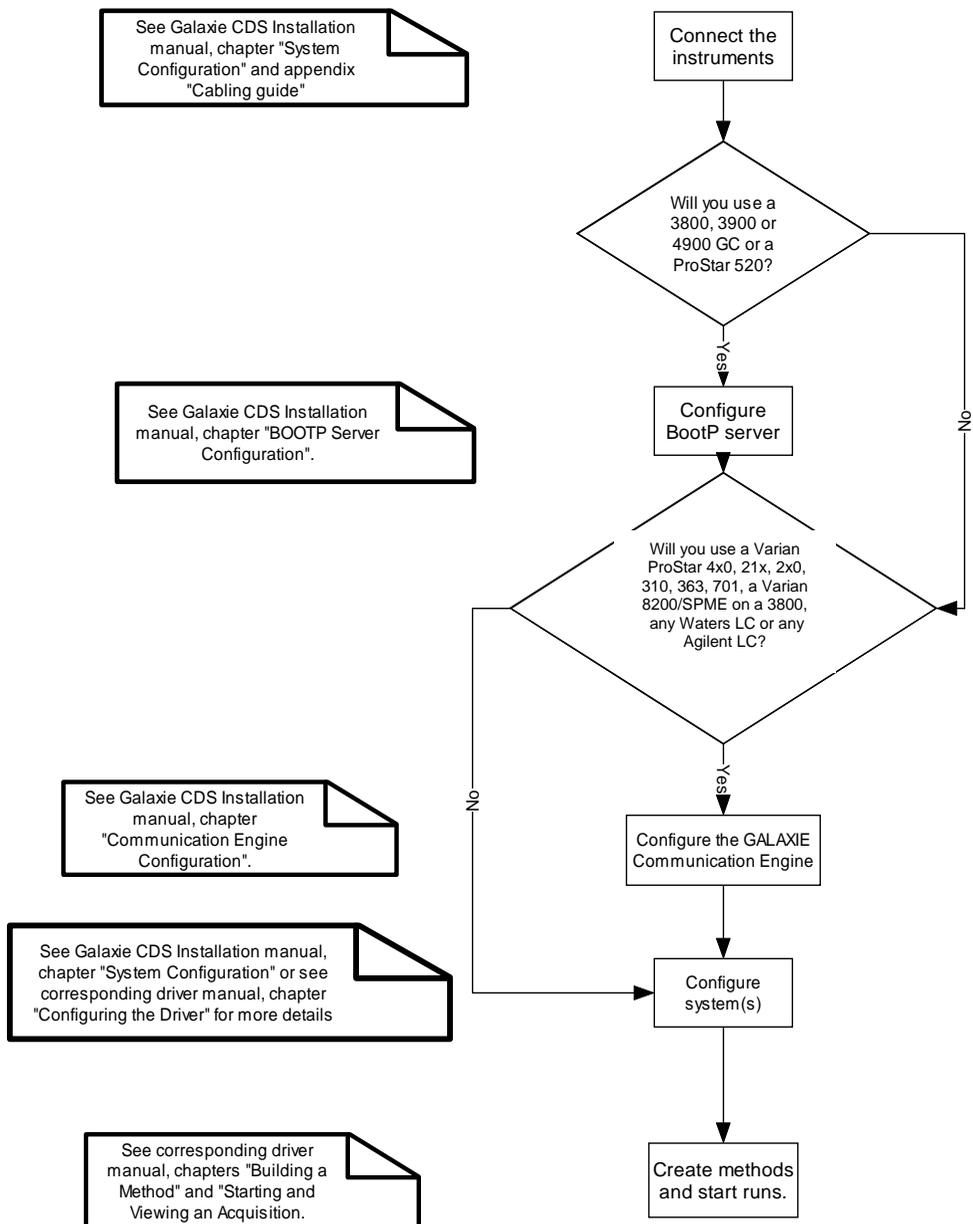
Galaxie Installation Flowcharts



Galaxie Flowchart 1



Galaxie Flowchart 2



Galaxie Flowchart 3

Galaxie Core Installation

Overview

The GALAXIE Client/Server software is organized in three main components:

- The Main Server, which runs on the server computer. Only one computer can act as the main server.

This is the core of the GALAXIE client/server solution. It handles every client request in terms of connection, data path, security, and profiles. The GALAXIE server service is self-starting, the user does not need to start GALAXIE on the server. It runs alone without any required maintenance when the server is running.

- The Acquisition server(s), which can be installed on any computer
This is the part responsible of the Acquisition/Control portion of the GALAXIE Client/Server solution. It handles every client request regarding instrument control, acquisition through any hardware interface, but mainly the MIB Interface. It can run on any live workstation, and in many configurations. It is also an automatically self-starting service that does not require user startup.
- The Client(s), which is (are) installed on any computer in the customer's configuration.

This is the main visible part of the system, which provides the user interface. It is installed on any computer (Windows XP or 2000) on the network. GALAXIE Client is constantly communicating with the Main Server, as well as the Acquisition Server, to handle instrument/acquisition control.

The GALAXIE Stand-alone system uses the same three main components. They are all installed on the same computer, but the global concept is identical.

Pre-installation Requirements

This section describes the network and system requirements for Galaxie

Network Type

Galaxie needs TCP/IP network layers to work.

Windows WORKGROUP networks are NOT supported by Galaxie in Client/Server mode.

Operating System of the Server

Galaxie is supported only under Windows 2000 Server and Windows 2003 Server.

Network Name Resolution

The Galaxie software needs a correct network name resolution in order to run properly. If the network name is not properly resolved, the most visible issue would be a slow log into Galaxie from a client PC, but other less obvious problems may appear.

The system manager can use:

- The Microsoft DNS service (mandatory with Windows 2000 Server).
- The WINS service.

To test the network name resolution, do a ping "Name of the machine". If the IP address of the machine is not displayed instantaneously then the network name resolution is wrong.

Galaxie Acquisition Server

The Galaxie Acquisition Server should be a machine dedicated to this purpose due to the limited amount of Windows services available.

Since each Galaxie system uses two windows services, some serious issues may occur if this machine is running software other than Galaxie (ORACLE, etc.).

Also, depending on the number of expected simultaneous acquisitions on this server, it may be worth using a bi- or quadri-processor computer.

Domain Controller

The best case is for the Galaxie Main server to be installed on the domain controller.

If not, the domain controller must be close to the Galaxie server and available in all time.

If Galaxie cannot quickly connect with the domain controller some speed problems can appear when starting an acquisition or loading chromatograms in a reprocessing list.

Network Connections

Galaxie supports 10Mbits/sec and 100Mbits/sec network speed but if possible use 100Mbits/sec network speed between the Clients and the Server.

Switches or HUBs can be used with Galaxie but switches are more efficient.

It is also mandatory to use at least a 10Mbits/sec connection, between the Acquisition/Control Server and the instruments.

Memory Requirements

Listed below are the memory requirements of Galaxie according to the OS. These requirements may change according to the software (other than Galaxie) running on the server and also if the server is an Acquisition/Control Server.

Operating System	Minimum RAM (Mo)	Recommended RAM (Mo)	Virtual Memory (Mo)
Windows 2000	512	1024	1024
Windows XP Pro	512	1024	1024
Windows 2000 Server	512	1024	1024
Windows 2003 Server	512	1024	1024
Windows Vista	2000	4000	4000

Graphic card compatibility for PDA

List of known non compatible cards

- Intel815 Video Accelerator (4Mo).
- S3 Savage graphics adapter (laptop Toshiba and Asus) works only with 256 colours, which is not recommended for the rest of Software.
- ATI Radeon X1300 pci

Hints and Tips

-Network Card Properties:

Under Windows 2000/2003 Server and Windows XP, the property "Allow the computer to turn off this device to save power" is checked by default. This can cause serious communication issues with Galaxie. This option must be disabled.

It is mandatory to have only one network card activated for installing Galaxie 1.9. If several are present, please just disable all the others.

-Network Connection Properties:

The "File and Printer sharing for Microsoft networks" component must be installed in the properties of the network connection for each computer using Galaxie (Main server, Acquisition server and Client PC).

-FAT Format:

It is mandatory for the server to work with the NTFS format but it is also strongly recommended to use the same format for all the Galaxie Clients.

FAT32 and FAT16 format are NOT supported by the server.

- DPI Setting:

It is recommended to set 96 DPI as display font size in order to use correctly Galaxie. To access this parameter with Windows XP or 2000, select into the Windows control panel Display\Settings\Advanced; it is then in the General tab.

-Screen Savers:

It is recommended to disable all the screen savers, especially on the servers.

-Power Management:

It is strongly recommended to disable all the power management properties (Standby/Hibernates).

-Backing up files:

With Galaxie, it is possible to backup the data files automatically with additional software. But it is recommended to avoid backing up recent files (< 5hours) and it is not possible to backup the Galaxie files contained in the \SERVER directory (including its subdirectories).

-Network configuration check:

The Windows Event Log on the Galaxie Server and the Galaxie Clients should be free of any network related errors.

-Firewall under Windows XP SP2:

With Galaxie in Client/Server mode, the Windows XP SP2 firewall must be disabled on the Client computer.

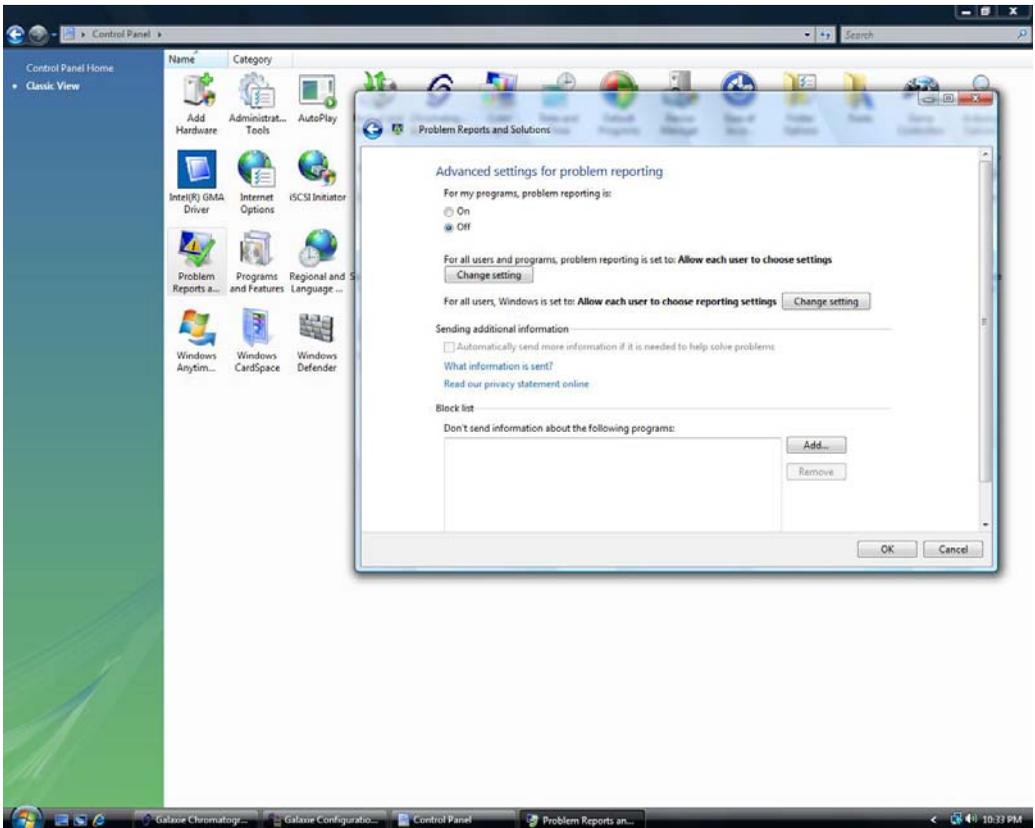
-Firewall under Windows:

With Galaxie in Client/Server mode, the three Windows Vista firewalls must be disabled on the Client computer. Select the Control panel/administrative tool / Windows firewall with advanced security, then deactivate the three firewall:



- Remove the confirmation messages under Windows Vista:

Under Vista if you don't want to be notified by a confirmation message when performing actions, select the Control Panel / Problem Reports and Solutions option, and turn it off.



It can also be useful to turn off the User Account Control (control panel/User Accounts /Turn User Account Control ON or OFF).

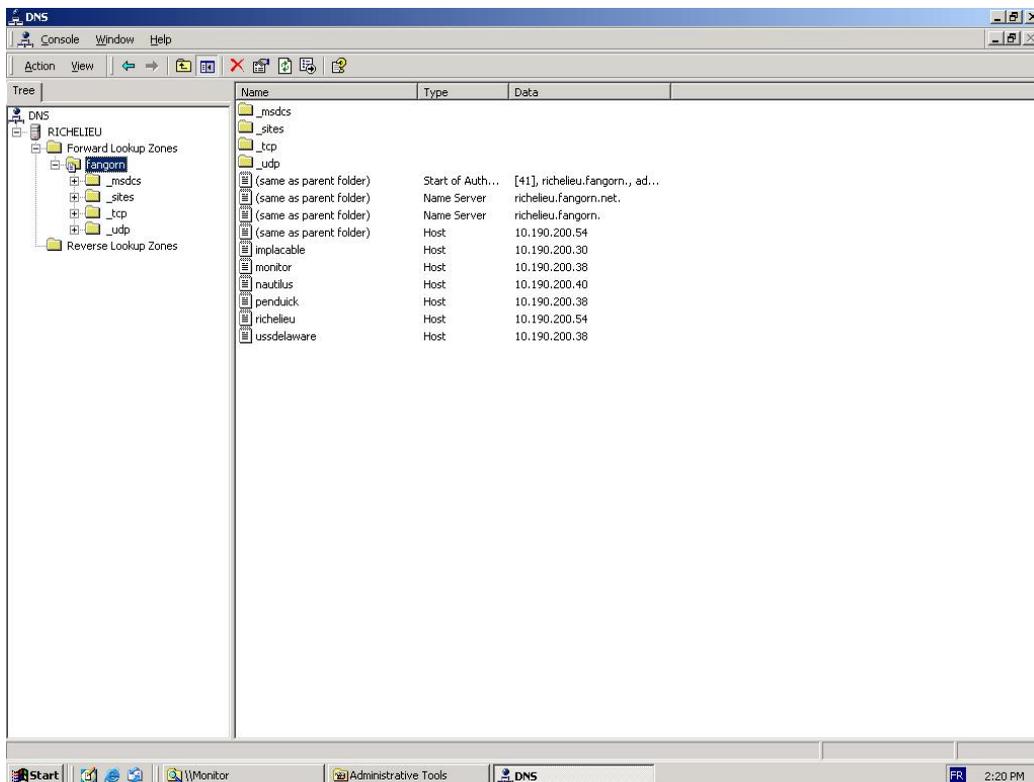
-Anti-Virus Software:

The Antivirus software must not scan:

- the data directory of Galaxie
- the Galaxie\server directory and subdirectories on the main server
- the Galaxie\server directory and subdirectories on all the acquisition server

-DNS configuration example (for Windows 2000 server):

Below is an example of a working DNS configuration.



Installation

We require that the Galaxie Chromatography Data System software, in server or stand-alone configuration, only be installed on Windows 2000 or later systems.

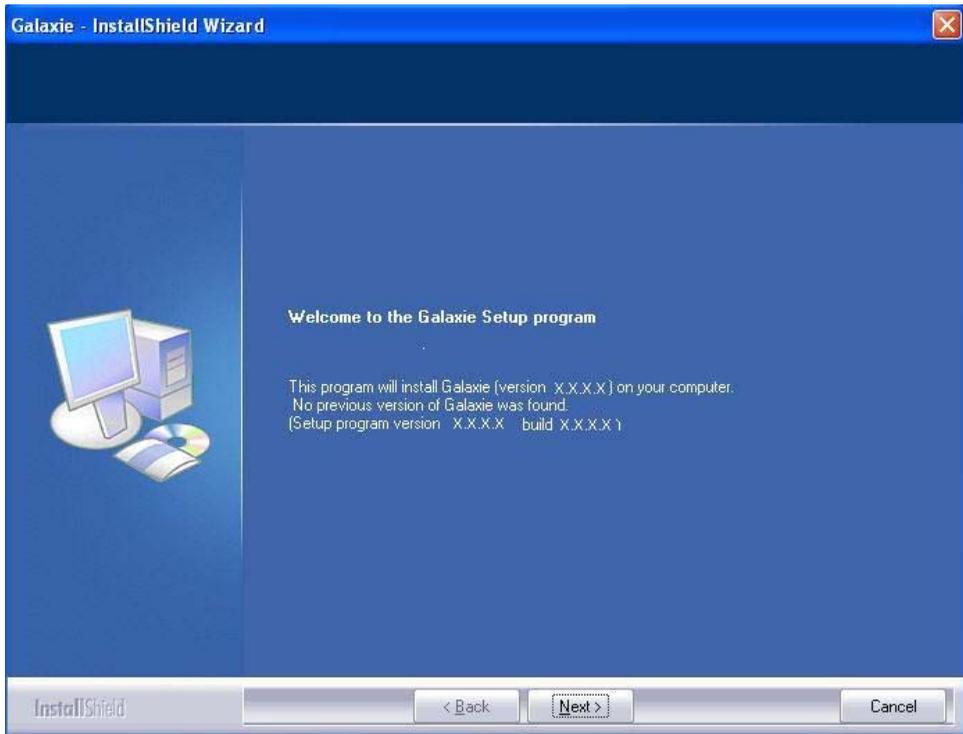
The following sections only describe the installation of the Galaxie Chromatography Data System on a system with no previous version of Galaxie installed. If an earlier version of the Galaxie Chromatography Data System or Diamir software is installed on the PC, refer to the section "Upgrading old Galaxie or Diamir." To install this software, the user must be logged in with administrator rights.

When the Galaxie CD is inserted, the CD browser should automatically start. If not, click on `INSTALL.EXE` from Windows™ Explorer.

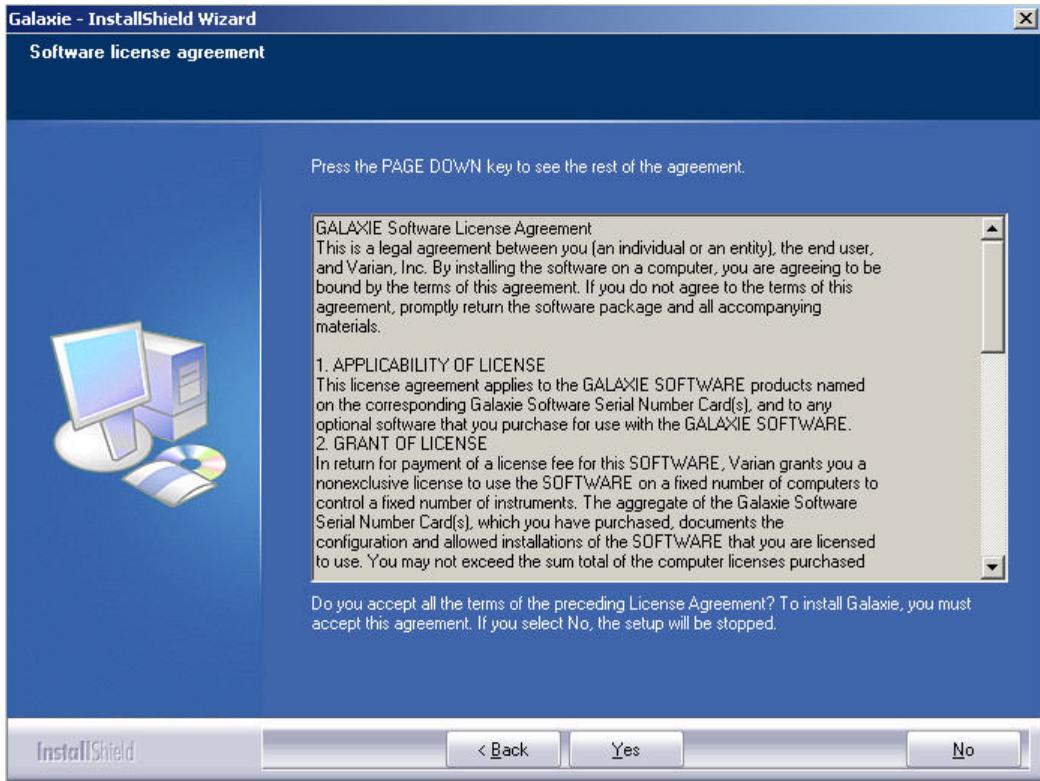


Click on the *Install Galaxie* button, the InstallShield Wizard will start.

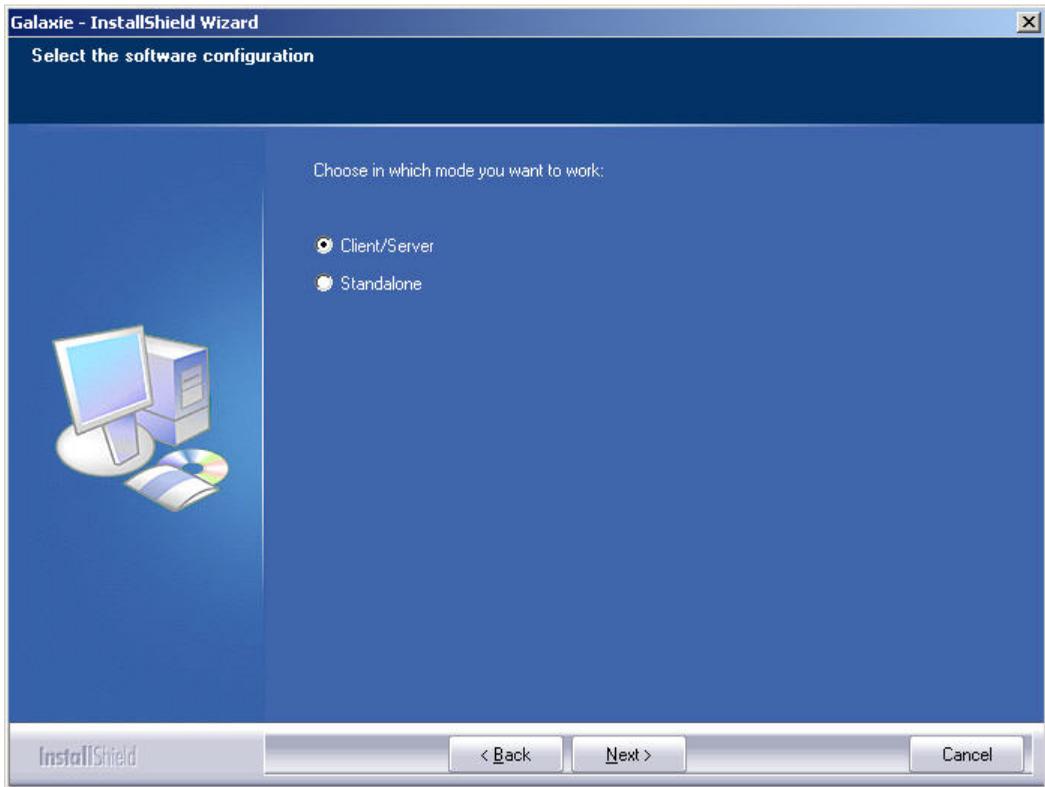
Installation of a Galaxie Server



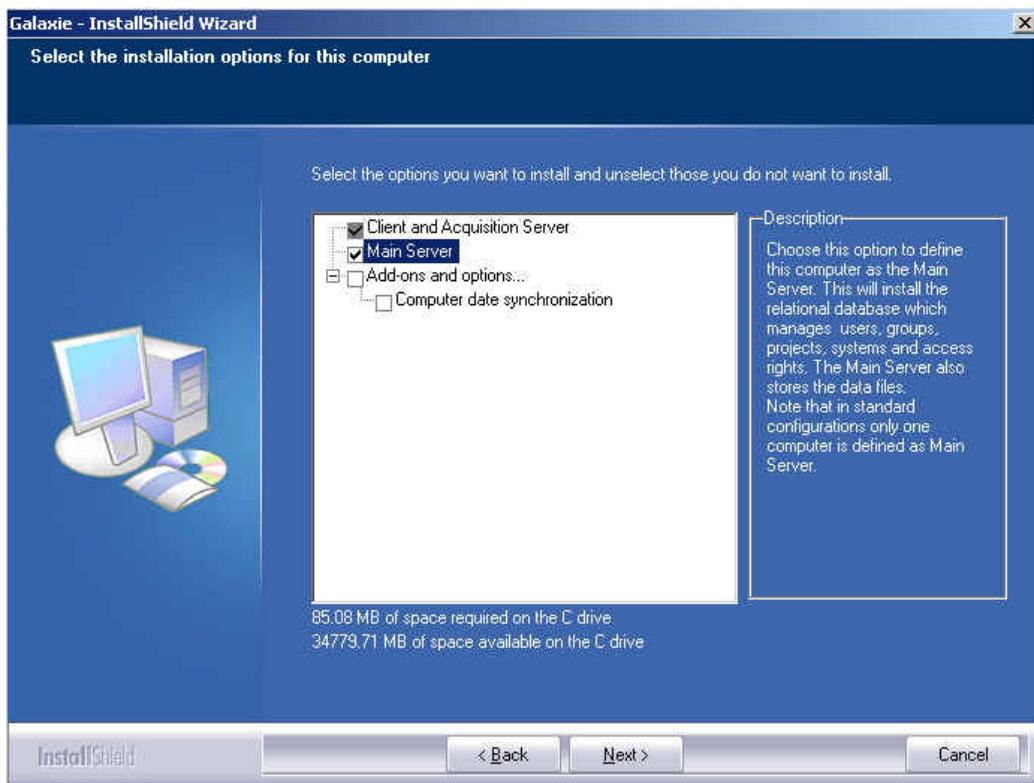
From the InstallShield Wizard Screen, click on the *Next* button in order to continue the installation.



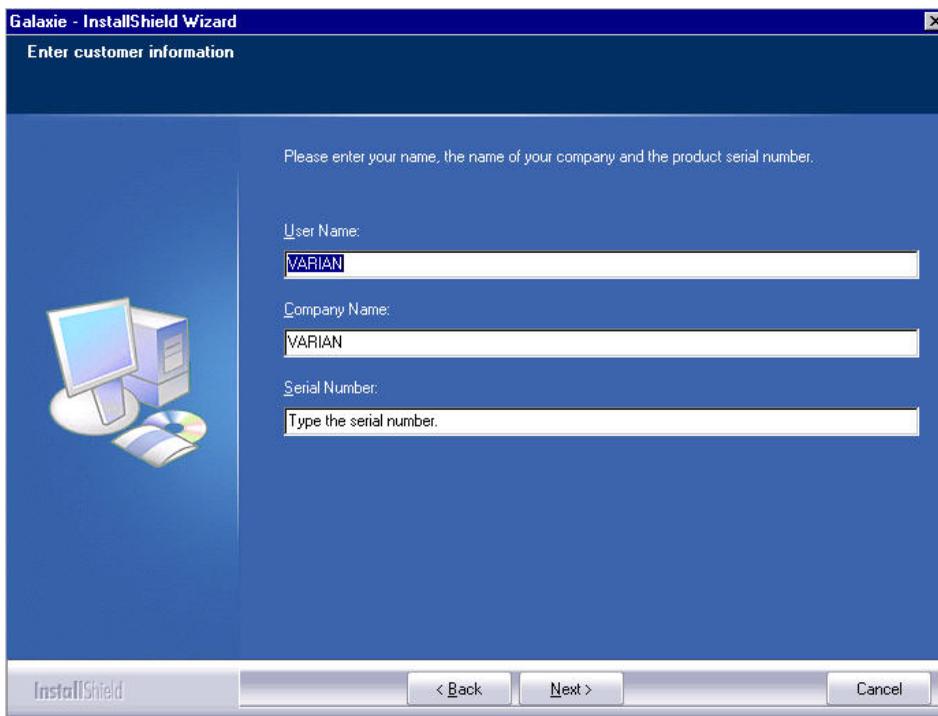
Read and accept the license agreement then press the Yes button.



In this screen, select the configuration of the Galaxie Chromatography Data System: “Client/Server” or “Stand-alone”. If Stand-alone is chosen, the Galaxie Chromatography Data System will be run on only one single computer and no client computer can be connected to the Stand-alone computer. Click on *Next*.

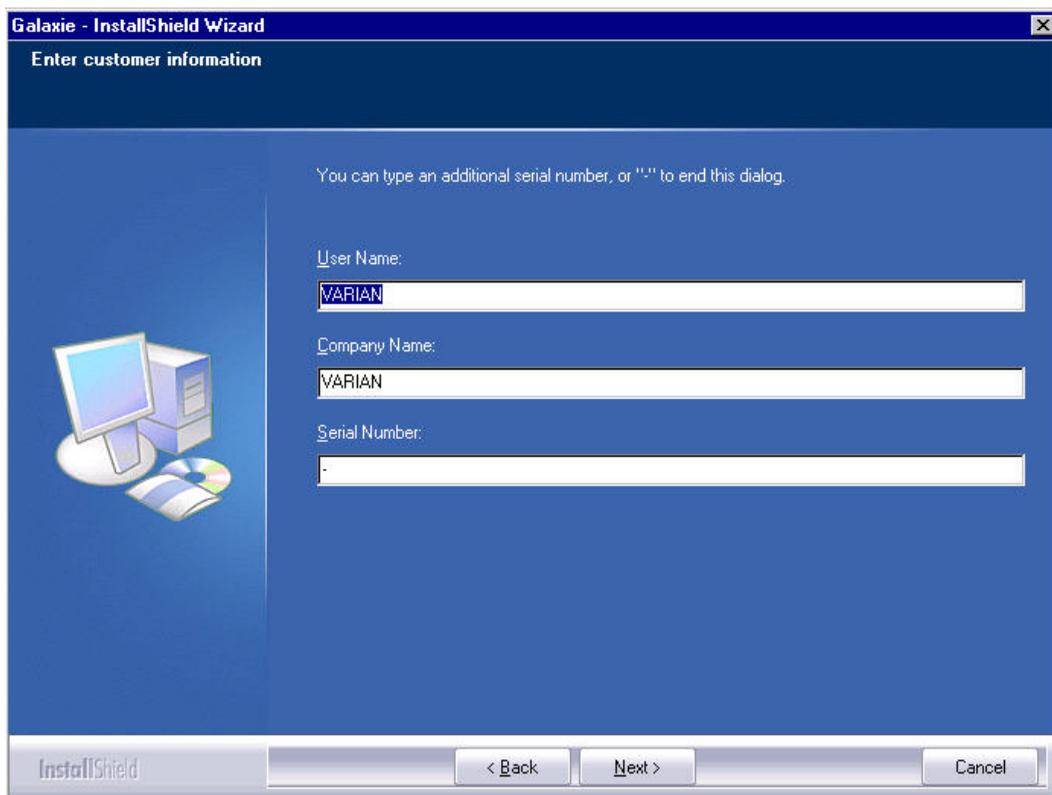


If "Client/Server" is chosen, you can choose to install a client/acquisition server or a main server by selecting the corresponding options. Only one main server can be installed in any client/server system. It is advised to synchronize all the client computers to the server date and time to have coherent dates for all the Galaxie Chromatography Data System files generated. To synchronize the clients and the server to the domain server (thanks to the command NET TIME SET), select the option *Computer date synchronization*. Click on the *Next* button in order to continue the installation.

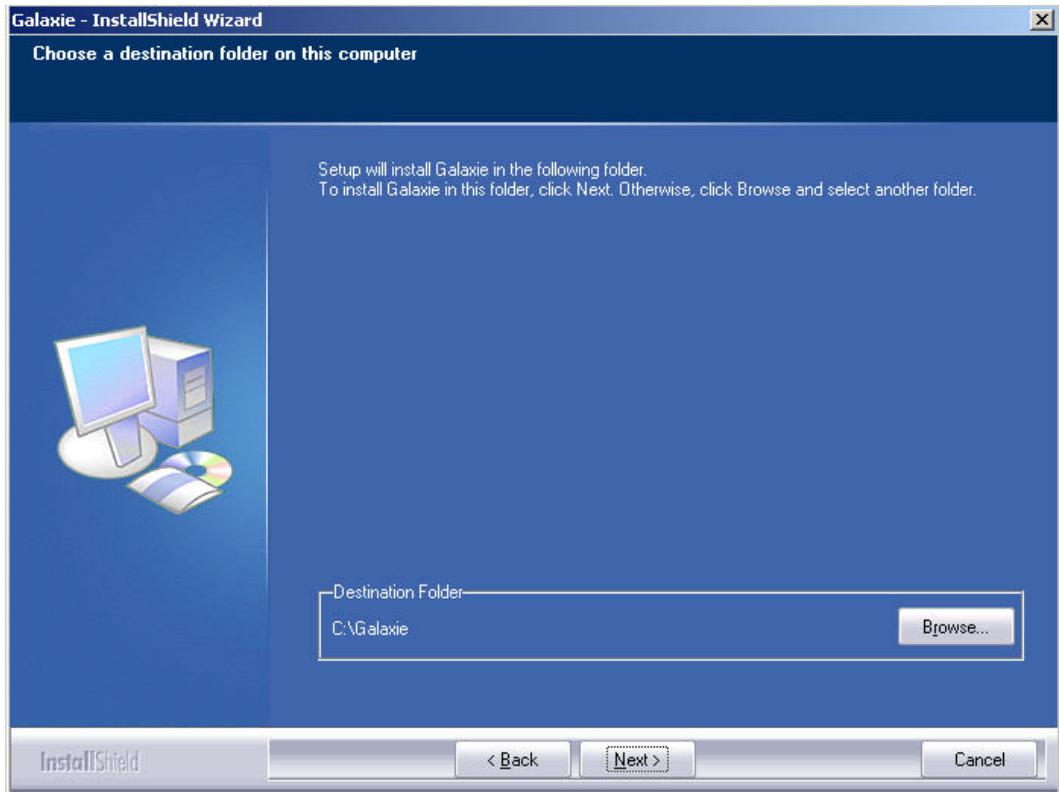


In this wizard, for the Server installation (in the case of client/server configuration), or for a computer in Stand-alone, enter the name of a user, name of the company and the main serial number of the Galaxie Chromatography Data System software provided on the Galaxie Chromatography Data System serial number cards. Click on *Next* once all the fields are filled in.

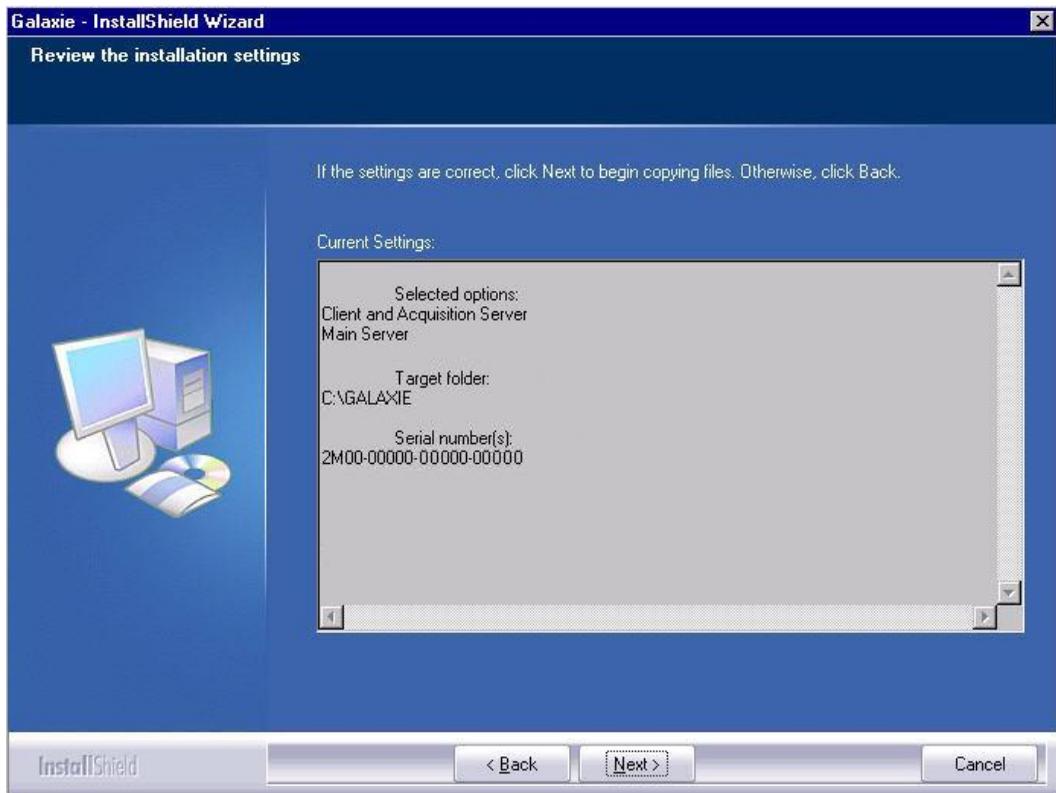
In the following wizard, enter the serial number for systems add-ons or stations add-ons if necessary. Do not enter any driver's serial numbers in this screen as drivers installations are not a part of the Galaxie Installation. If no add-ons have to be entered, click on *Next*.



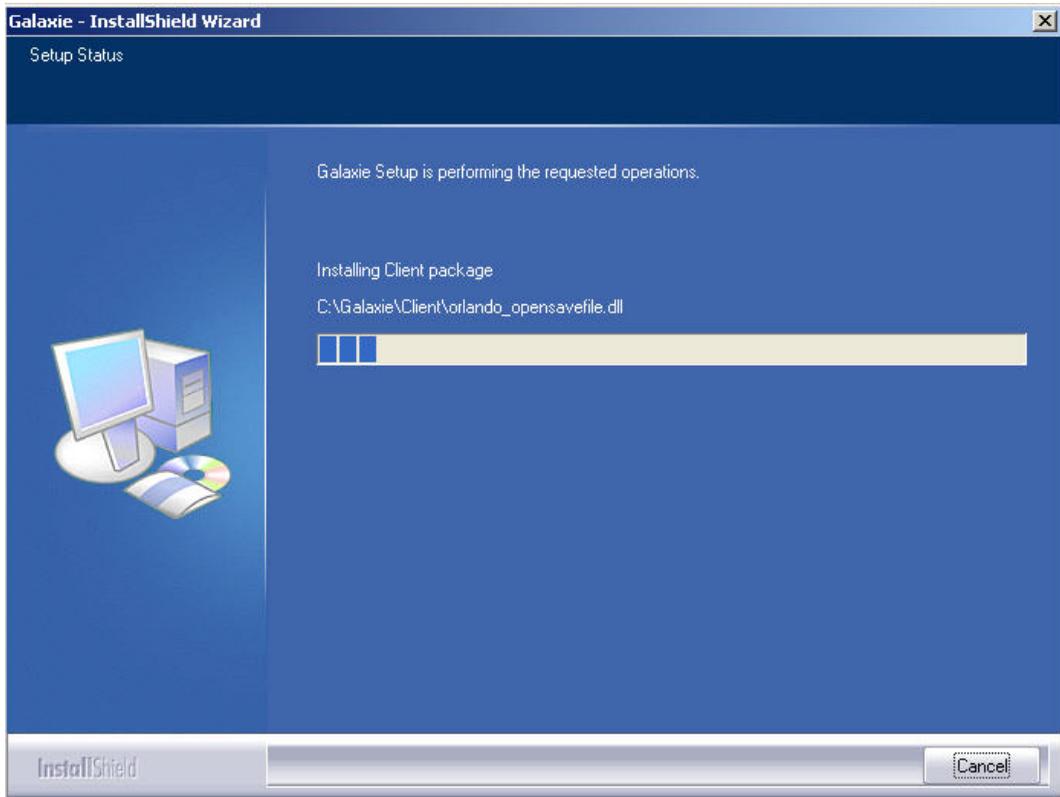
On the following screen, select the directory in which the Galaxie Chromatography Data System files will be installed. By default C:\Galaxie is displayed. Select the *Browse* button to select another directory.



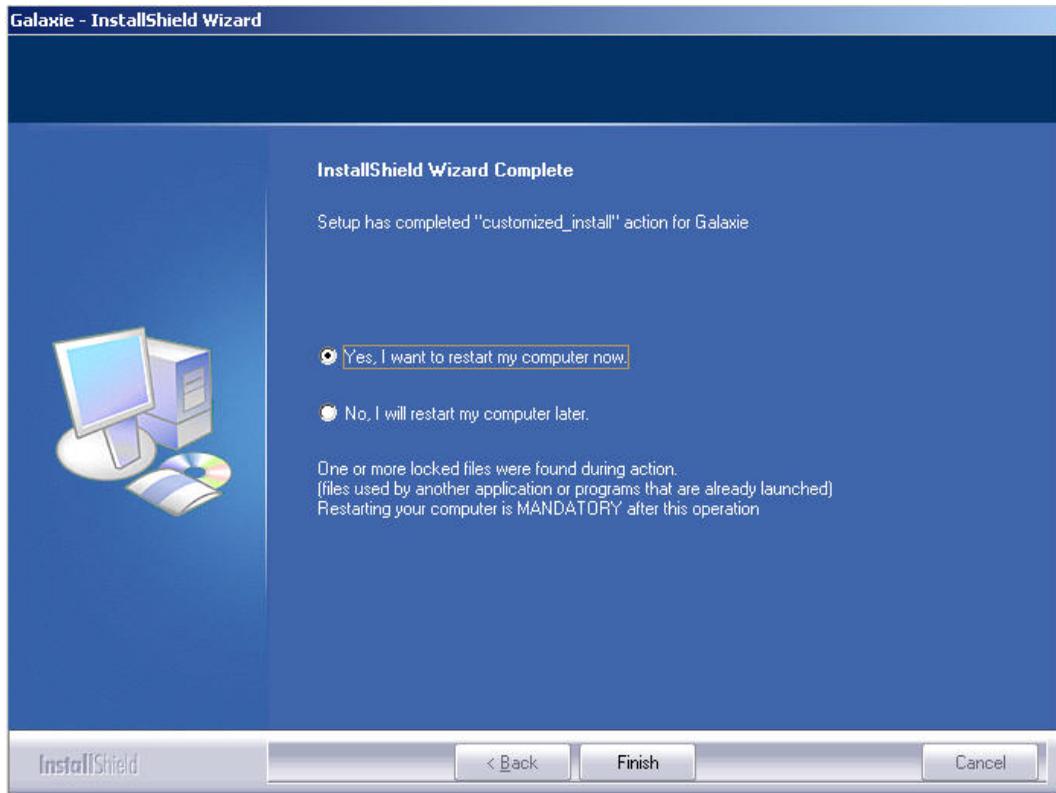
Once the installation folder is selected, click on *Next*.
The following screen appears.



Click on *Next*.



The software is now being installed.



Click on the *Finish* button to complete your installation.

It is required that the computer be rebooted now.

NOTE: If you have some error messages during installation such as "Error extracting support files", "Error installing lkernel .exe", "Access is denied", "Error loading type library/DLL" you need to edit the registry as follows:



CAUTION

Use caution when editing – edits to registry may severely damage your system.

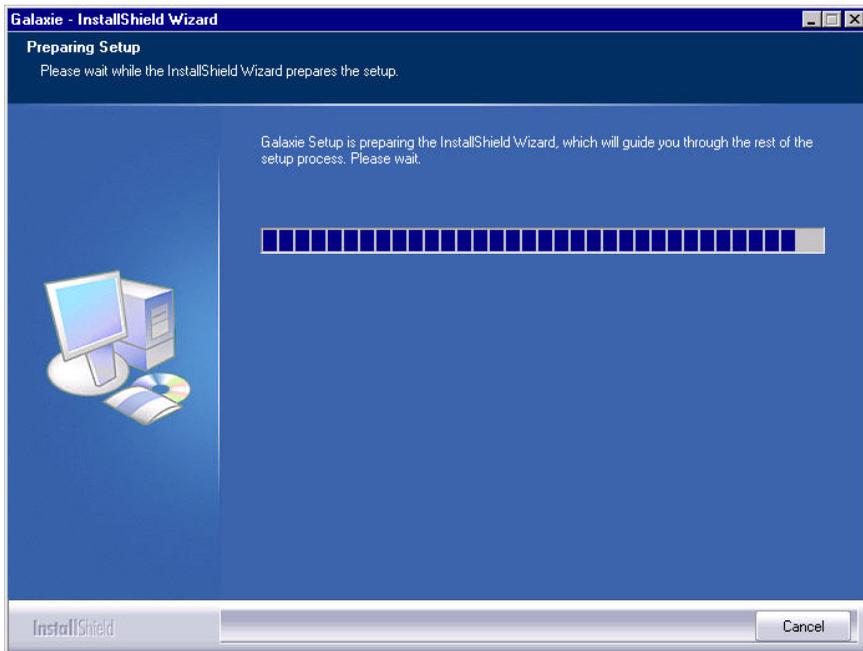
1. Click on the *Windows Start* button and select RUN. Type REGEDIT and click *OK*. In REGEDIT find and remove the key {2565438A-1759-4F9D-A14A-DB5BD0A22EB4} in:Hkey_local_machine \ Software\Microsoft \ Windows\CurrentVersion\Uninstall
2. Then remove the folder {2565438A-1759-4F9D-A14A-DB5BD0A22EB4} located in: Program Files \ InstallShield\ Installation Information.

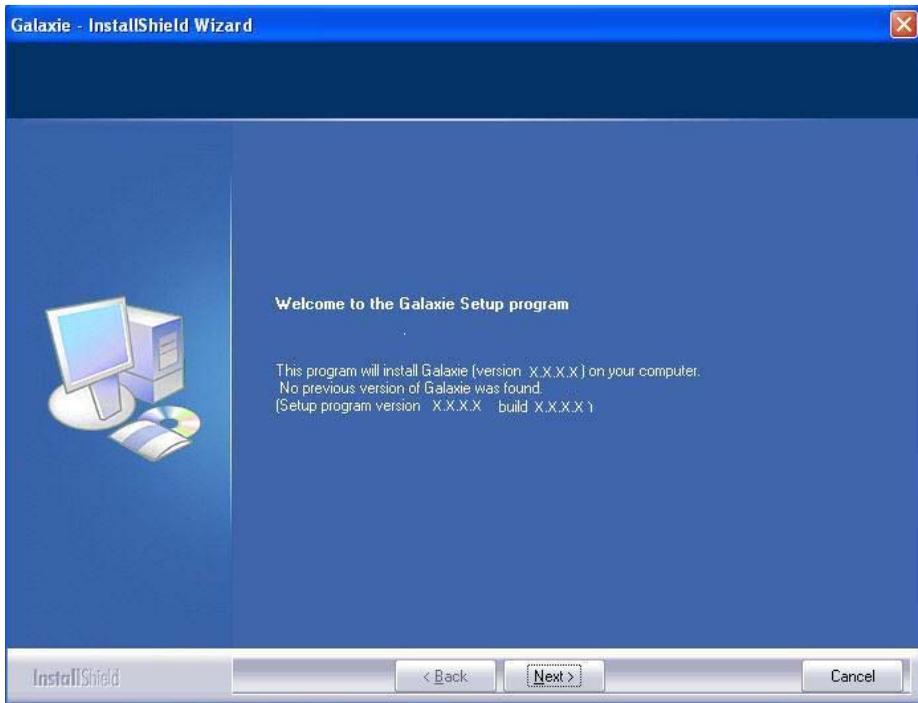
3. Then remove the contents of the folder where Diamir or an earlier version of Galaxie Chromatography Data System was installed, except for files with an extension: .DDB, .DDC and the generated files (DATA, .METH, .CALB.etc).

Installation of a Galaxie Client/Acquisition Server

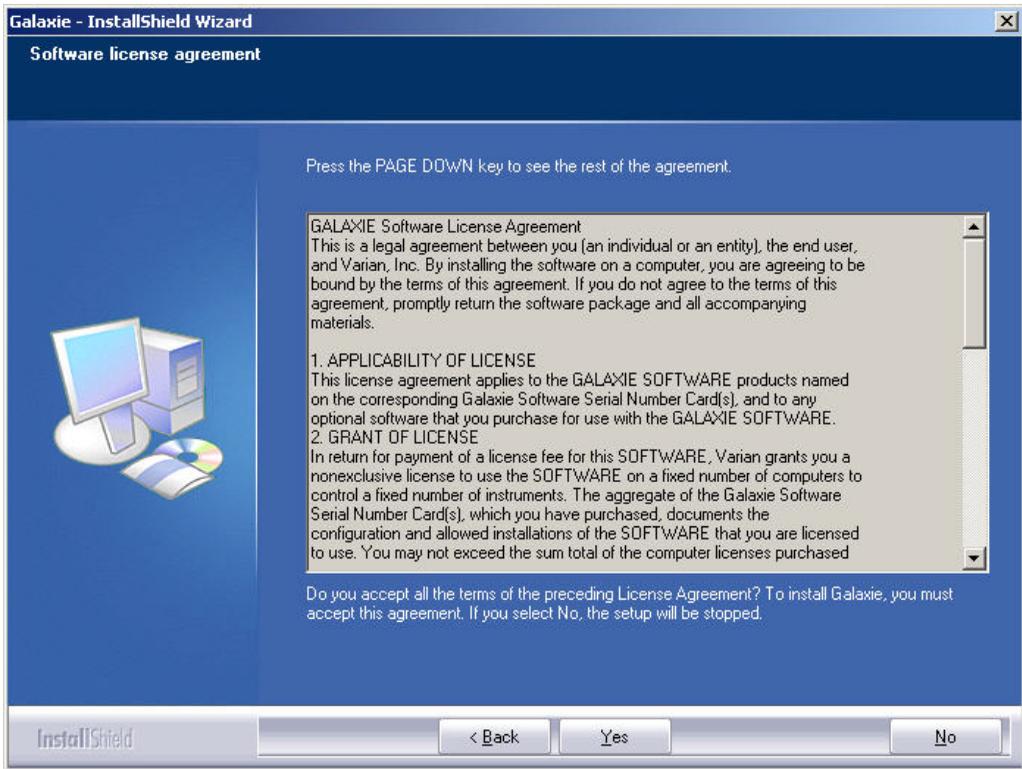
To install a GALAXIE Client and Acquisition Server, follow the next steps:

Start the setup on the target machine using the Galaxie CD.

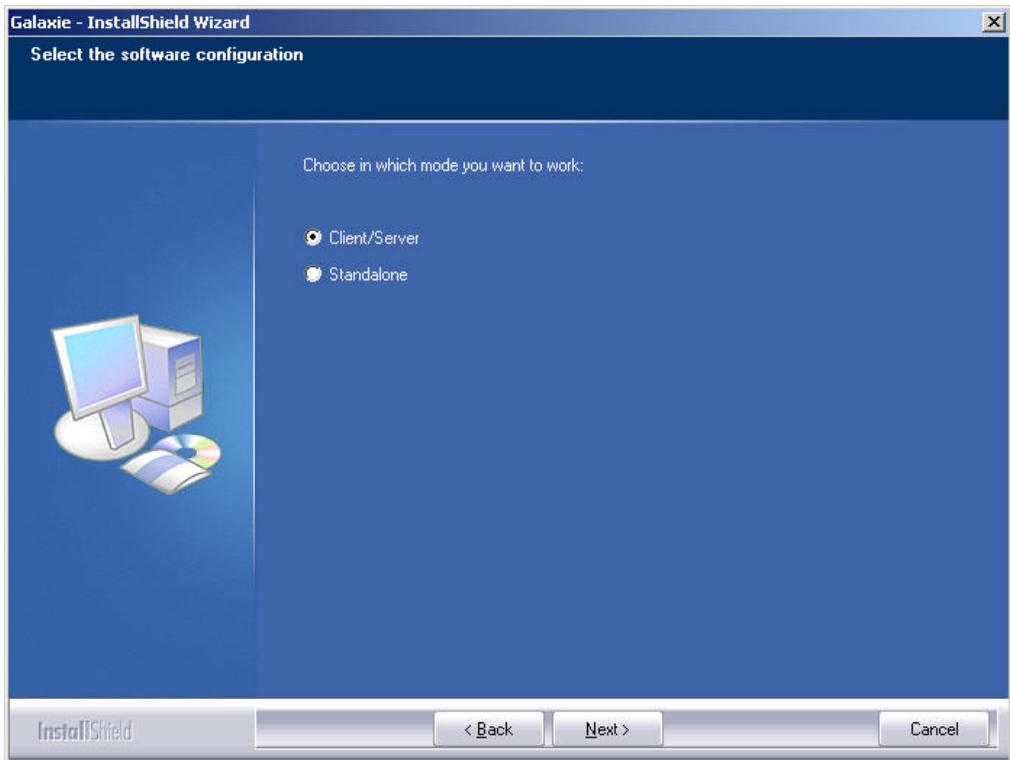




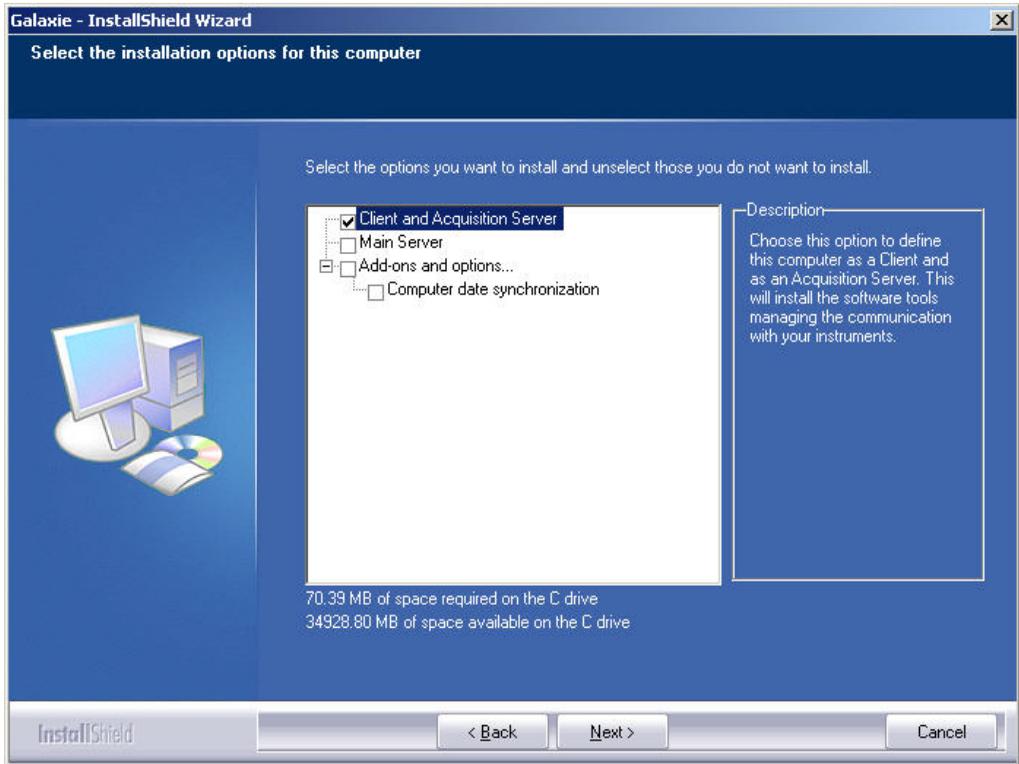
Click on the *Next* button to follow the installation.



Read and accept the License Agreement and click on the Yes button to follow the installation.

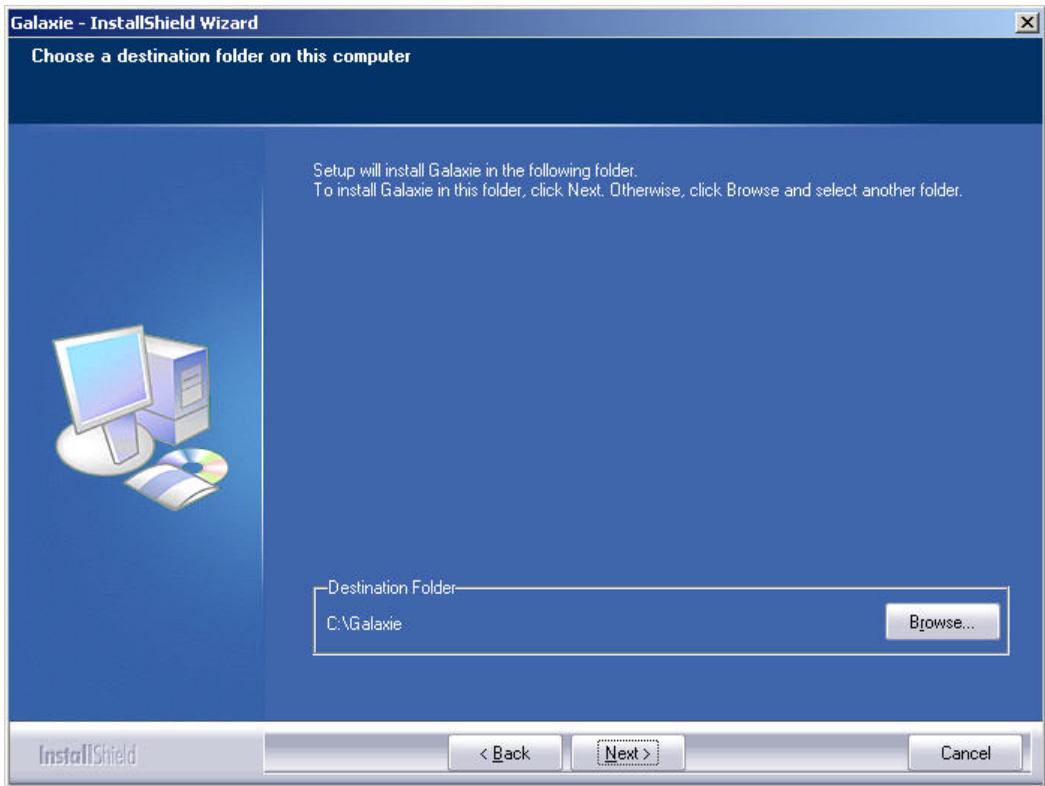


In this screen select Client/ Server and click on *Next*.

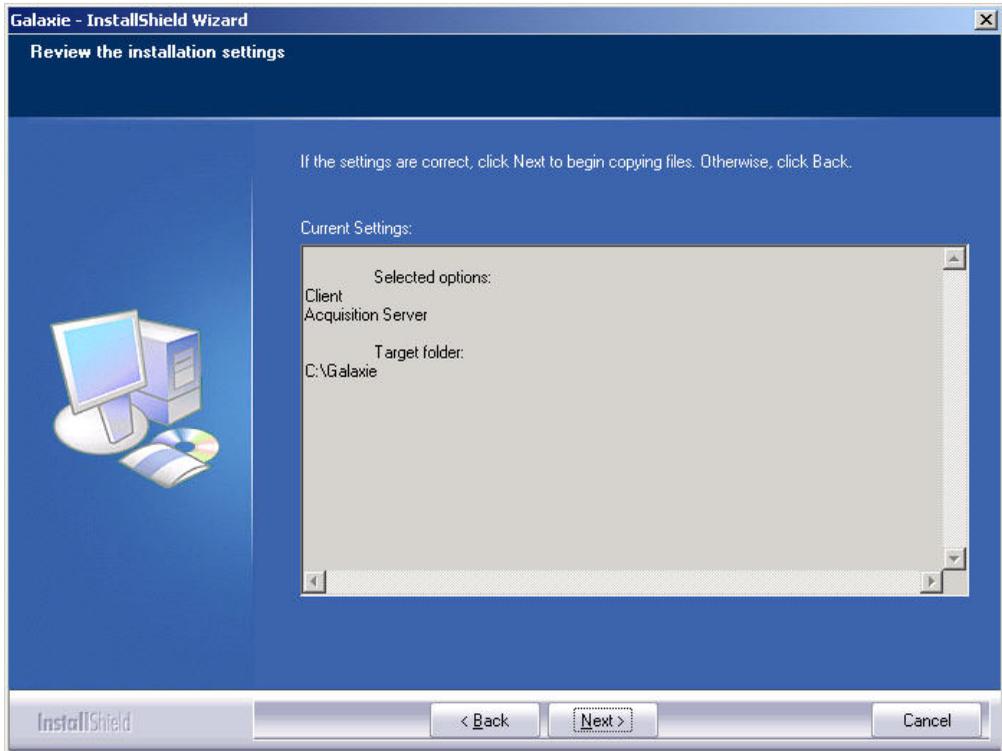


Select *Client and Acquisition Server* and click on the *Next* button.

In the following wizard, define the directory in which GALAXIE files will be installed. By default C:\GALAXIE is proposed.

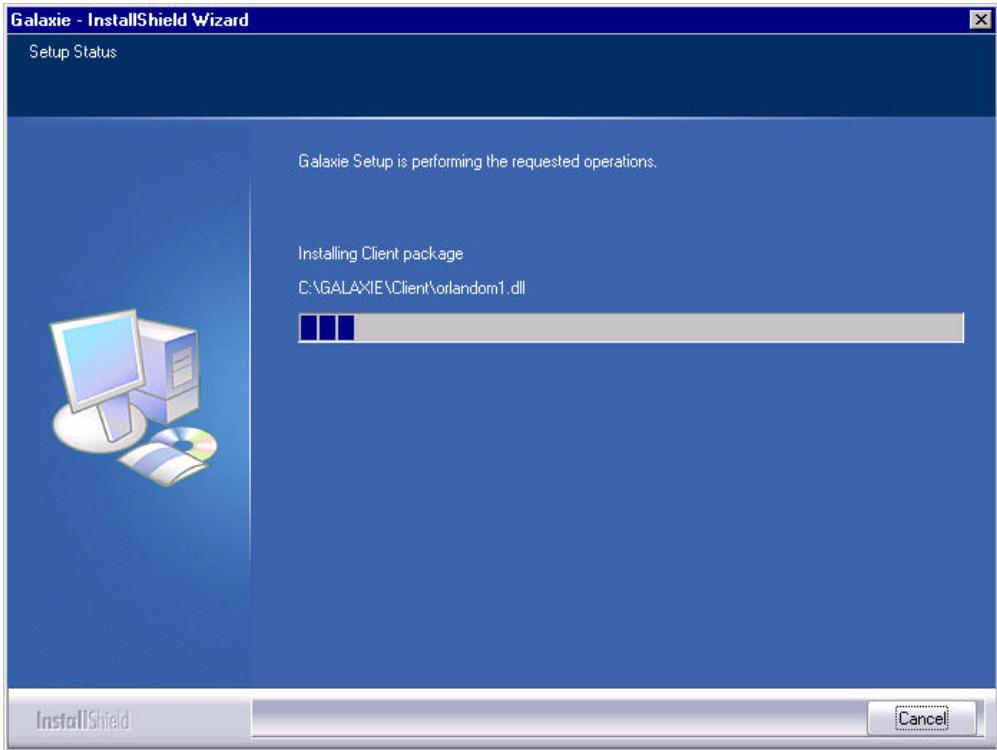


Once the installation folder is defined, click on *Next*.
The following wizard appears.

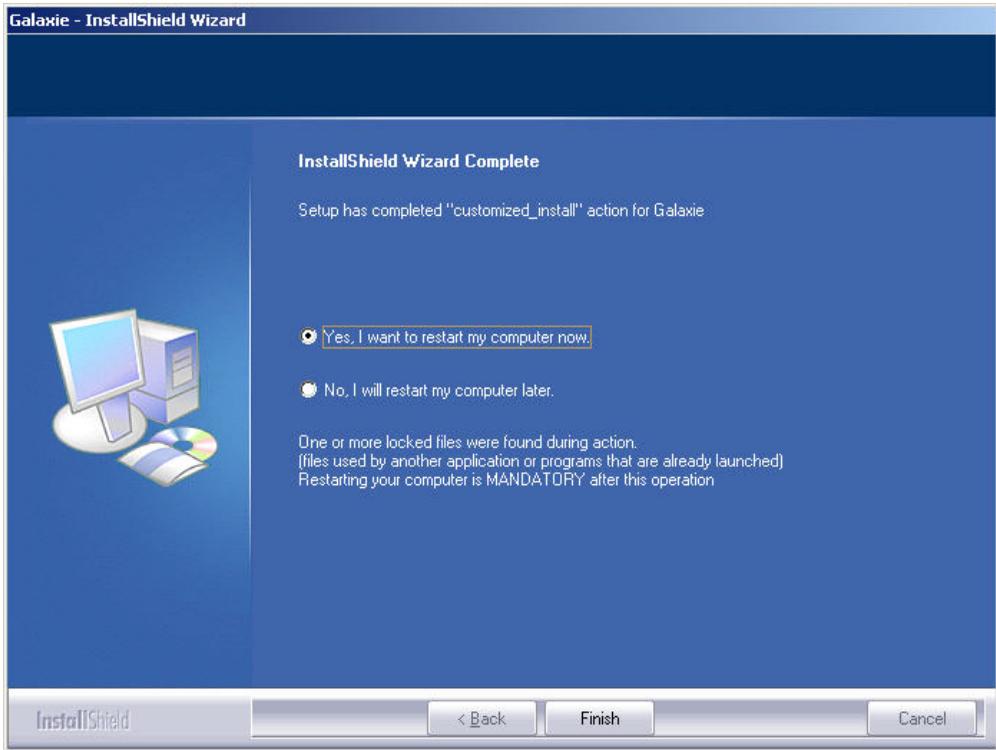


Click on *Next*.

Some messages appear indicating the registration of GALAXIE services and a progress bar shows the installation progression.



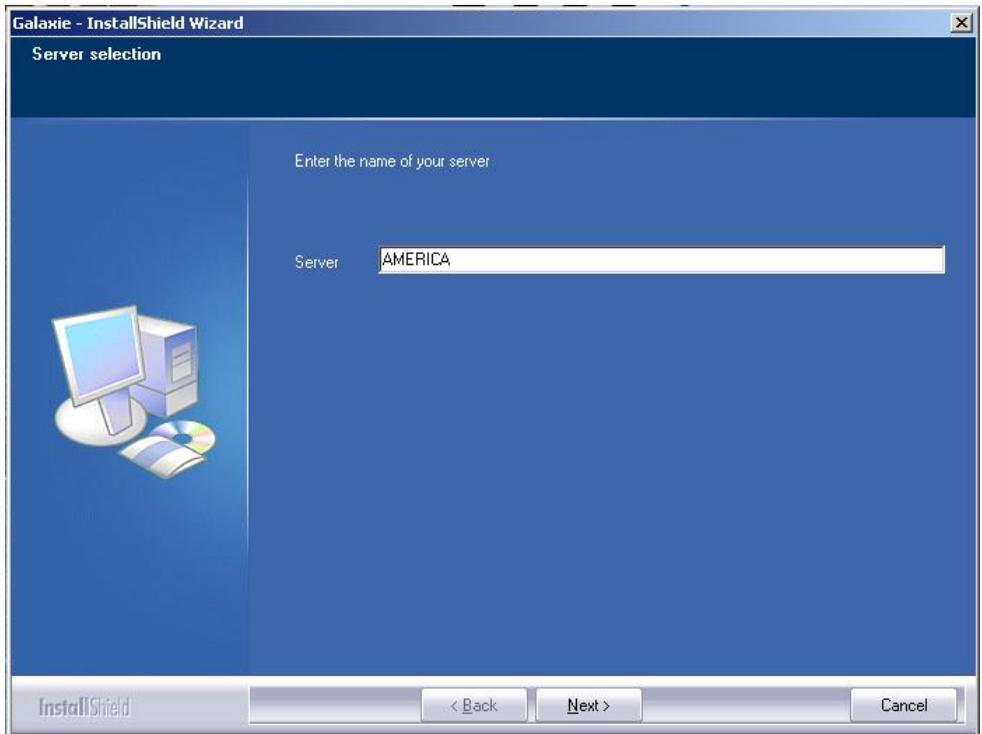
Once the installation is completed, the following screen appears.



Select if you want to restart your computer now or later and then click on the *Finish* button to validate your installation.

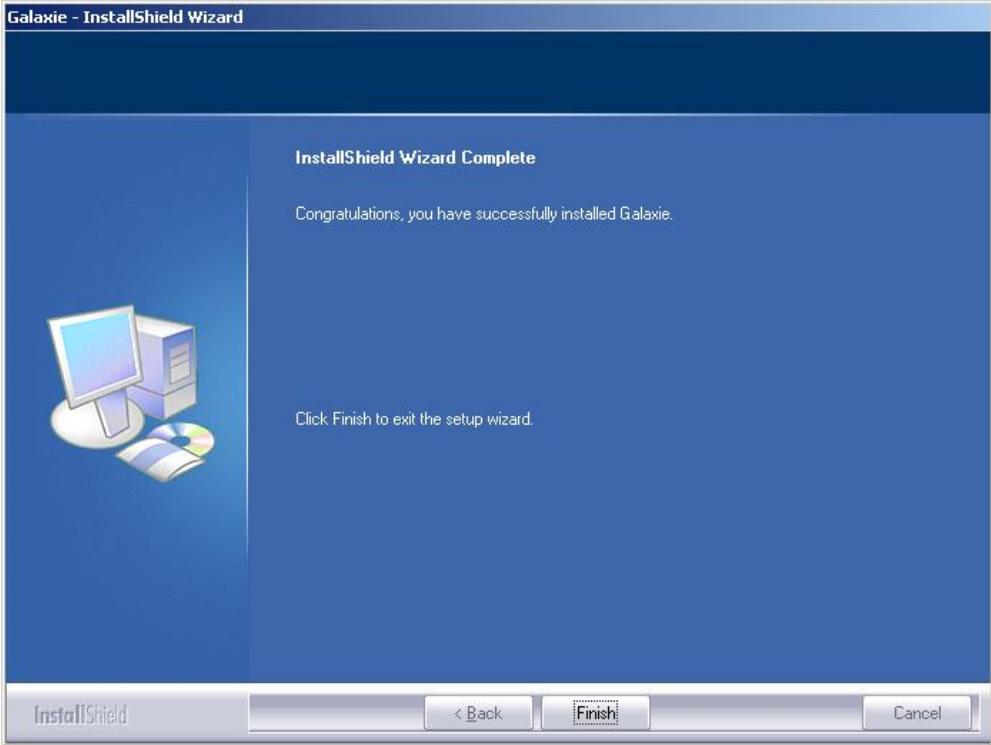
The installation is not finished yet. **It is mandatory to reboot the computer at this stage.**

Once the computer is rebooted the installation is resumed and the following wizard is displayed.

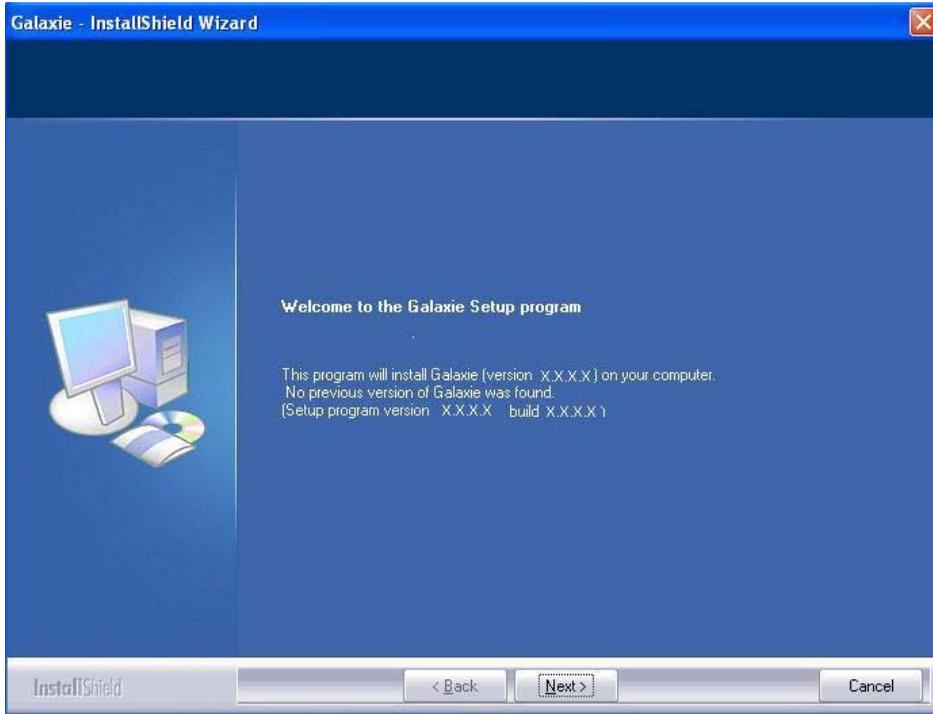


Type in the *Server* field the name of the main server and click on *Next*.

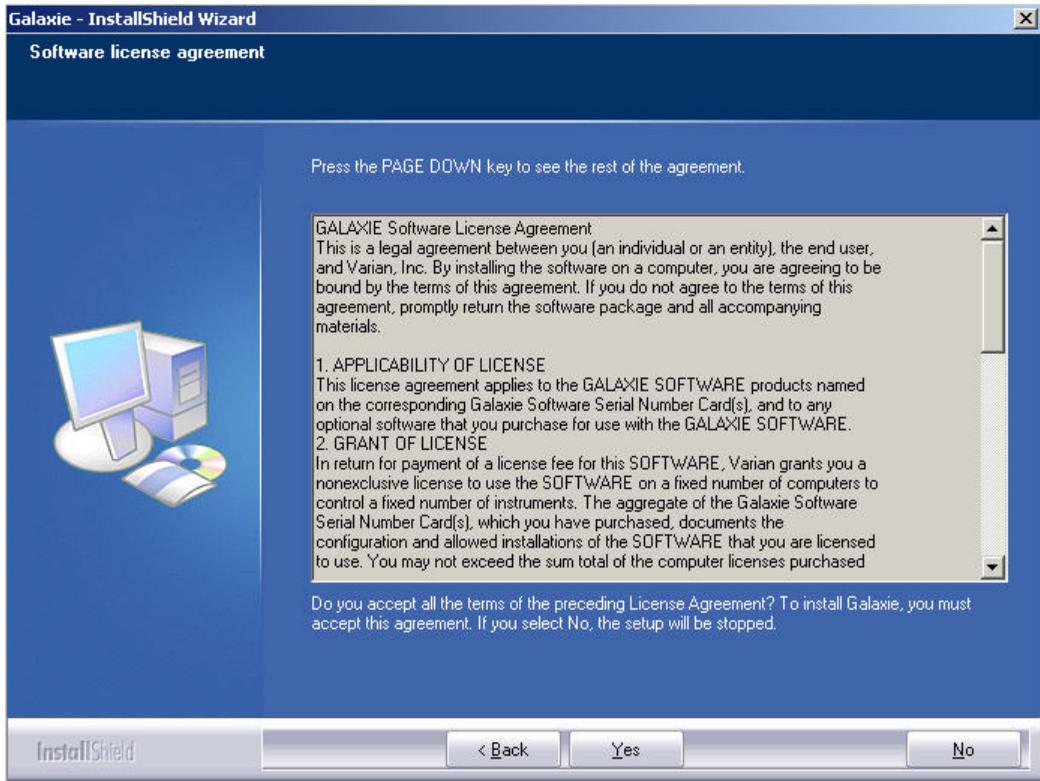
Finally the last wizard is displayed.



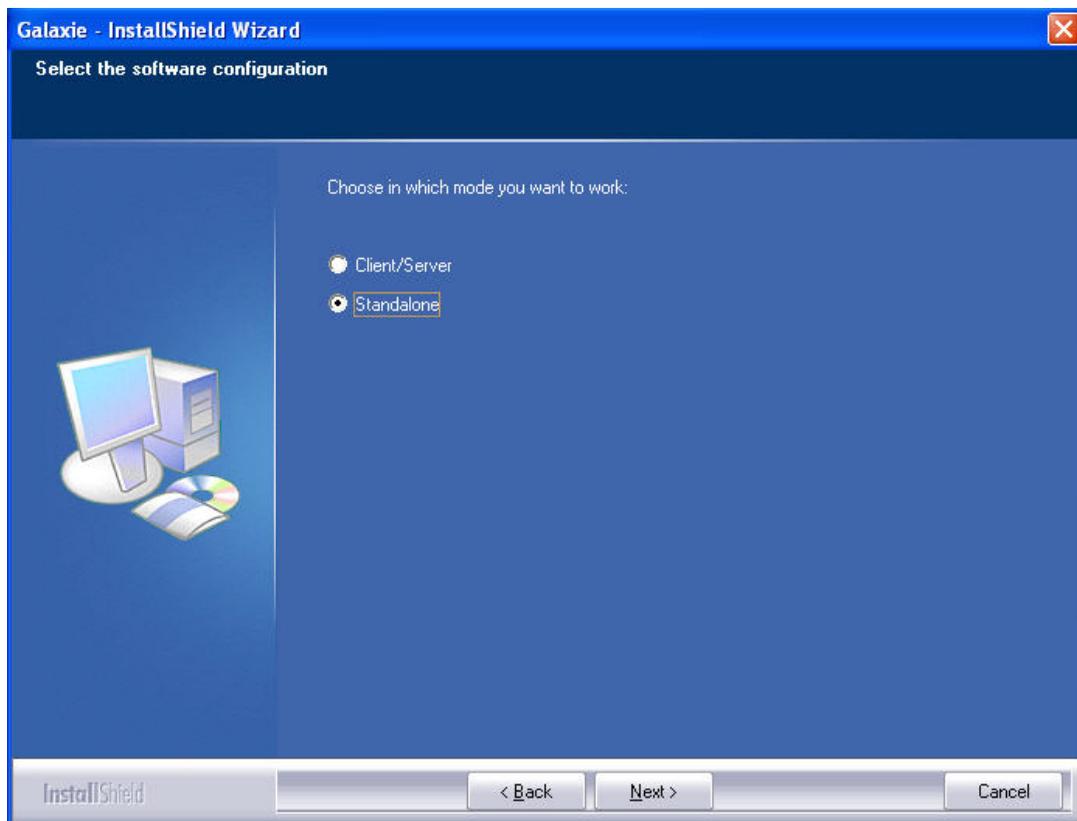
Installation of a Galaxie standalone



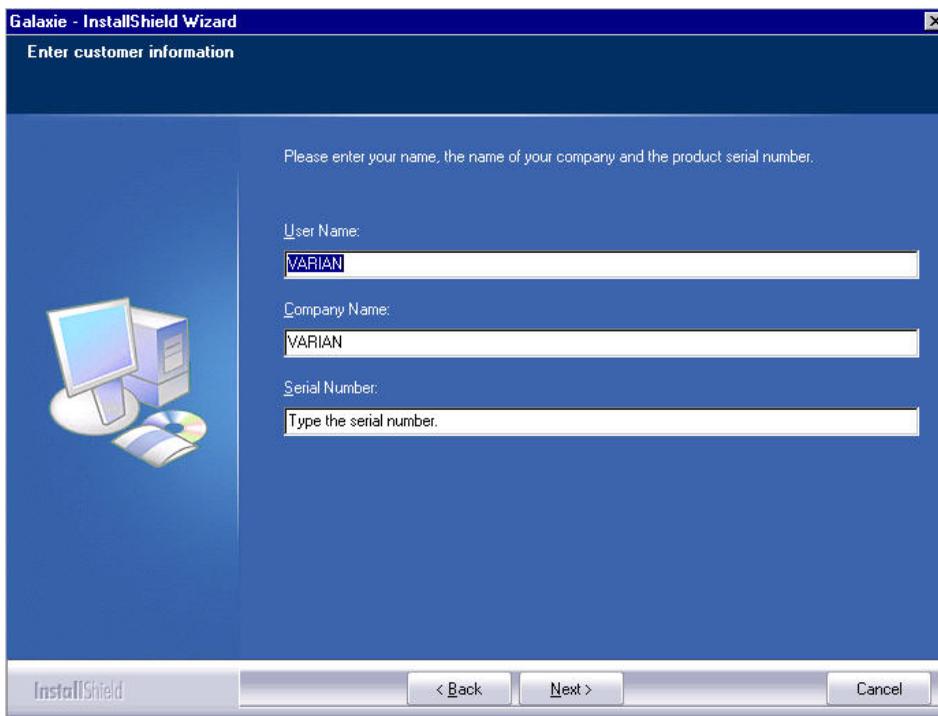
From the InstallShield Wizard Screen, click on the *Next* button in order to continue the installation.



Read and accept the license agreement then press the Yes button.

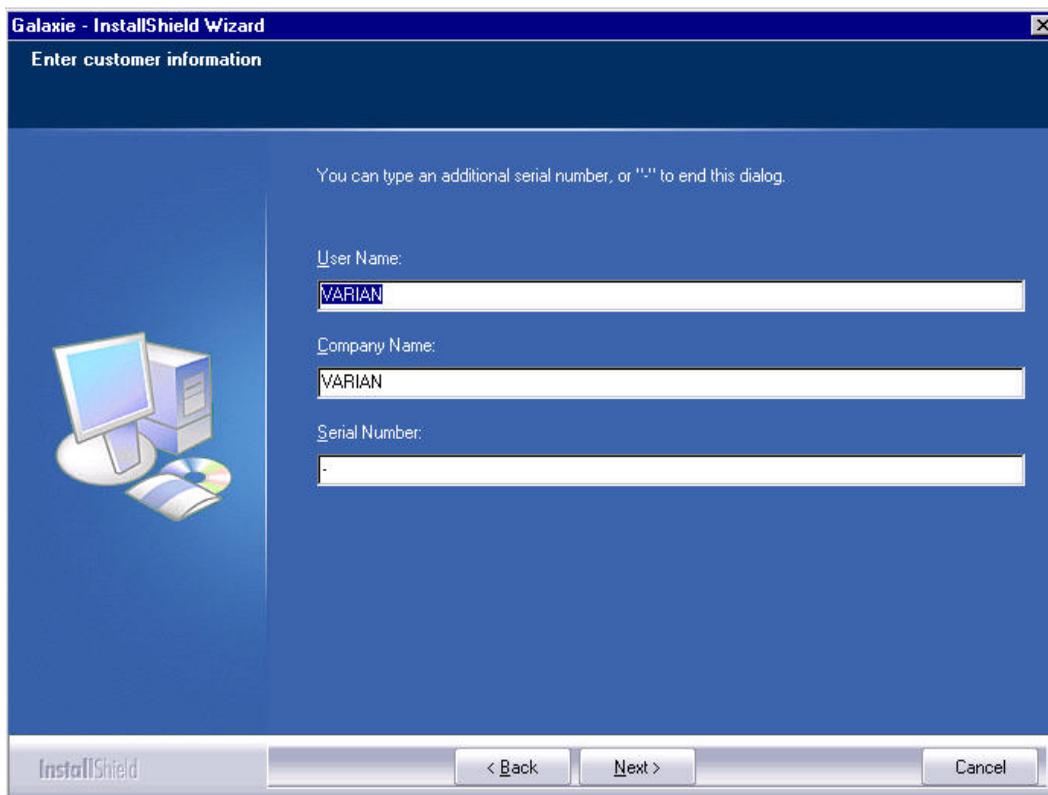


In this screen, select “Standalone” as configuration of the Galaxie Chromatography Data System software. Galaxie will be run in this case on only one single computer and no client computer can be connected to the Standalone computer. Click on *Next*.

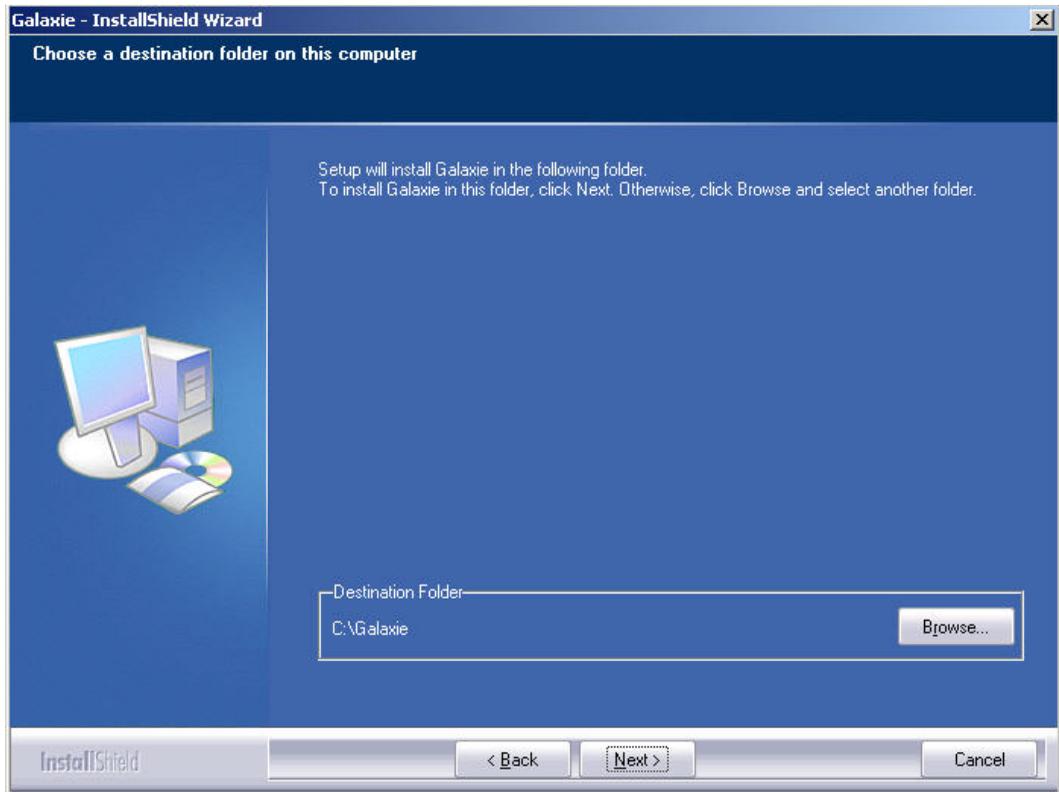


In this wizard, enter the name of a user, name of the company and the main serial number of the Galaxie Chromatography Data System software provided on the Galaxie Chromatography Data System serial number cards. Click on *Next* once all the fields are filled in.

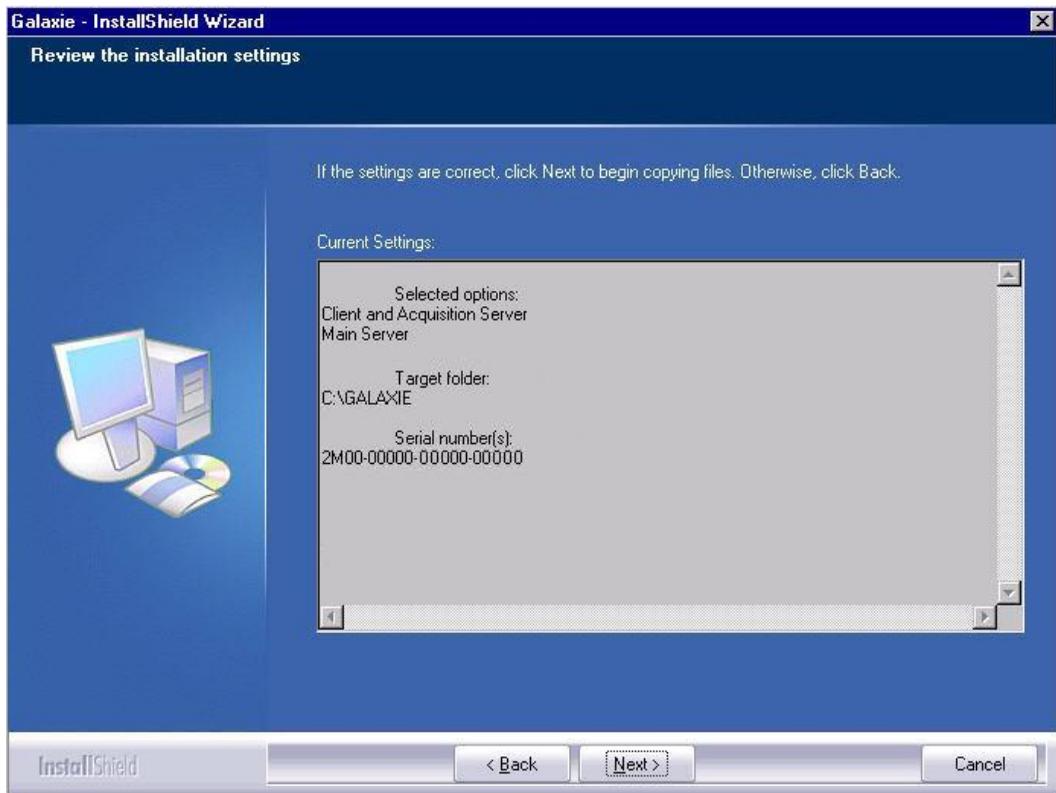
In the following wizard, enter the serial number for systems add-ons or stations add-ons if necessary. Do not enter any driver's serial numbers in this screen as drivers installations are not a part of the Galaxie Installation. If no add-ons have to be entered, click on *Next*.



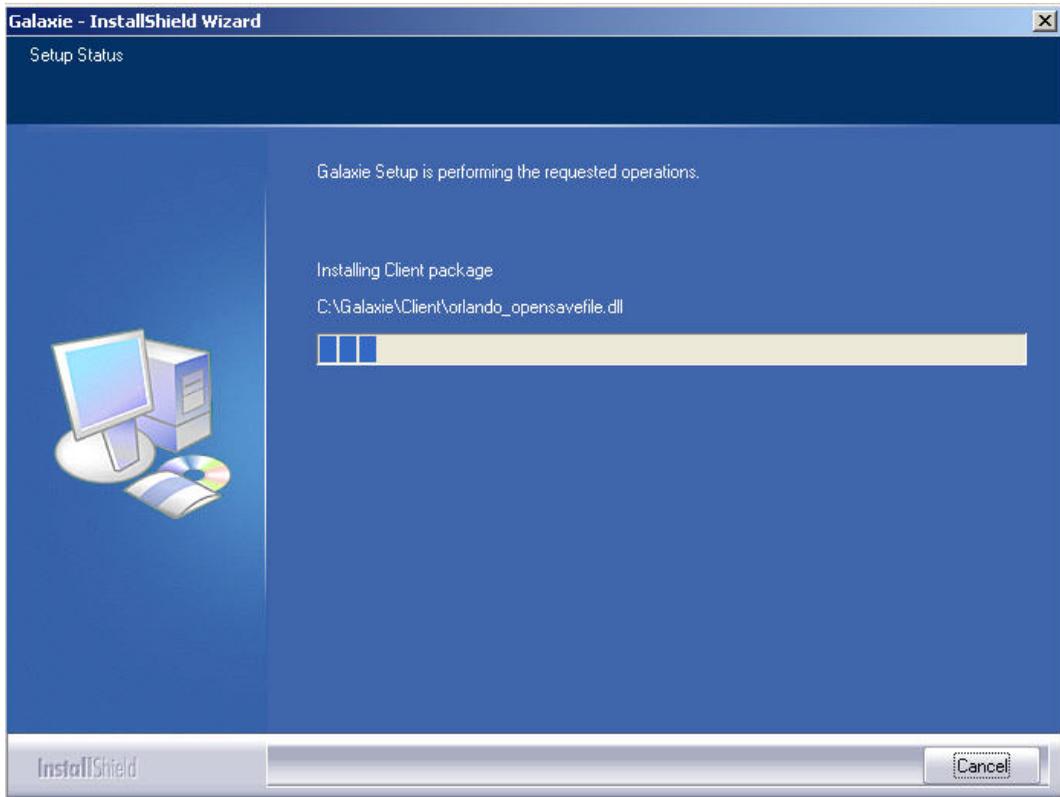
On the following screen, select the directory in which the Galaxie Chromatography Data System files will be installed. By default C:\Galaxie is displayed. Select the *Browse* button to select another directory.



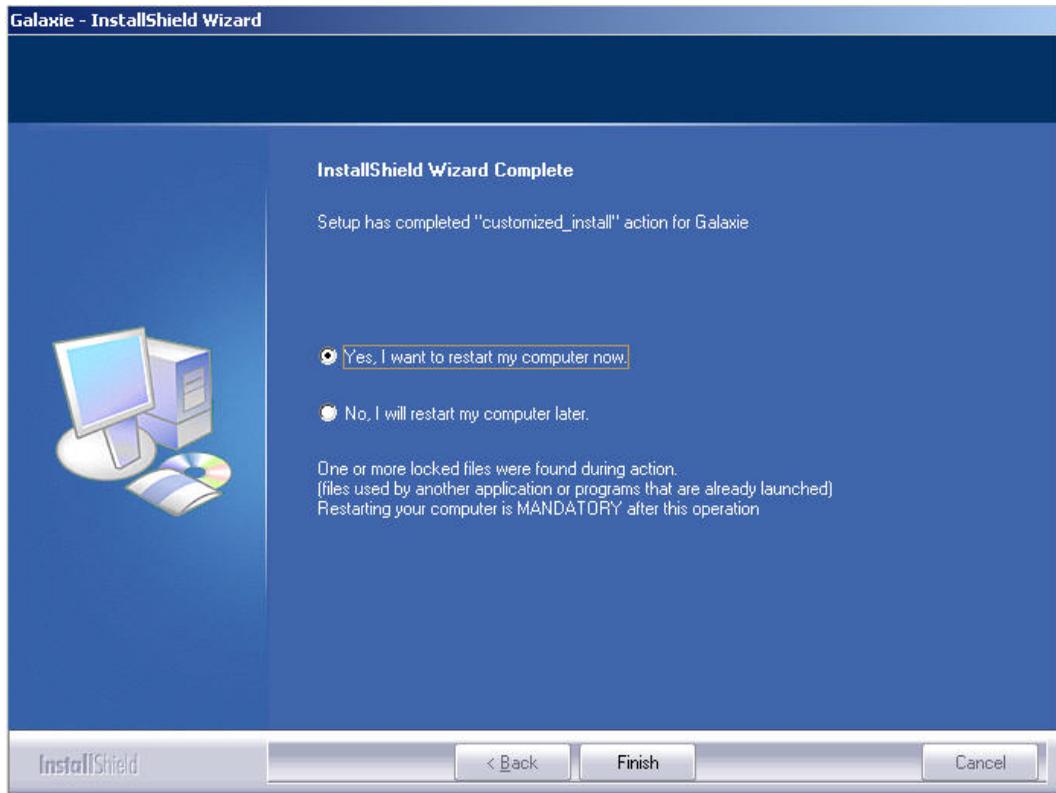
Once the installation folder is selected, click on *Next*.
The following screen appears.



Click on *Next*.



The software is now being installed.



Click on the *Finish* button to complete your installation.

It is required that the computer is rebooted now.

NOTE: If you have some error messages during installation such as "Error extracting support files", "Error installing lkernel .exe", "Access is denied", "Error loading type library/DLL" you need to edit the registry as follows:



CAUTION

Use caution when editing – edits to registry may severely damage your system.

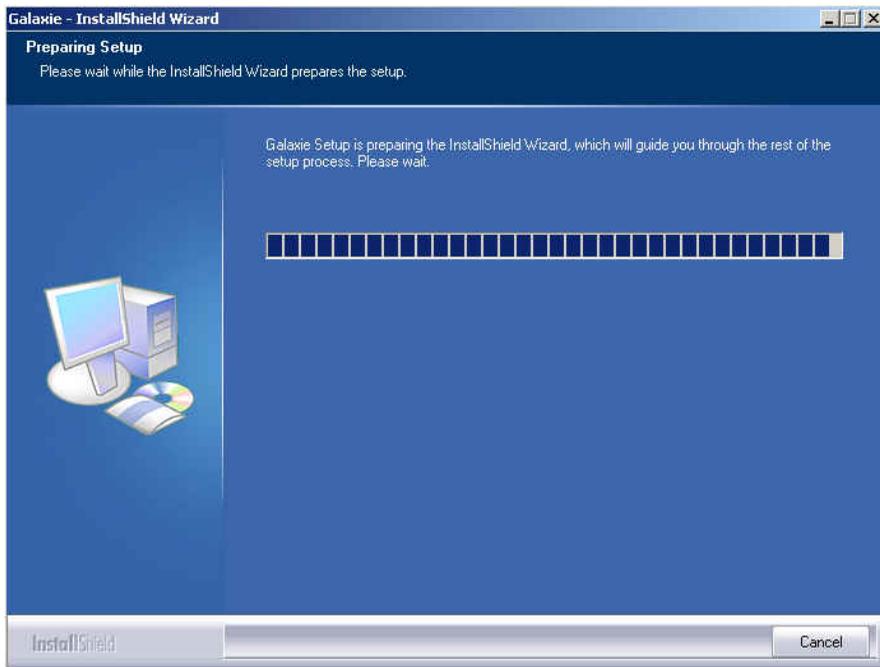
1. Click on the *Windows Start* button and select RUN. Type REGEDIT and click *OK*. In REGEDIT find and remove the key {2565438A-1759-4F9D-A14A-DB5BD0A22EB4} in:Hkey_local_machine \ Software\Microsoft \ Windows\CurrentVersion\Uninstall
2. Then remove the folder {2565438A-1759-4F9D-A14A-DB5BD0A22EB4} located in: Program Files \ InstallShield\ Installation Information.

3. Then remove the contents of the folder where Diamir or an earlier version of Galaxie Chromatography Data System was installed, except for files with an extension: .DDB, .DDC and the generated files (DATA, .METH, .CALB.etc).

Modify and Repair

This chapter will explain how to modify and repair options in the Galaxie Setup.

- ◆ Install the CD ROM and start the application Setup.exe. Wizards will guide you for the process:





Three options are available, only the repair and modify will be detailed here. See the Uninstallation section for details about the remove option.

Different pieces of code are needed for Galaxie to work.

In a Galaxie Client and Acquisition server, only the Galaxie client and acquisition piece is needed.

In a Galaxie Main server, two pieces are needed: the Galaxie base piece and the Galaxie client and acquisition one.

In a Galaxie Stand-alone, the pieces needed are the same as in a Galaxie Main server, the Galaxie base piece, and the Galaxie client and acquisition one. The only difference between a Galaxie main server and Galaxie stand-alone is a different configuration in the windows registry.

Modify: This option must be used only when you want to add or remove a piece of Galaxie.

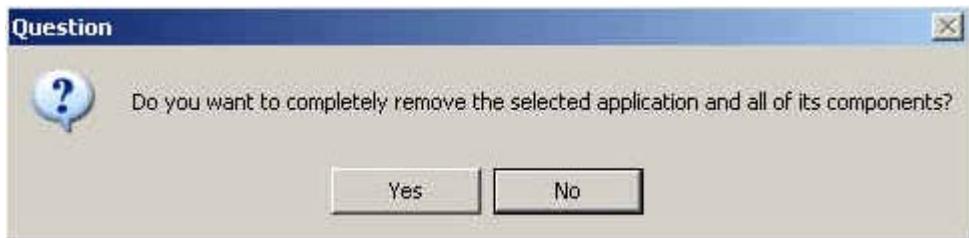
Repair: This option must be used when you want to change the configuration of Galaxie piece(s).

The following table gives the use of modify and repair.

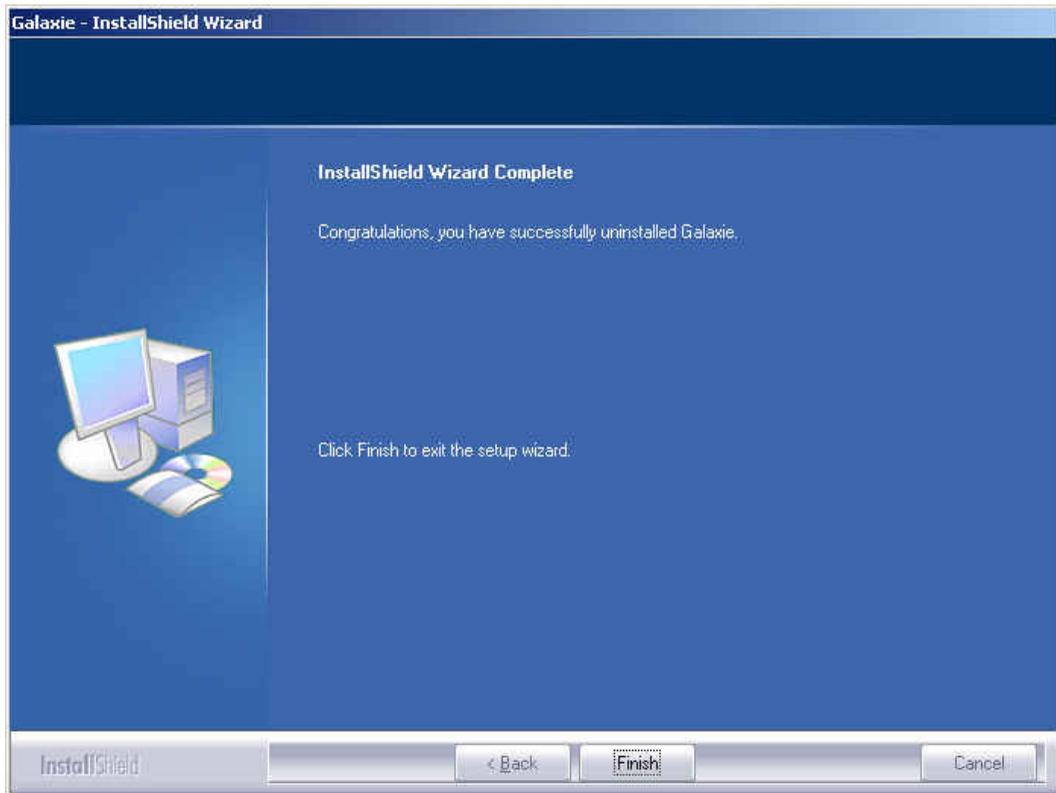
Previous Installation	Future Installation	Option to use	Reason/comments
Client/acquisition server of a main server A	Main server B	Modify	The Galaxie base piece is added.
Main server C	Client/acquisition server of main server A	Modify	The Galaxie base piece is removed.
Client/acquisition server of a main server A	Client/acquisition server of a main server B	Repair	The computer is still a client acquisition server but of another main server.
Main server A	Stand-alone	Repair	The computer is still a main server but only in a stand-alone mode.
Client/acquisition server of main server A	Stand-alone	1. Modify	1. This step is to change the client/acquisition server to a main server.
		2. Repair	2. This step is to change the main server to a stand-alone.
Stand-alone	Client/acquisition server of main server A	1. Repair	1. This step is to change the stand-alone to a main server.
		2. Modify	2. This step is to change the main server to a client/acquisition server.

Uninstallation

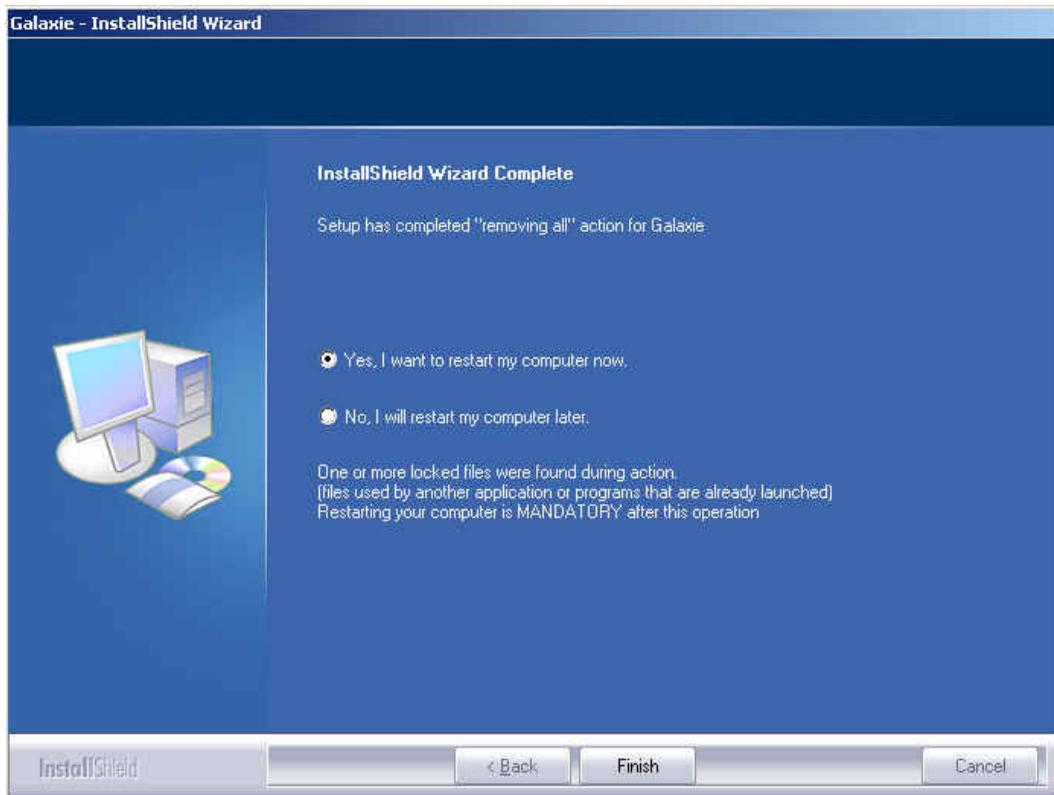
During the uninstallation process, the following message asks you to confirm the deletion of the Galaxie software. Click on *Yes* to uninstall or *No* to stop the uninstall process.



After all of the files have been removed, the following dialog is displayed. Click on *Finish*.



A dialog box then appears indicating that the computer needs to be rebooted:



Click on *Finish* to complete the software removal and reboot the computer. Once the computer is rebooted, restart the CD browser by running INSTALL.EXE from Windows Explorer. Click on the *Install* button then click on the *Galaxie Software* button in the CD browser to start the InstallShield wizard. Follow the instructions in the installation part of this section to install the Galaxie software.

Upgrading Galaxie CDS versions earlier than 1.8 version or Diamir

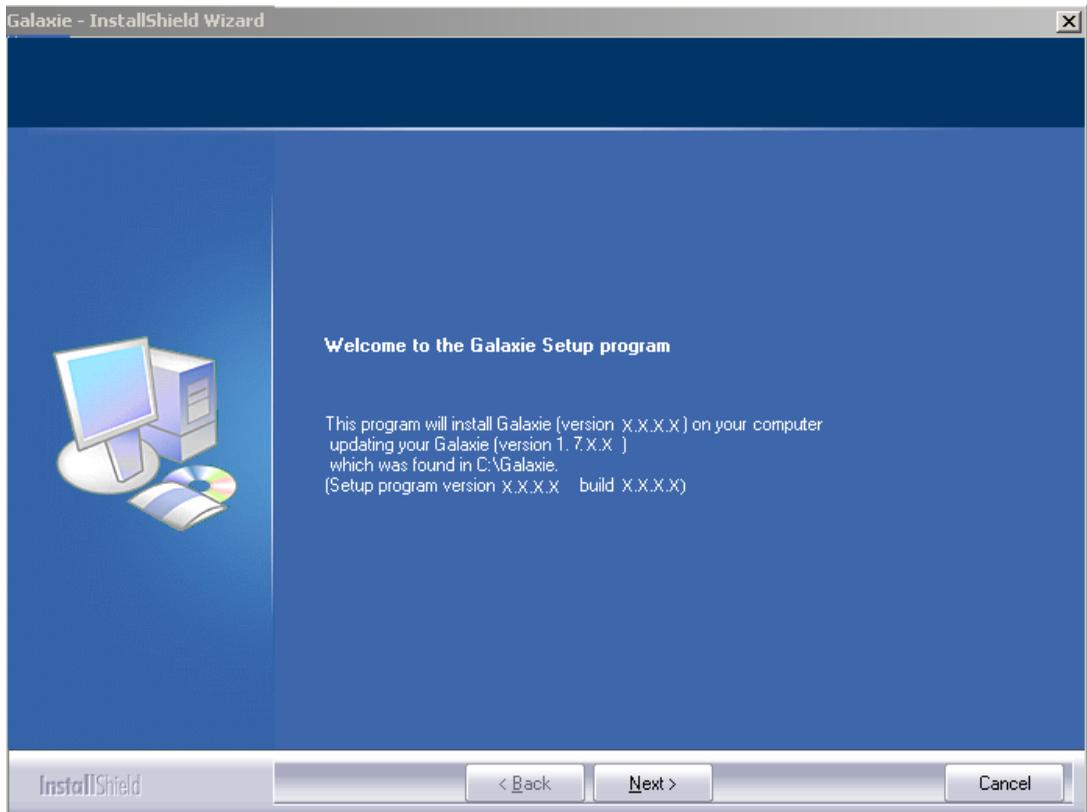
This chapter will describe the steps to upgrade the different computers of the system. The steps are mandatory when the new version comes as a full installation package. For patches only a reboot of the computer after the operation is necessary.

It is **MANDATORY** that the directory of the new Galaxie version is identical to the directory of the old Galaxie version, the ability to choose the Galaxie folder is then not provided when performing an upgrade.

If you are upgrading from Diamir to Galaxie Version 1.9, it is mandatory to rename the Saloro_CFG.act file (located in Diamir\server directory on the main server) into Diamir_CFG.act.

Upgrade the Galaxie Server

- Backup the "GALAXIE_BASED.DDB" file.
- Backup the "DRIVERLIST.DDC" file.
- Backup the "\GALAXIE\SERVER\CFG" directory.
- Backup the "\GALAXIE\SERVER\DATA_SHARED" directory
- If using BOOTP on the server save the following file "WINNT\System32\BOOTPSERVER.CFG" if using Windows 2000 or 2000 server or 2003 server "WINDOWS\System32\BOOTPSERVER.CFG" if using Windows XP.
- Start the setup of Galaxie 1.9. The Galaxie setup will detect the "old" Galaxie version (see below).

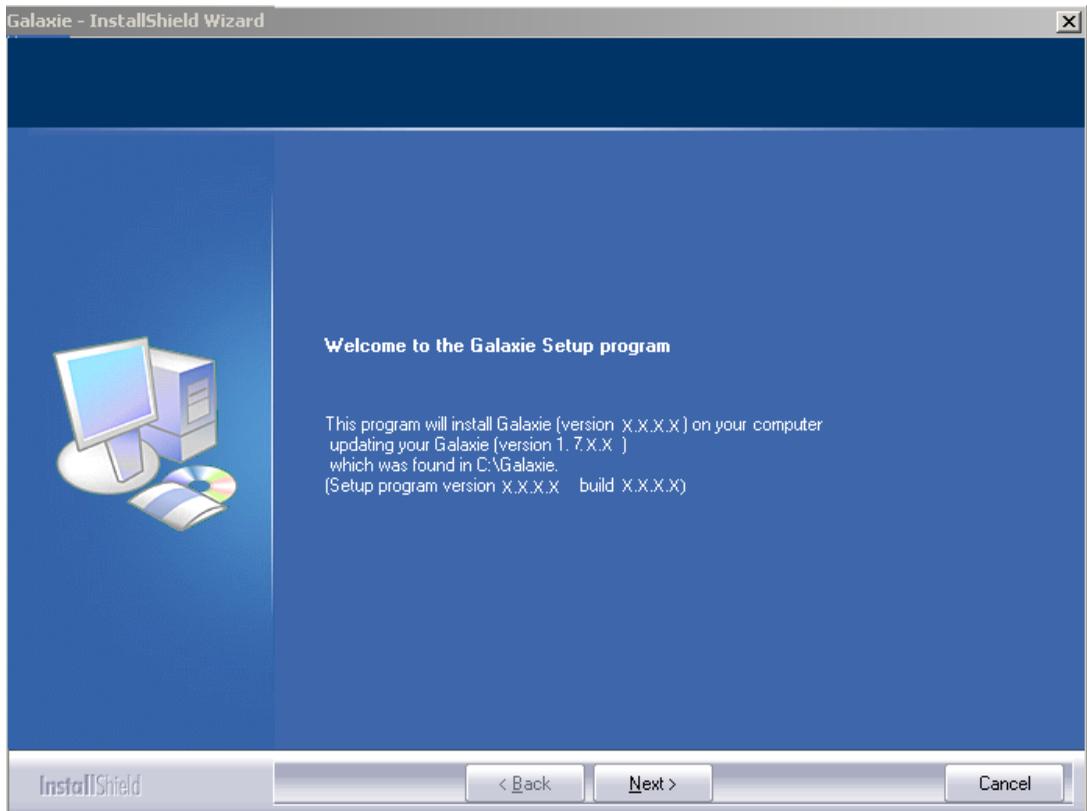


- The setup will now uninstall the previous Galaxie version.
- Reboot the server.
- Start the setup of Galaxie 1.9 again and install the new GALAXIE version.
- Reboot the server.
- The old database will be migrated during the restarting of the install.
- Reinstall the "BOOTPSERVER.CFG" file.
- Check the DCOM settings.
- Reboot the server.

Upgrade the Galaxie Client and Acquisition Server

- Backup the "DRIVERLIST.DDC" file.
- Backup the "\GALAXIE\SERVER\CFG" directory.

- If using BOOTP on the acquisition server save the following file "`\\WINNT\System32\BOOTPSERVER.CFG`" if using Windows 2000 or 2000 server or 2003 server "`\\WINDOWS\System32\BOOTPSERVER.CFG`" if using Windows XP.
- Start the setup of Galaxie 1.9. The Galaxie setup will detect the "old" Galaxie version (see below).



- The setup will now uninstall the previous Galaxie version.
- Reboot the computer.
- Start the setup of Galaxie 1.9 again and install the new GALAXIE version.
- Reboot the computer.
- Reinstall the "BOOTPSERVER.CFG" file.
- Check the DCOM settings.

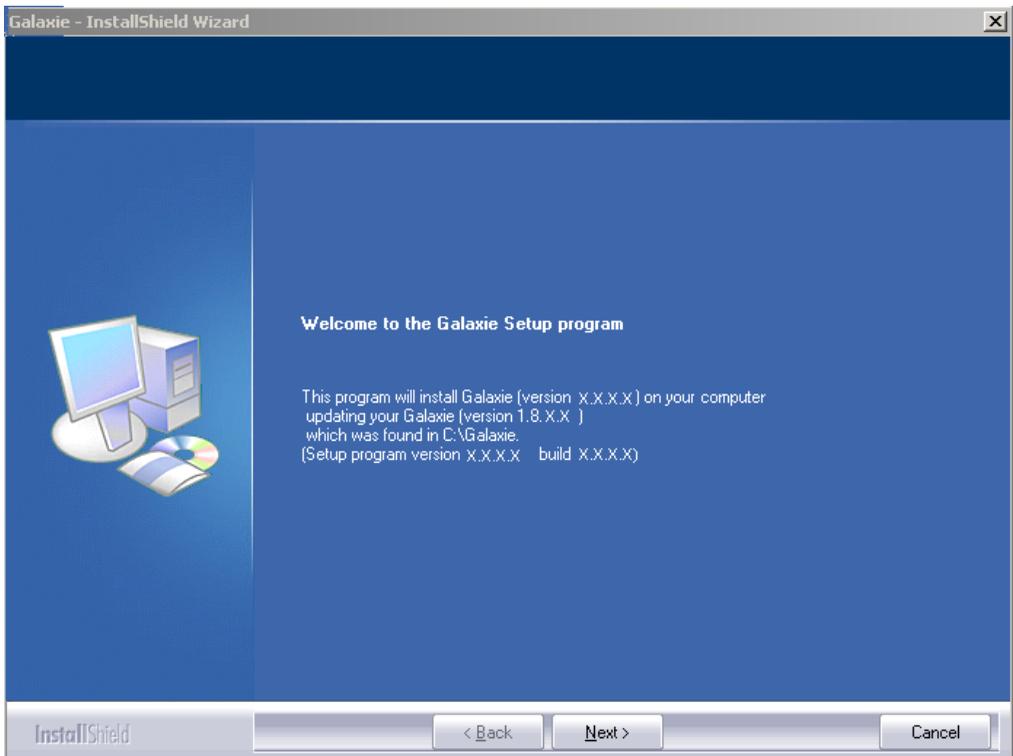
- Reboot the computer.

Upgrading Galaxie CDS Versions (since 1.8 Version)

This chapter will describe the steps to upgrade the different computers of the which Galaxie 1.8 versions is installed.

It is **MANDATORY** that the directory of the new Galaxie version is identical to the directory of the old Galaxie version, the ability to choose the Galaxie folder is then not provided when performing an upgrade.

Insert the new Galaxie version CD to install into your computer, start the setup of Galaxie 1.9. The Galaxie setup will detect the "old" Galaxie version (see below).



- The setup will perform the upgrade of Galaxie.
- Reboot the computer when asked.
- The installed is automatically completed after the reboot.

Upgrading Galaxie WS Versions (earlier than 1.8 Version) to Galaxie 1.9 standalone

This chapter will describe the steps to upgrade the different computers of the which Galaxie 1.7 WS version is installed. It is **MANDATORY** that the directory of the new Galaxie version is identical to the directory of the old Galaxie version, the ability to choose the Galaxie folder is then not provided when performing an upgrade.

Insert the new Galaxie version CD to install into your computer, start the setup of Galaxie 1.9. The Galaxie setup will detect the "old" Galaxie version.

- The setup will perform the upgrade of Galaxie.
- Reboot the computer when asked.
- The installed is automatically completed after the reboot.

Upgrading Galaxie WS Versions (since 1.8 Version) to Galaxie 1.9 standalone

This chapter will describe the steps to upgrade the different computers of the which Galaxie 1.8 versions is installed.

It is **MANDATORY** that the directory of the new Galaxie version is identical to the directory of the old Galaxie version, the ability to choose the Galaxie folder is then not provided when performing an upgrade.

Stop the Nexus DB server service on the PC and backup all the *.nx1 tables of the CMDData directory.

Uninstall Galaxie WS 1.8: Start the Galaxie WS 1.8 setup and select the Remove all option. The setup will now uninstall the version and reboot the computer when it is asked.

Start the setup of Galaxie 1.9 and install the new GALAXIE Version 1.9 (select the 'Galaxie standalone' option and the folder where Galaxie was previously installed during the setup).

Reboot the computer.

Stop the Nexus DB server service

Copy all files previously saved: In the Galaxie/server/CMDData directory: all *.nx1 files **EXCEPT** the following ones: Products.nx1, Rights.nx1, AdminRights.nx1, RightsCategories.nx1, LancelotParameters.nx1 and AdminRightCategories.nx1

Station Configuration

After the Galaxie installation, it is **necessary to set the DCOMs settings**.

A Diagnosis tool is provided to set them automatically. The setup of this tool is available on the Master CD, in the **Tools & Utilities\Galaxie Diagnosis\Setup** folder. To install this tool, please refer to the Diagnosis tool documentation, available in **Tools & Utilities\Galaxie Diagnosis**.

DCOM Configuration under Windows 2000

Connect under the Windows session as a local administrator, in the **START** menu, in the **RUN** part enter **DCOMCNFG**, and configure the following settings

A window is opened with four tabs.

Applications
Default Properties
Default Security
Default Protocols

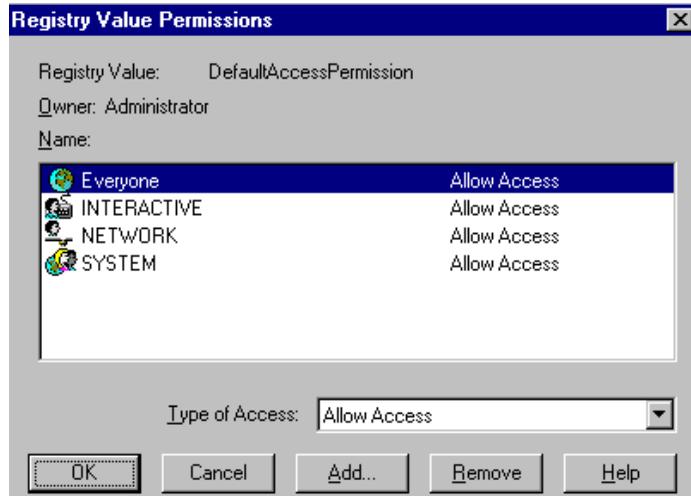
Select the **Default Security** tab. The following screen is displayed:



For each permission, click on the *Edit Default* button, to access the configuration windows. Click next on the *Add* and select the following rights.

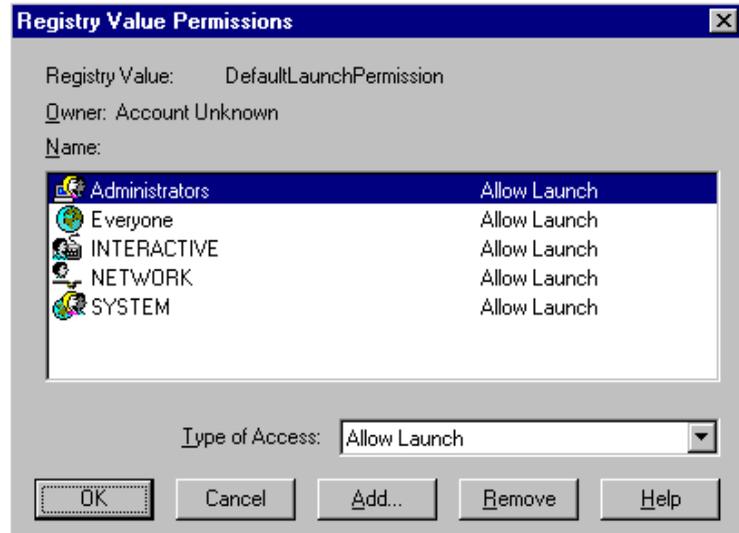
Default Access permissions:

INTERACTIVE	Allow Access
NETWORK	Allow Access
SYSTEM	Allow Access
EVERYONE	Allow Access



Default Launch Permissions:

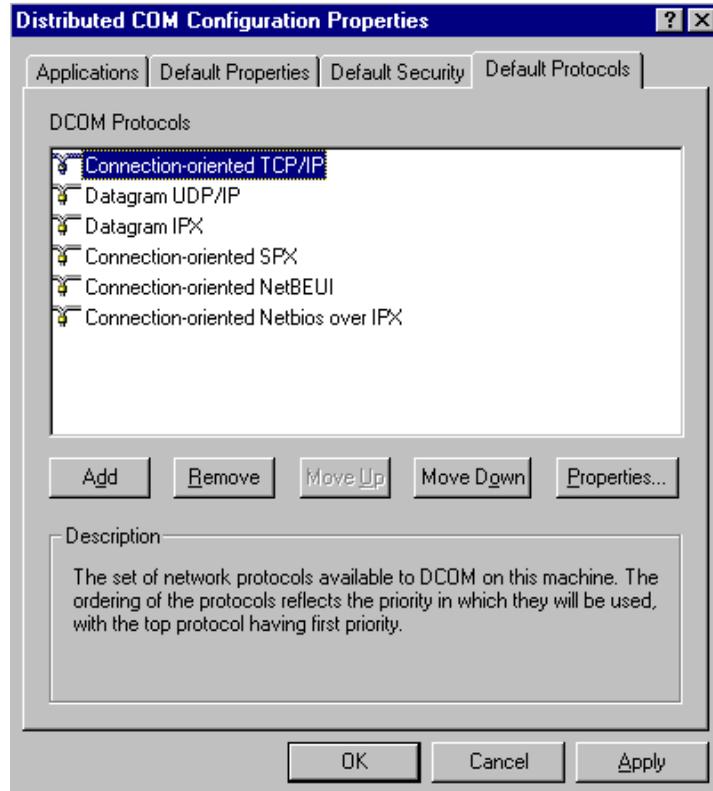
INTERACTIVE	Allow Launch
NETWORK	Allow Launch
SYSTEM	Allow Launch
EVERYONE	Allow Launch



Once the rights are configured, select *Apply* in the **Default Security** tab to apply the modifications.

NOTE: Everyone is used as an example. It can be replaced by the standard Windows 2000 group of the standard users.

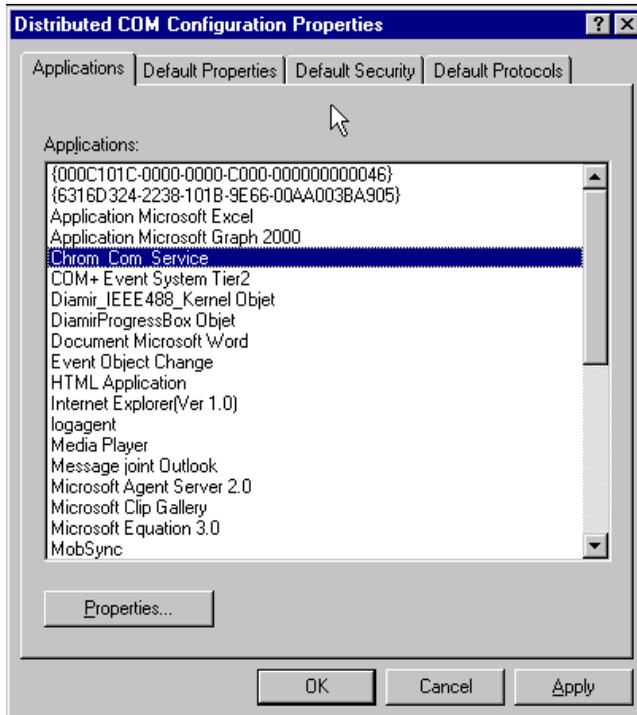
Select the **Default Protocols** tab:



Select Connection-oriented TCP/IP and define it in the first position thanks to the *Move up* button.

NOTE: The Datagram UDP/IP item is not present when Windows 2000/XP is used.

Select the **Applications** tab.



For each following applications, configure the appropriate Permissions:

- Acquisition & Control Communication Service
- Acquisition & Control Manager
- AcqManDiamirSide Object
- External Sequence Manager
- Interface Service
- QuickStart Engine
- QuickStart Manager
- SequenceAuto Object
- W2AutomationEngine object (Important: this DCOM object has to be started as user INTERACTIVE in the tab *Identity* of its properties)

Select each application with a double click. In the opened window select the **Security** tab and select the *Default Permissions* for the three types of permissions.

Click on the *Apply* button to apply the modifications.

DCOM Configuration Under Windows 2000 Server

Connect under the Windows session as a local administrator, in the **START** menu, in the **RUN** part enter **DCOMCNFG**, and configure the following settings

A window is opened with four tabs.

Applications
Default Properties
Default Security
Default Protocols

Select the **Default Security** tab. The following screen is displayed:



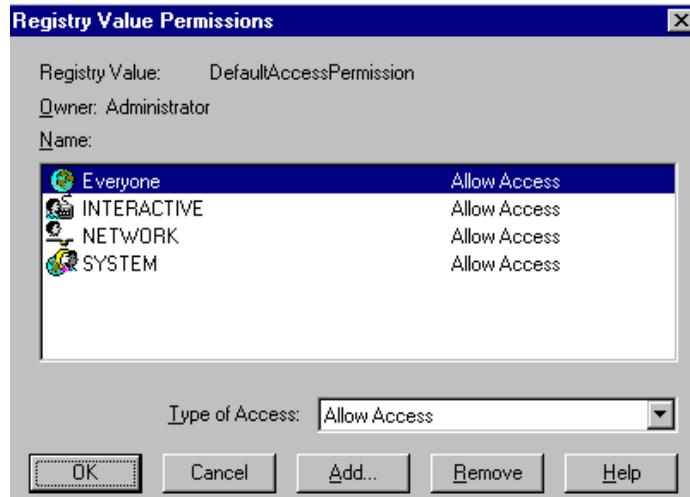
For each permission, click on the *Edit Default* button, to access the configuration windows. Click next on the *Add* and select the following rights.

Default Access permissions:

INTERACTIVE

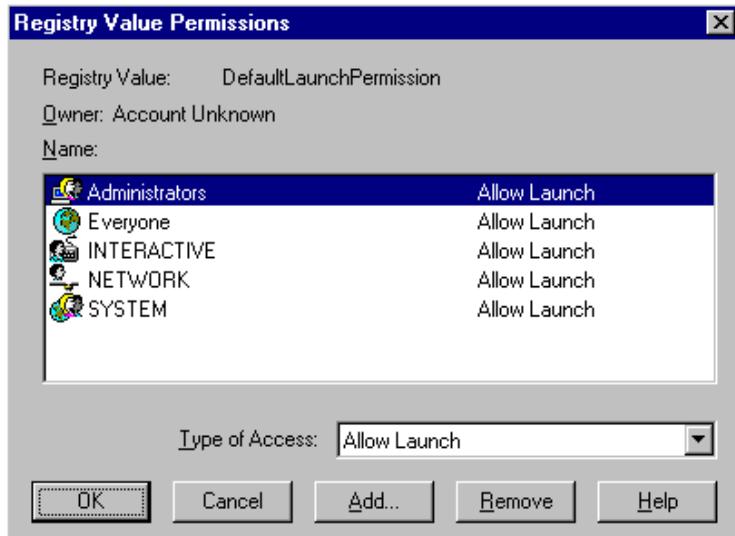
Allow Access

NETWORK	Allow Access
SYSTEM	Allow Access
EVERYONE	Allow Access



Default Launch Permissions:

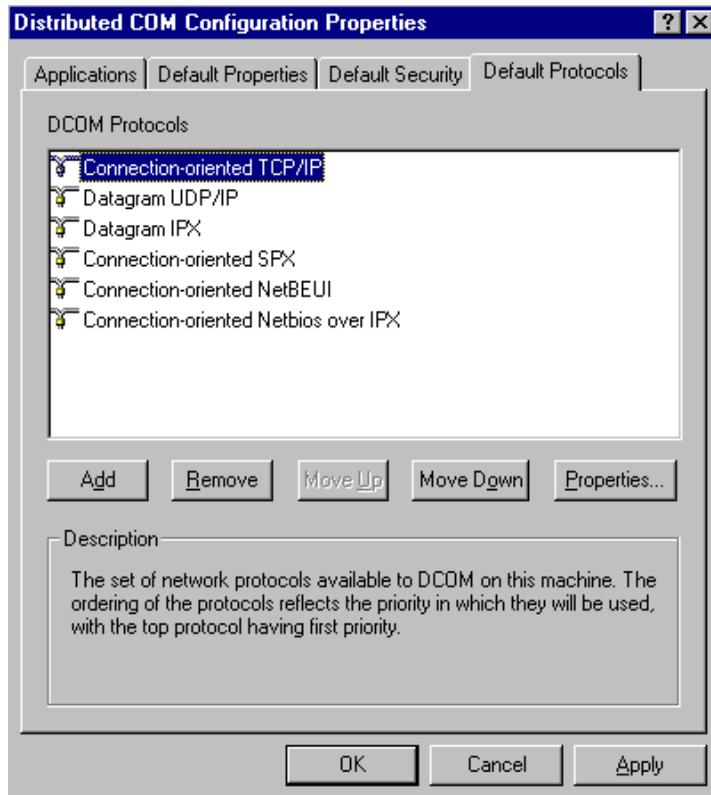
INTERACTIVE	Allow Launch
NETWORK	Allow Launch
SYSTEM	Allow Launch
EVERYONE	Allow Launch



Once the rights are configured, select *Apply* in the **Default Security** tab to apply the modifications.

NOTE: Everyone is used as an example. It can be replaced by the standard Windows 2000 group of the standard users.

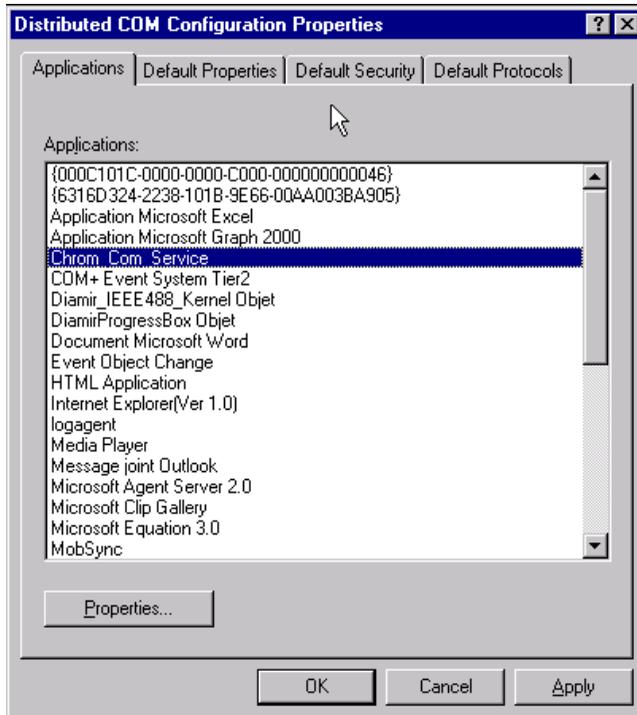
Select the **Default Protocols** tab:



Select Connection-oriented TCP/IP and define it in the first position thanks to the *Move up* button.

NOTE: The Datagram UDP/IP item is not present when Windows 2000/XP is used.

Select the ***Applications*** tab.



For each following applications, configure the appropriate Permissions:

- Acquisition & Control Communication Service
- Acquisition & Control Manager
- AcqManDiamirSide Object
- External Sequence Manager
- Interface Service
- QuickStart Engine
- QuickStart Manager
- SequenceAuto Object
- W2AutomationEngine object (Important: this DCOM object has to be started as user INTERACTIVE in the tab *Identity* of its properties)

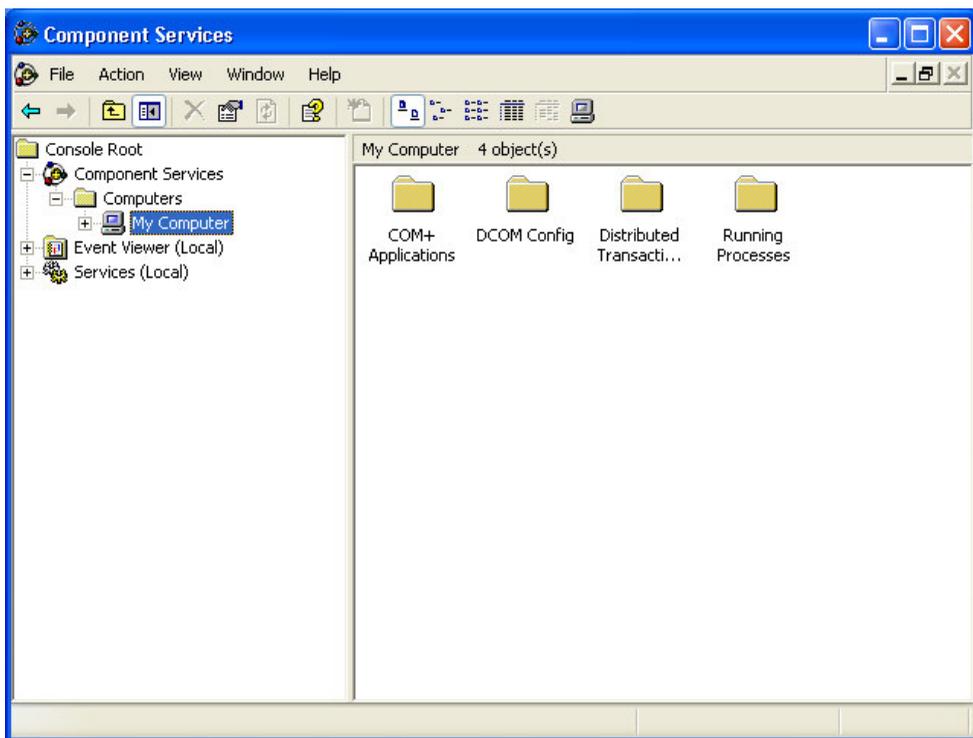
Select each application with a double click. In the opened window select the **Security** tab and select the *Default Permissions* for the three types of permissions.

Click on the *Apply* button to apply the modifications.

DCOM Configuration Under Windows XP SP1

Connect under the Windows session as a local administrator in the **START** menu, in the **RUN** part enter **DCOMCNFG**.

The following window is opened:

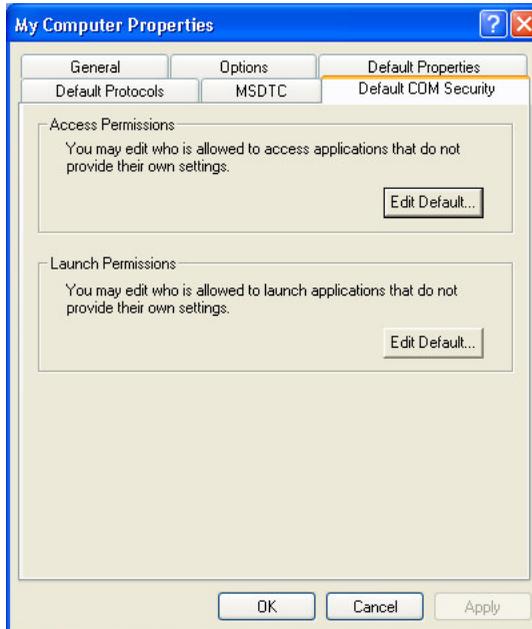


Right click on *My Computer* and select Properties.

A window is opened with six tabs:

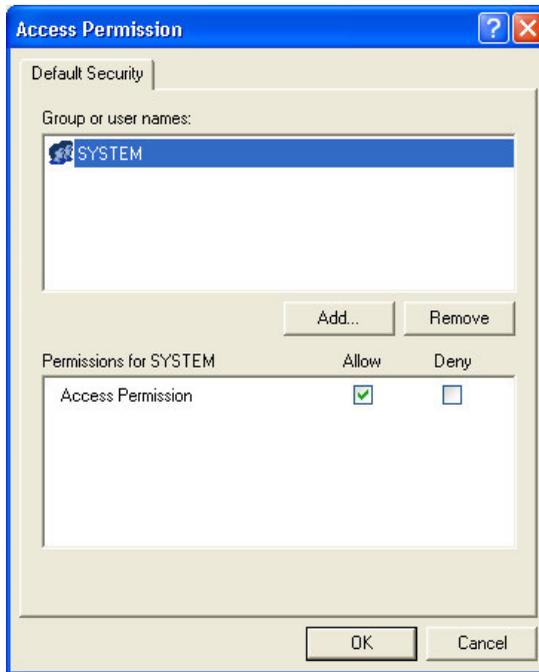
General
Options
Default Properties
Default COM Security
MSDTC
Default Protocols

Select the **Default COM Security** tab. The following screen is displayed:

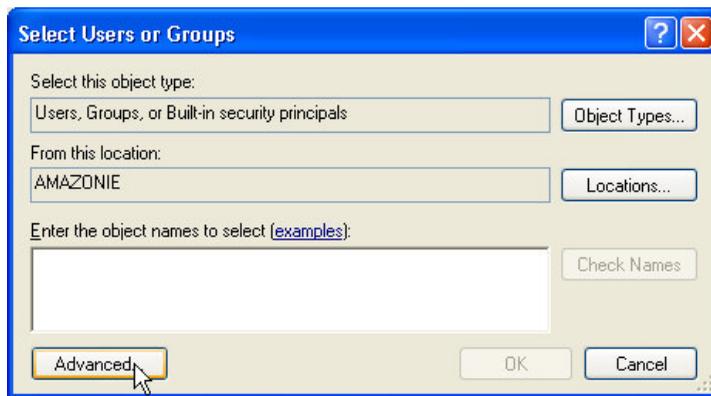


For the Access permission,

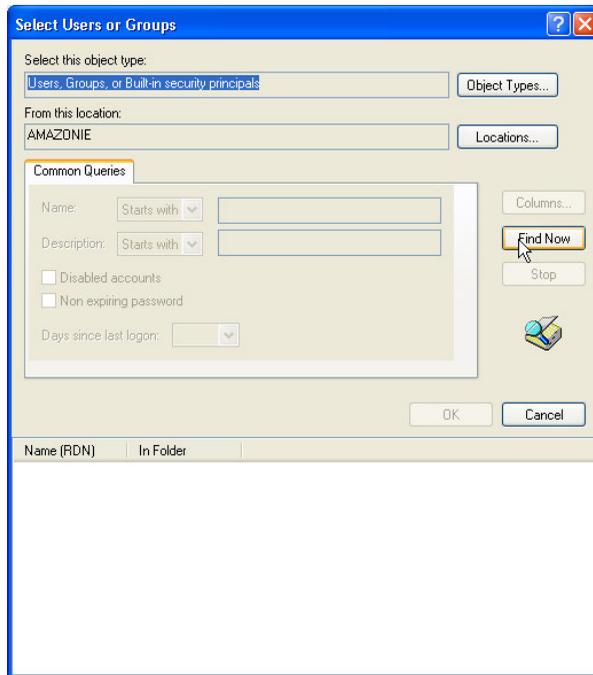
1. Click on the *Edit Default* button, to access the configuration windows (see below).



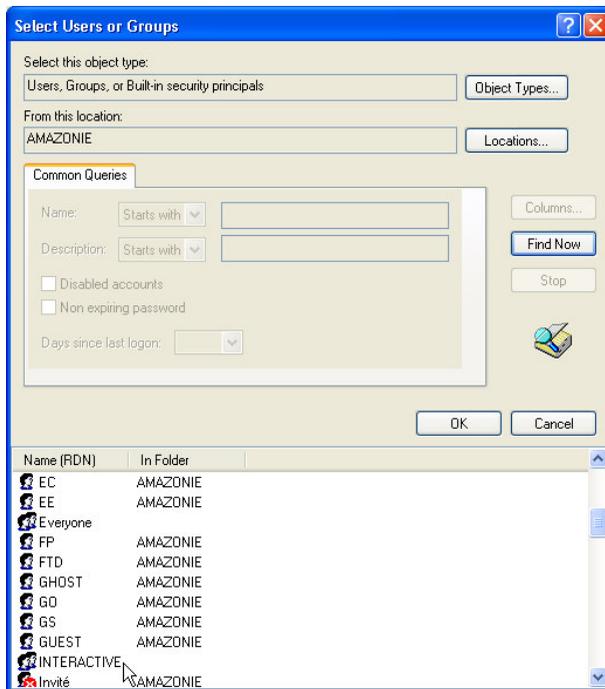
2. Click then on the *Add* button, the following window is displayed.



3. Click then on *Advanced*, the following window will then be displayed.



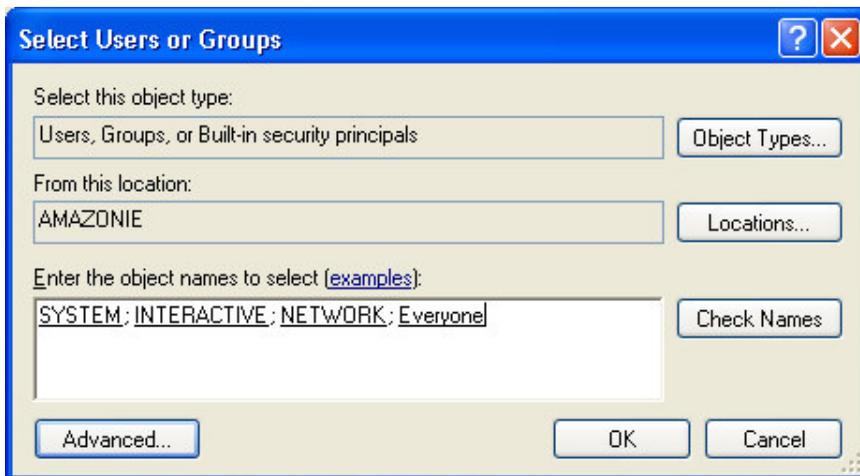
4. Click on the *Find Now* button to display the available permissions.



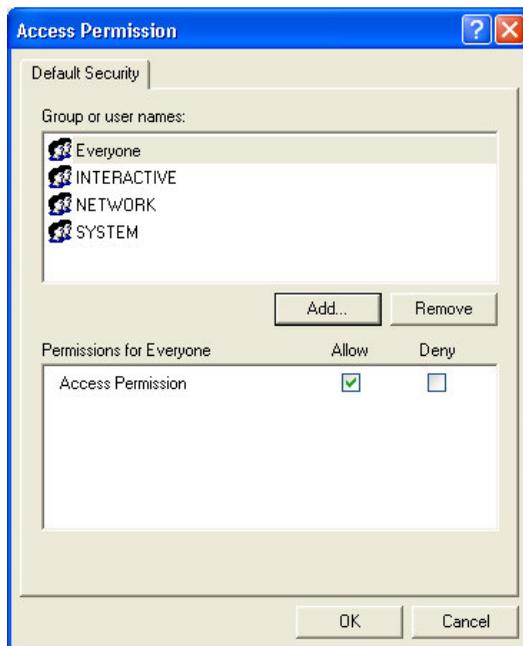
5. Select INTERACTIVE and press OK.

Repeat the steps 3 to 5 to add *NETWORK; SYSTEM; EVERYONE*.

The following screen should then be displayed.



Click on *OK* and the Access Permissions should be configured as below.

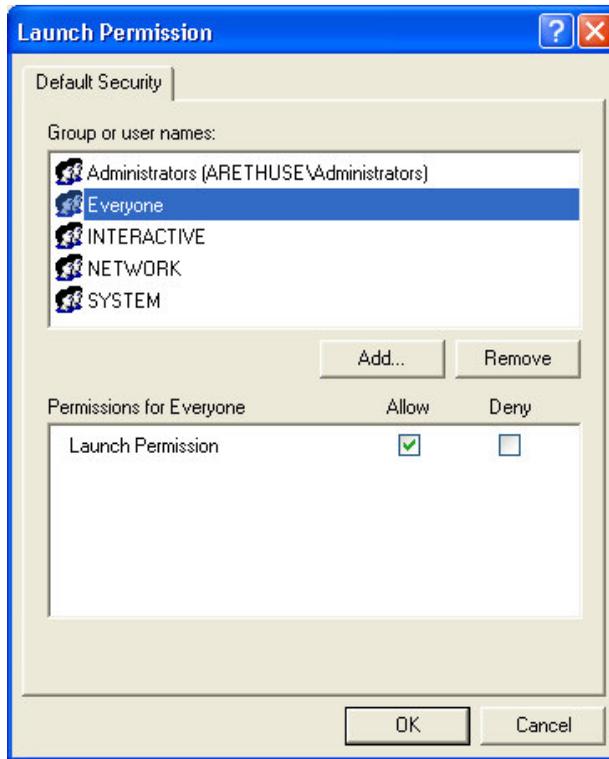


Default Access permissions:

- INTERACTIVE Allow Access
- NETWORK Allow Access
- SYSTEM Allow Access
- Everyone Allow Access

For the Launch permission, do the same as for the Access Permission.

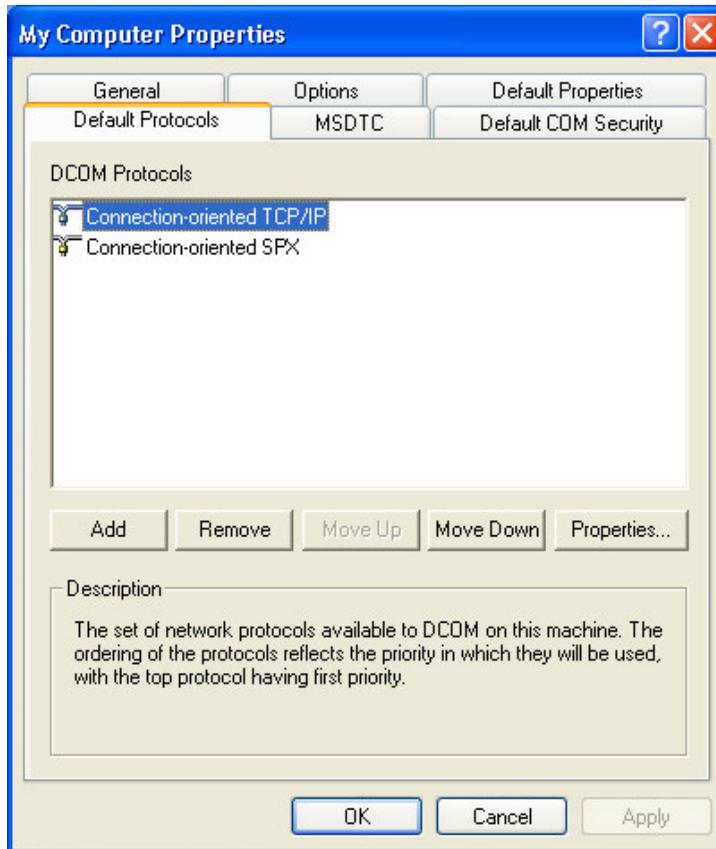
The Launch permission should be set as below.



Default Launch Permissions:

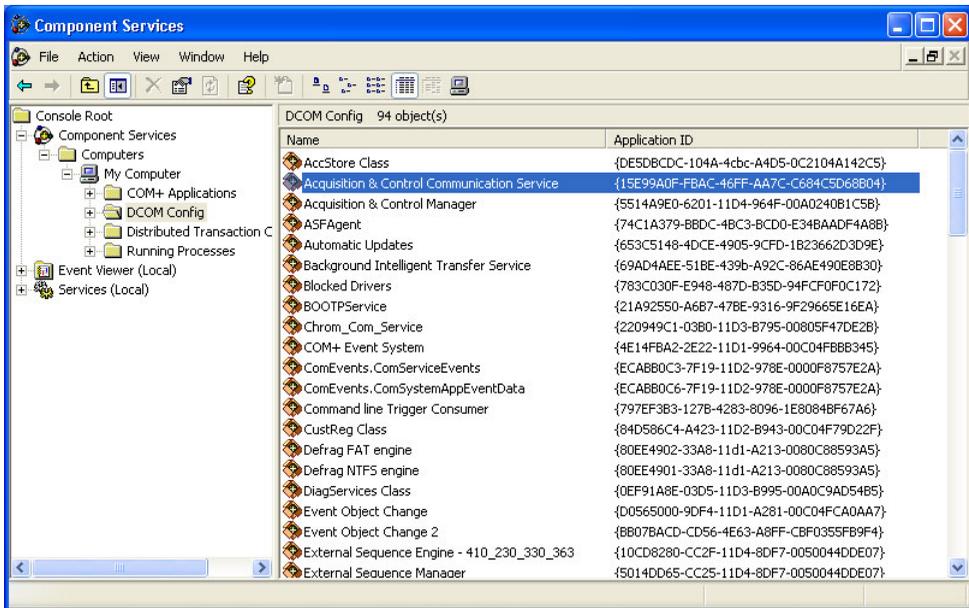
- INTERACTIVE Allow Launch
- NETWORK Allow Launch
- SYSTEM Allow Launch
- Everyone Allow Launch

Select the **Default Protocols** tab:



Select Connection-oriented TCP/IP and define it in the first position using the *Move up* button.

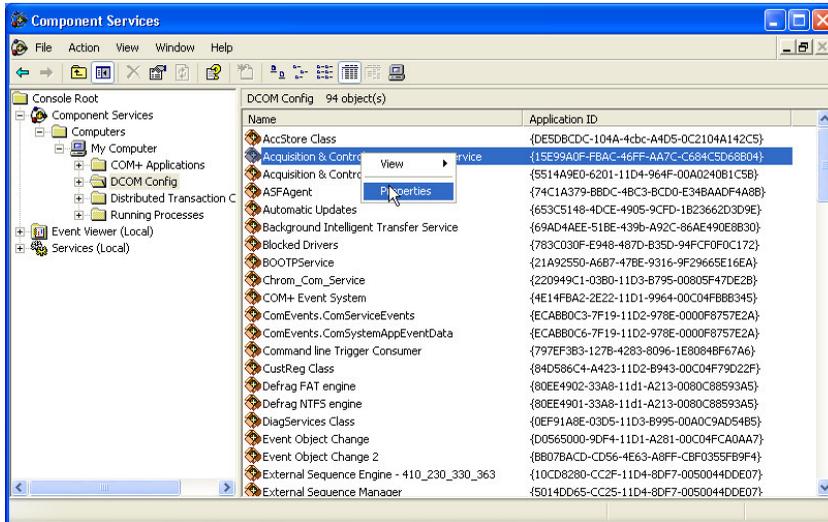
Close the Computer Properties and select *DCOM config* as in the following window.



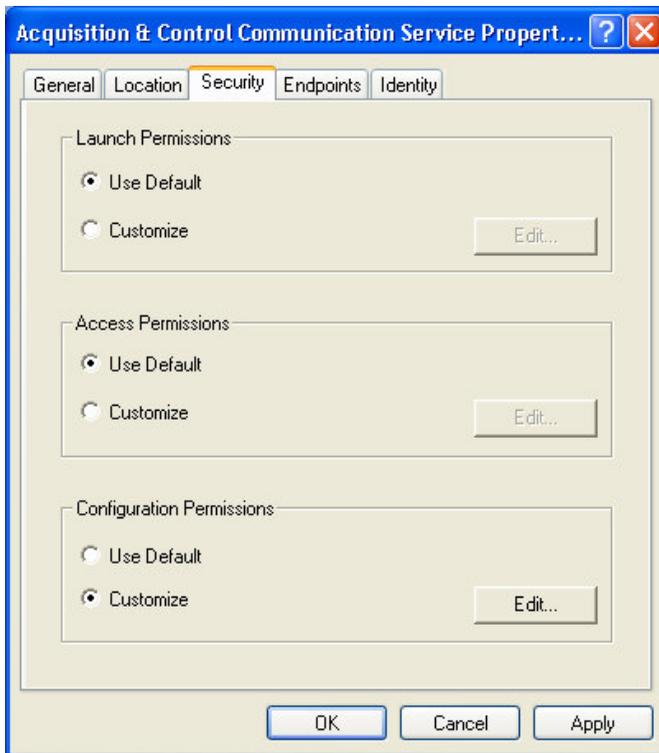
For each following applications, configure the appropriate Permissions:

- Acquisition & Control Communication Service
- Acquisition & Control Manager
- External Sequence manager
- Interface Service
- QuickStart Engine
- QuickStart Manager
- Sequenceauto object or {38425FD5-F403-11D3-9246-0050044DDE07}
- W2AutomationEngine object or {F1F76A40-9B57-49DC-B7E2-92AF5039F4AC}
- AcqManDiamirSide object or {4CDCE86D-C1CC-11D2-BEBD-00A0247B21AC}

Select each application properties with a right click.



In the opened window select the **Security** tab and select the **Default Permissions** for the first two types of permissions (Access and Launch).

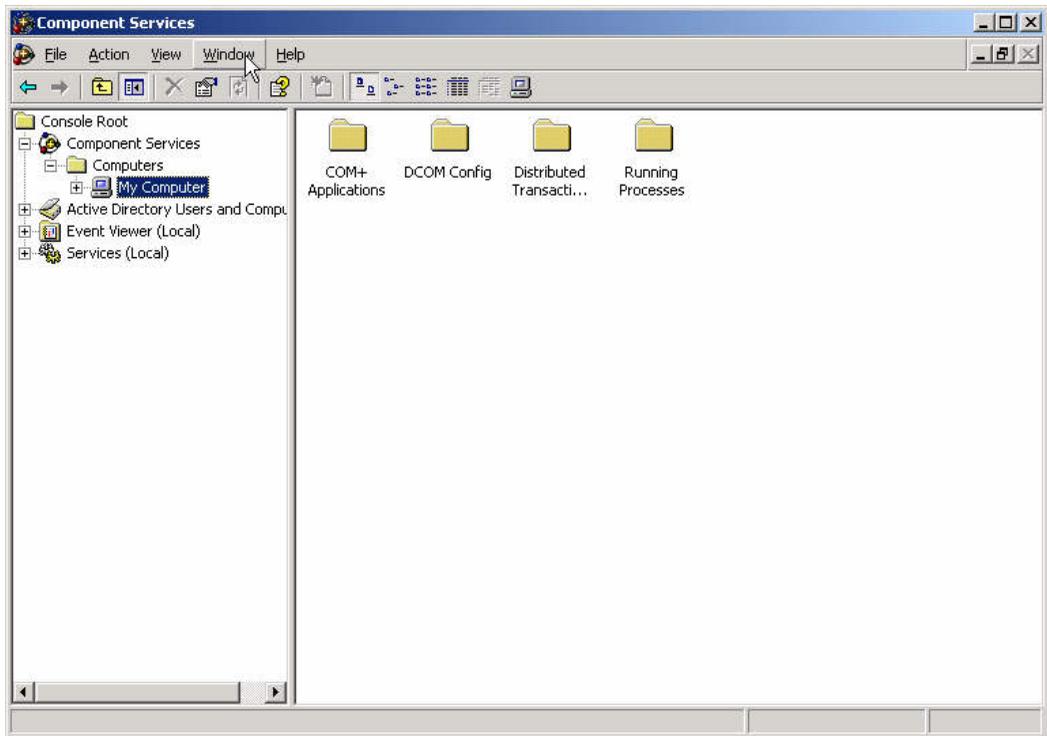


Click on the *Apply* button to apply the modifications for each application.

DCOM Configuration Under Windows 2003 Server

Connect under the Windows session as a local administrator in the **START** menu, in the **RUN** part enter **DCOMCNFG**.

The following window is opened:

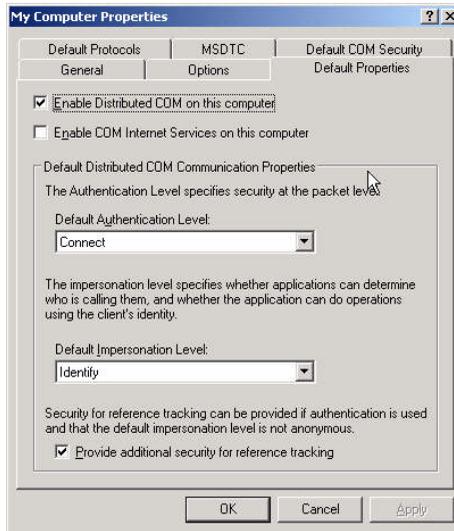


Right click on *My Computer* and select Properties.

A window is opened with six tabs:

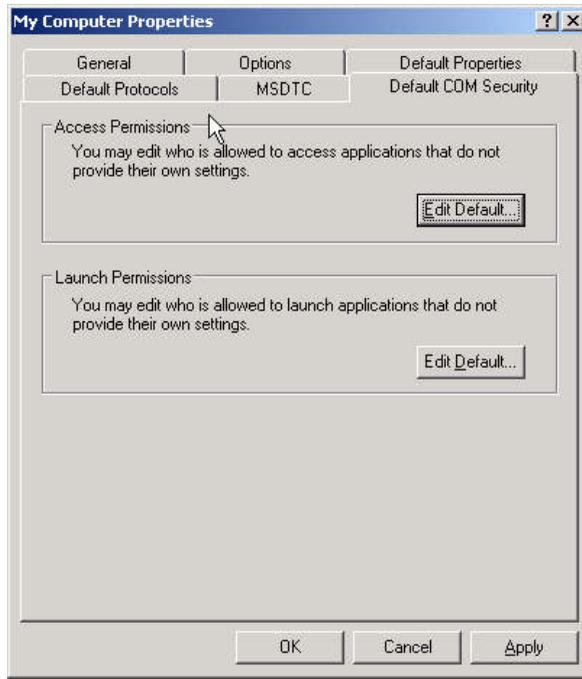
- General
- Options
- Default Properties
- Default COM Security
- MSDTC
- Default Protocols

Select the **Default Properties** tab. The following screen is displayed:



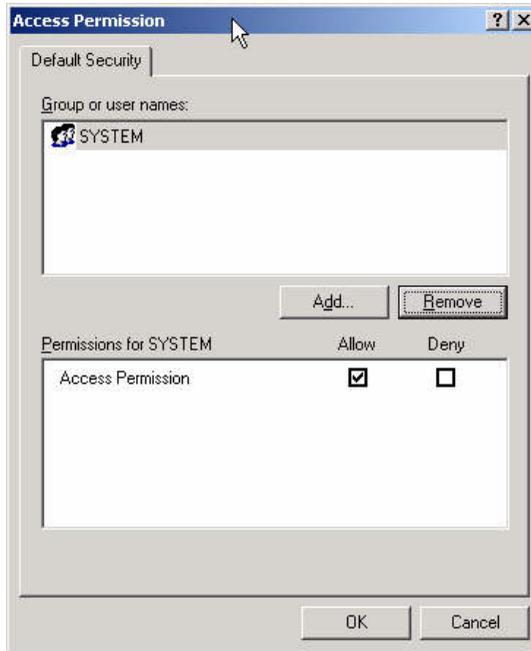
Make sure that the check box *Provide additional security for reference tracking* is checked.

Select the **Default COM Security** tab. The following screen is displayed:

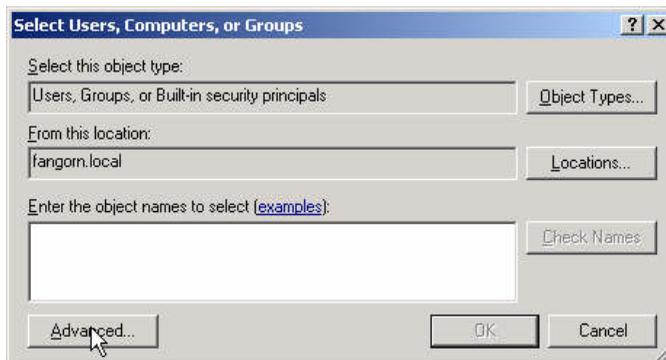


For the Access permission,

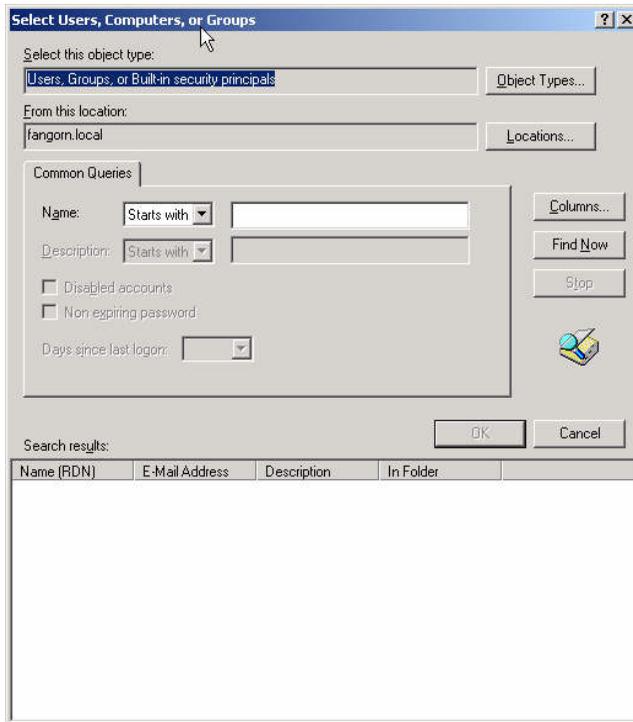
6. Click on the *Edit Default* button, to access the configuration windows (see below).



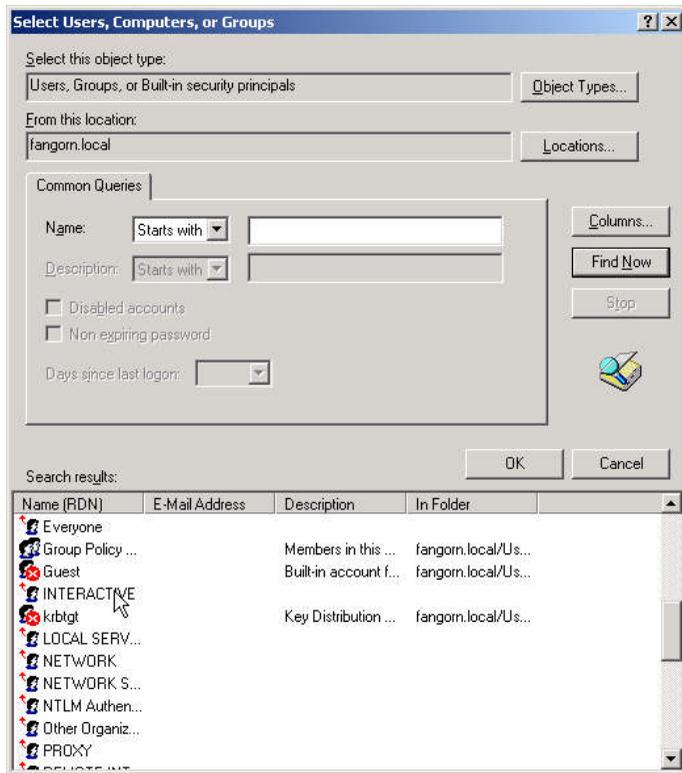
7. Click then on the *Add* button, the following window is displayed.



8. Click then on *Advanced*, the following window will then be displayed.



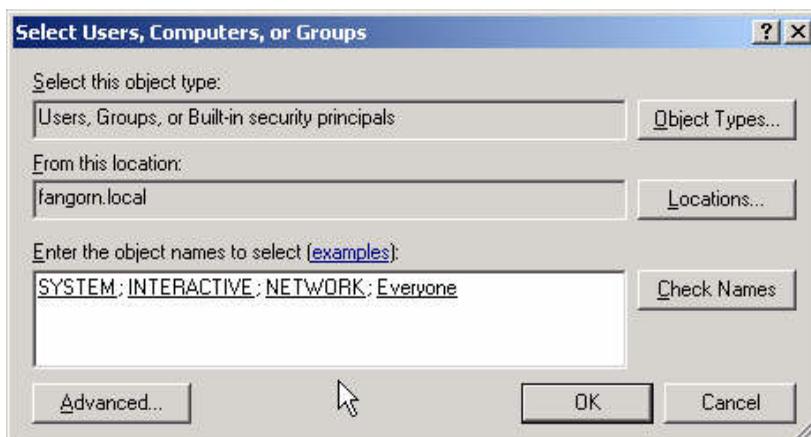
9. Click on the *Find Now* button to display the available permissions.



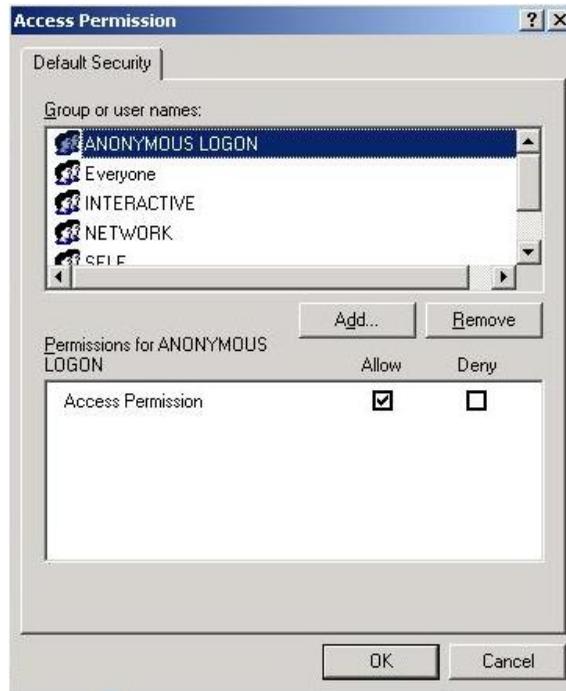
10. Select INTERACTIVE and press OK.

Repeat the steps 3 to 5 to add *NETWORK*; *SYSTEM*; *EVERYONE*.

The following screen should then be displayed.



Click on *OK* and the Access Permissions should be configured as below.

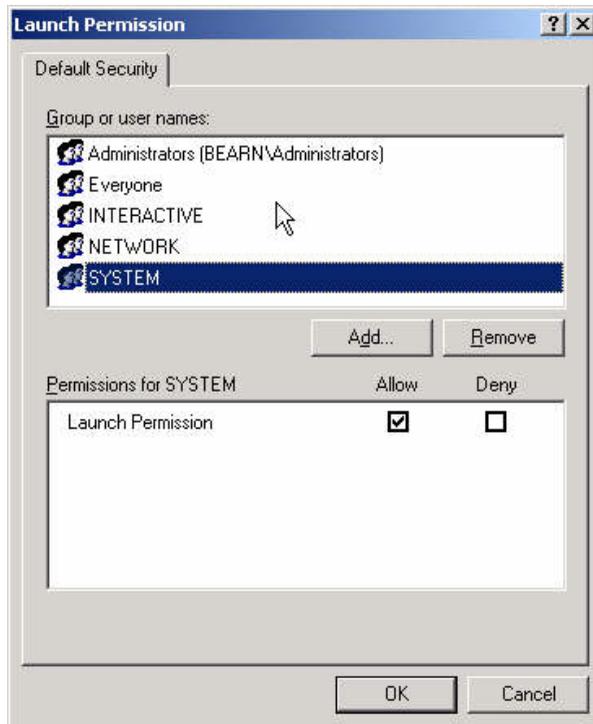


Default Access permissions:

- INTERACTIVE Allow Access
- NETWORK Allow Access
- SYSTEM Allow Access
- Everyone Allow Access
- Anonymous LOGON Allow Access

For the Launch permission, do the same as for the Access Permission without the Anonymous Logon permission.

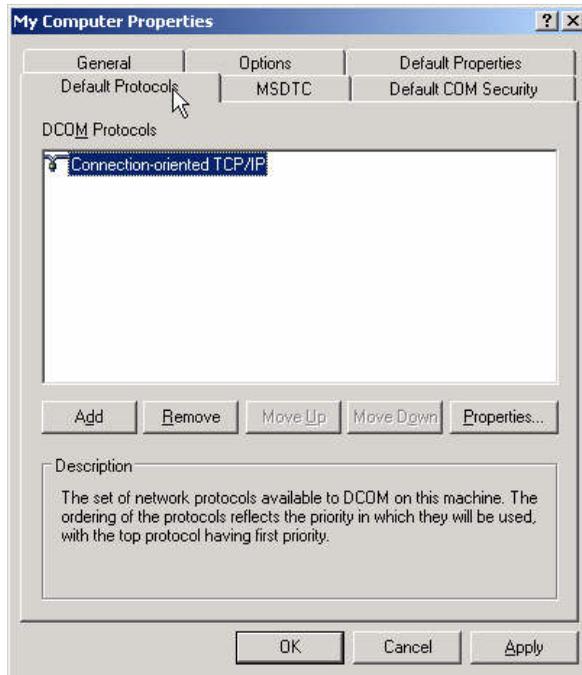
The Launch permission should be set as below.



Default Launch Permissions:

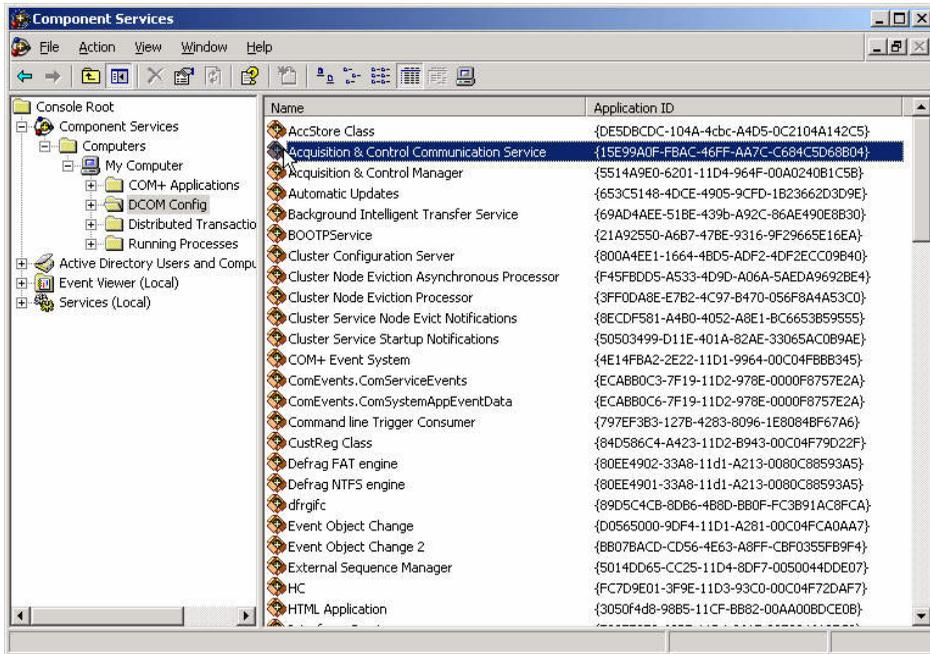
- INTERACTIVE Allow Launch
- NETWORK Allow Launch
- SYSTEM Allow Launch
- Everyone Allow Launch

Select the **Default Protocols** tab:



Select Connection-oriented TCP/IP and define it in the first position using the *Move up* button.

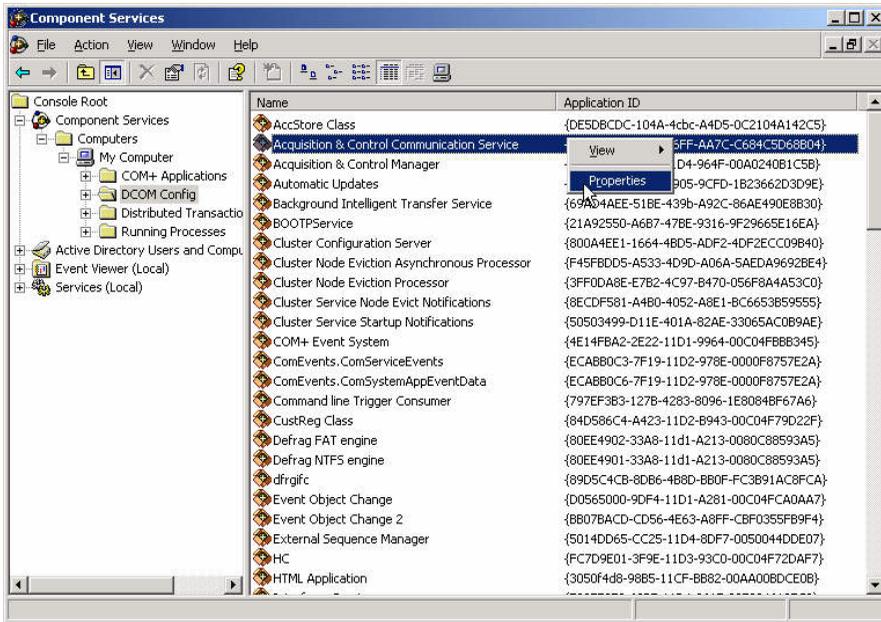
Close the Computer Properties and select *DCOM config* as in the following window.



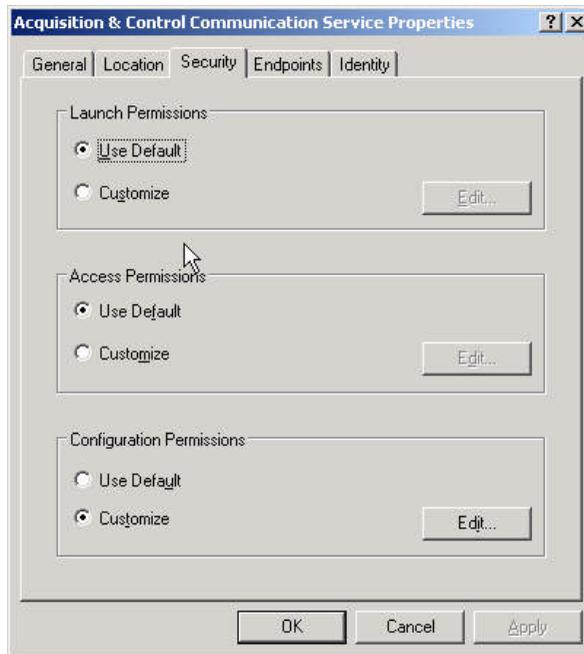
For each following applications, configure the appropriate Permissions:

- Acquisition & Control Communication Service
- Acquisition & Control Manager
- External Sequence manager
- Interface Service
- QuickStart Engine
- QuickStart Manager
- Sequenceauto object or {38425FD5-F403-11D3-9246-0050044DDE07}
- W2AutomationEngine object or {F1F76A40-9B57-49DC-B7E2-92AF5039F4AC}
- AcqManDiamirSide object or {4CDCE86D-C1CC-11D2-BEBD-00A0247B21AC}

Select each application properties with a right click.



In the opened window select the **Security** tab and select the *Default Permissions* for the first two types of permissions (Access and Launch).



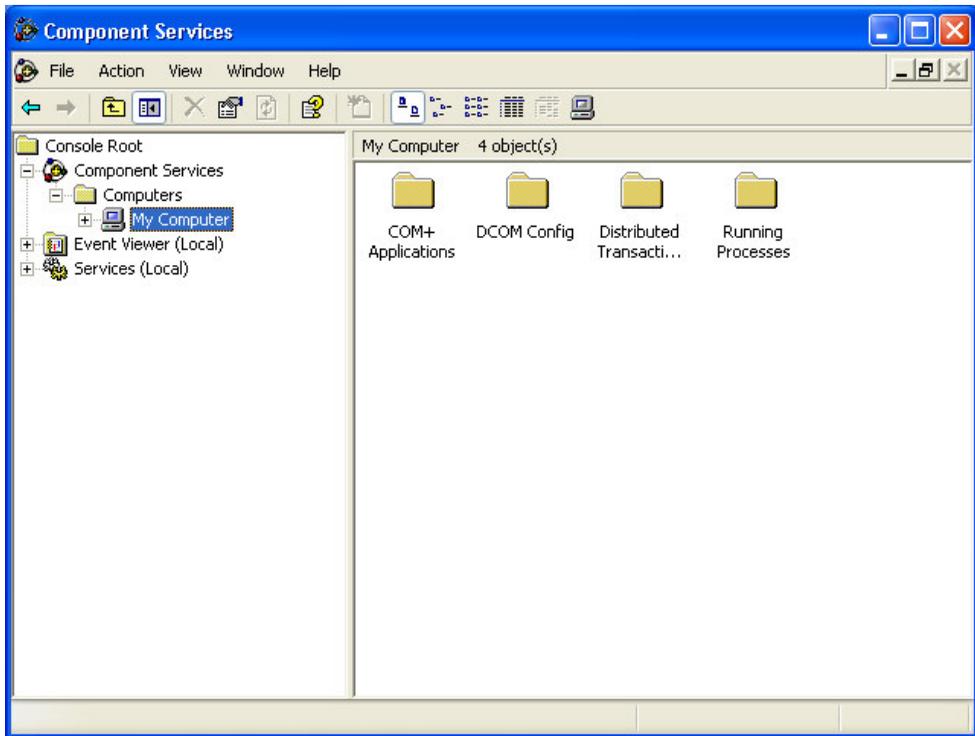
Click on the *Apply* button to apply the modifications for each application.

DCOM Configuration Under Windows XP SP2, Windows 2003 Server SP1 and Windows Vista (Enterprise & Business)

Please find below the procedure to configure DCOM under Windows XP SP2, Windows 2003 Server SP1 and Windows Vista. Screenshots are made under Windows XP SP2 but they are the same under 2003 server SP1.

Connect under the Windows session as a local administrator in the **START** menu, in the **RUN** part enter **DCOMCNFG**.

The following window is opened:

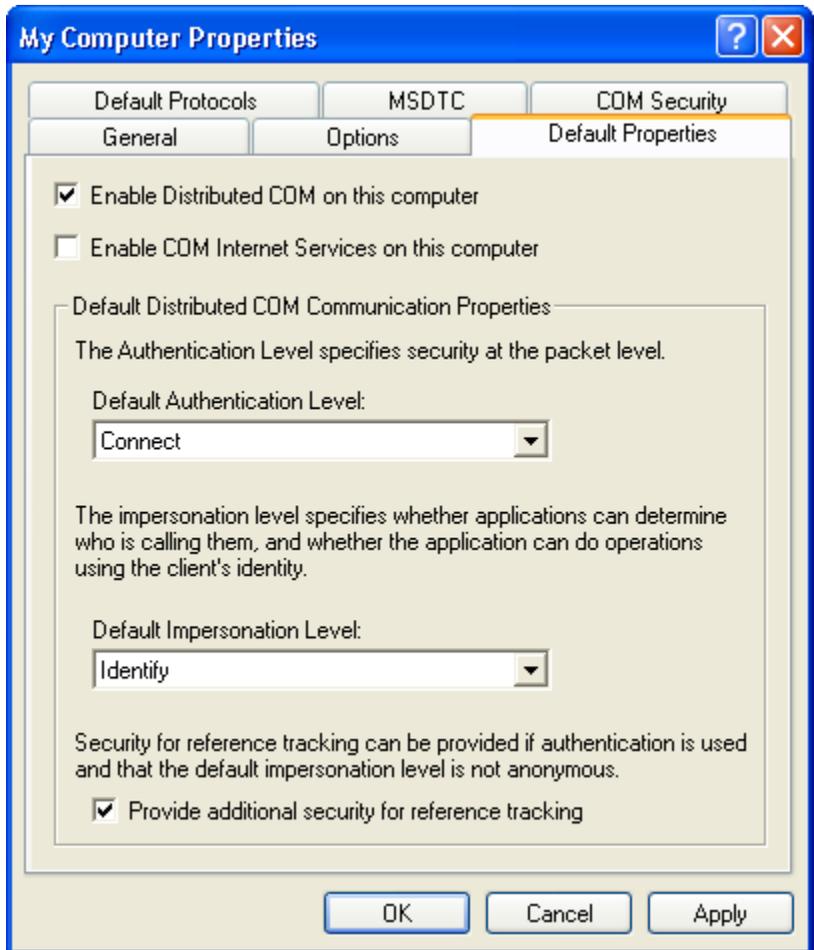


Right click on *My Computer* and select Properties.

A window is opened with 6 tabs:

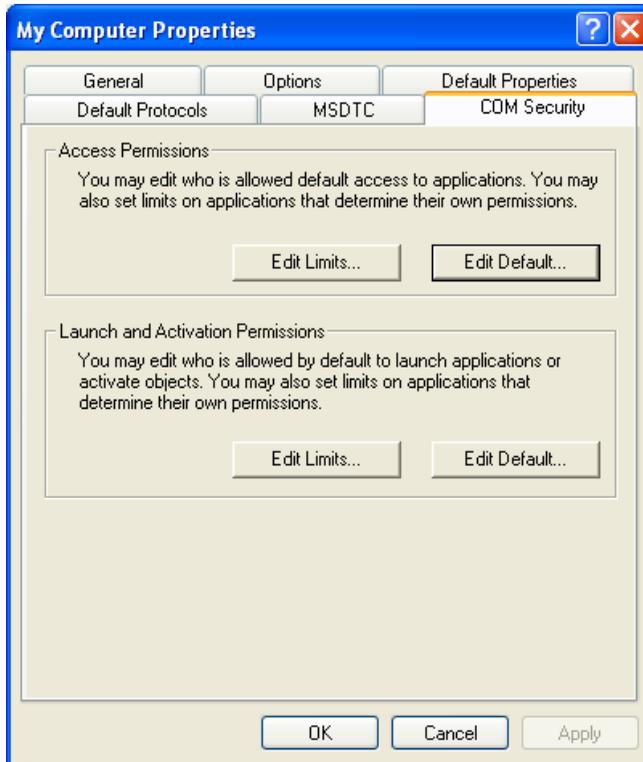
- General
- Options
- Default Properties
- Default COM Security
- MSDTC
- Default Protocols

Select the **Default Properties** tab. The following screen is displayed:



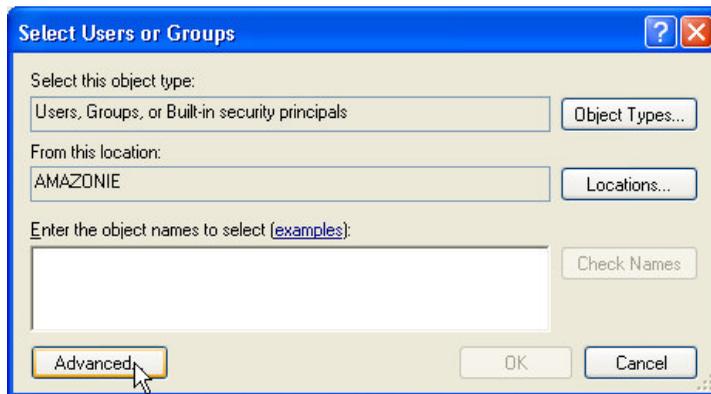
Verify that *Enable Distributed COM on this computer* and *Provide additional security for reference tracking* boxes are checked.

Select the **Default COM Security** tab. The following screen is displayed:

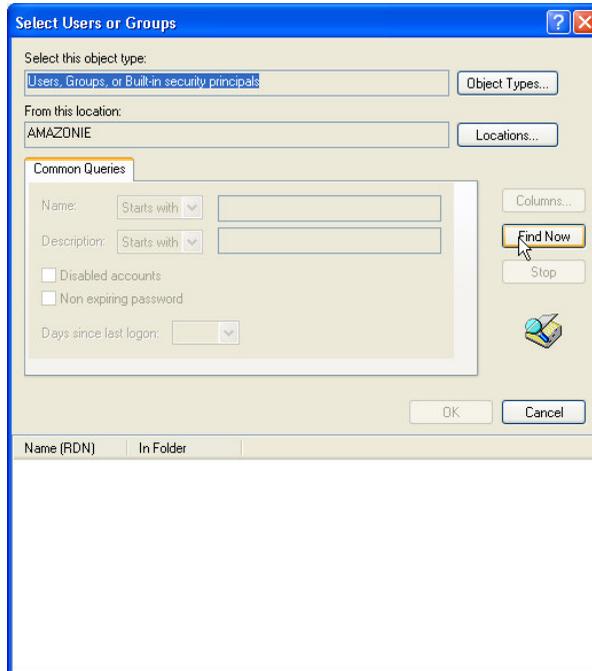


For the Default Access permission,

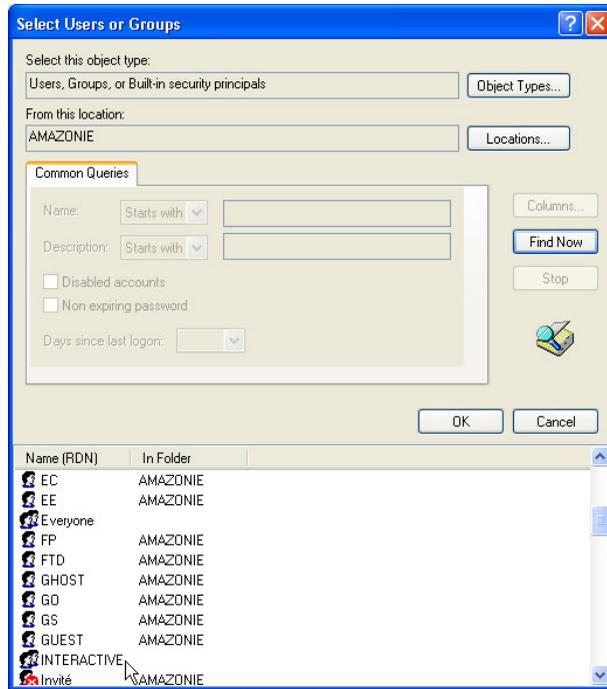
1. Click on the *Edit Default* button, to access the configuration windows.
2. Click then on the *Add* button, the following window is displayed.



3. Click on *Advanced*, the following window will be displayed.



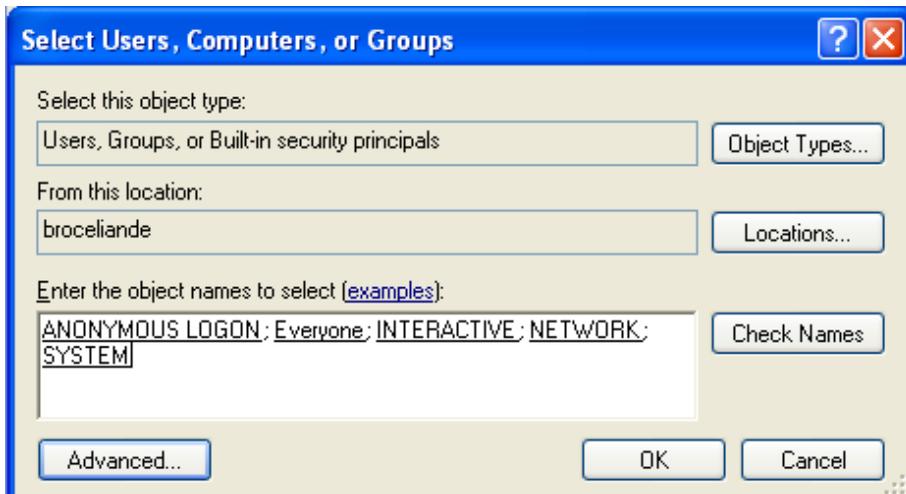
4. Click on the *Find Now* button to display the available permissions.



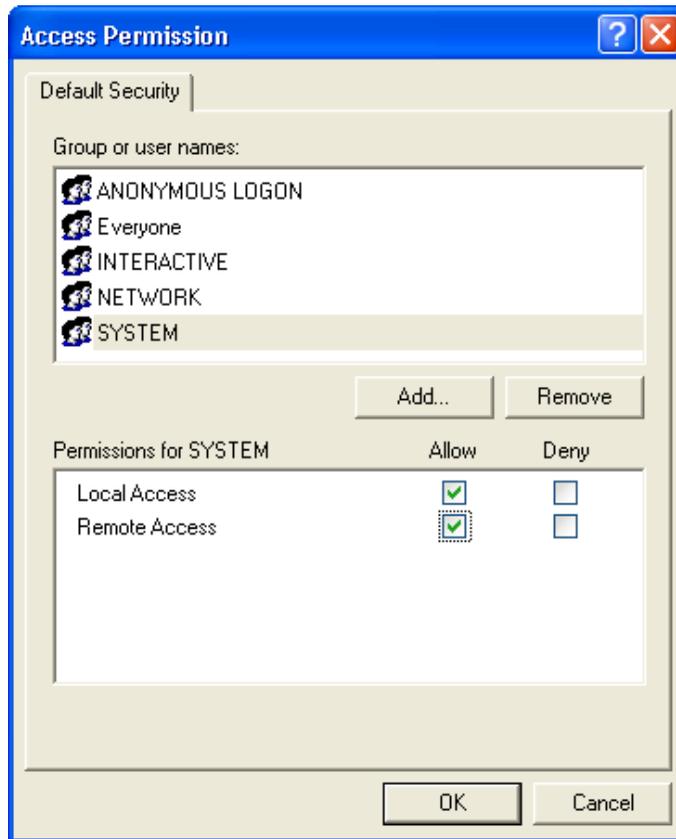
5. Select INTERACTIVE and press OK.

Repeat the steps 3 to 5 to add *NETWORK*; *SYSTEM*; *EVERYONE*, *ANONYMOUS LOGON*.

The following screen should then be displayed.



Click on *OK* and the Access Permissions should be configured as below.

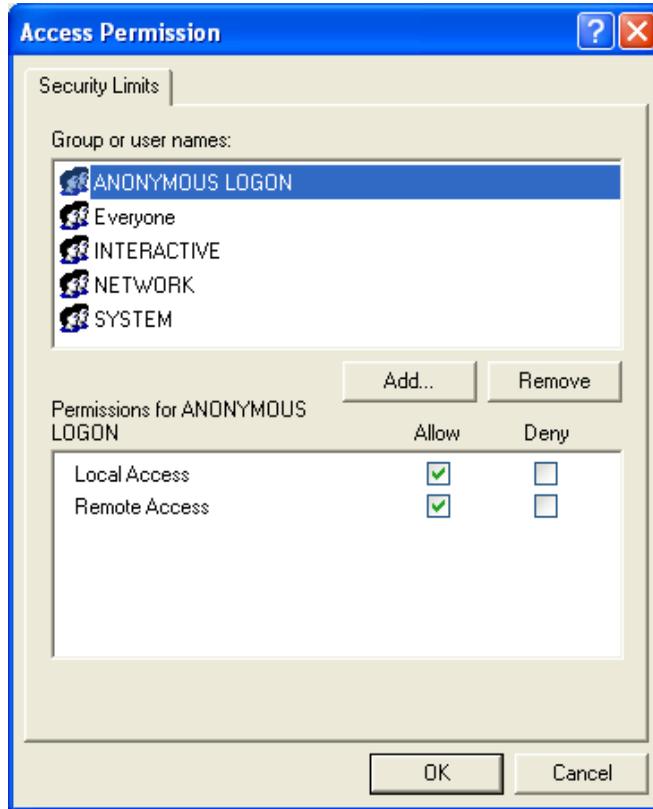


Default Access permissions:

- ANONYMOUS LOGON Allow Local Access
 Allow Remote Access
- INTERACTIVE Allow Local Access
 Allow Remote Access
- NETWORK Allow Local Access
 Allow Remote Access
- SYSTEM Allow Local Access
 Allow Remote Access
- Everyone Allow Local Access
 Allow Remote Access

For the Limits Access permission, do the same as for the Default Access Permission.

The Limits Access permission should be set as below.

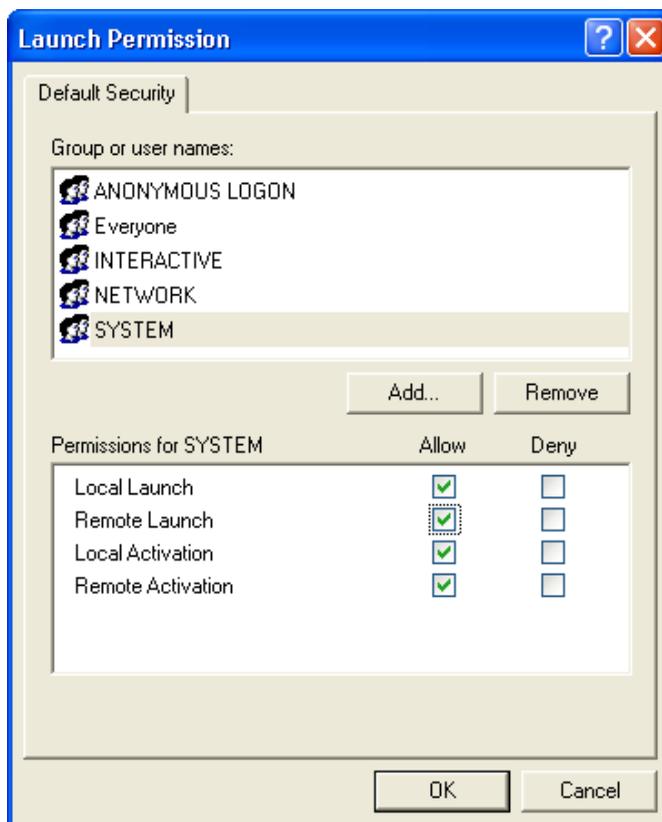


Limit Access permissions:

- ANONYMOUS LOGON Allow Local Access
Allow Remote Access
- INTERACTIVE Allow Local Access
Allow Remote Access
- NETWORK Allow Local Access
Allow Remote Access
- SYSTEM Allow Local Access
Allow Remote Access
- Everyone Allow Local Access
Allow Remote Access

For the Default Launch permission, do the same as for the Default Access Permission.

The Default Launch permission should be set as below.

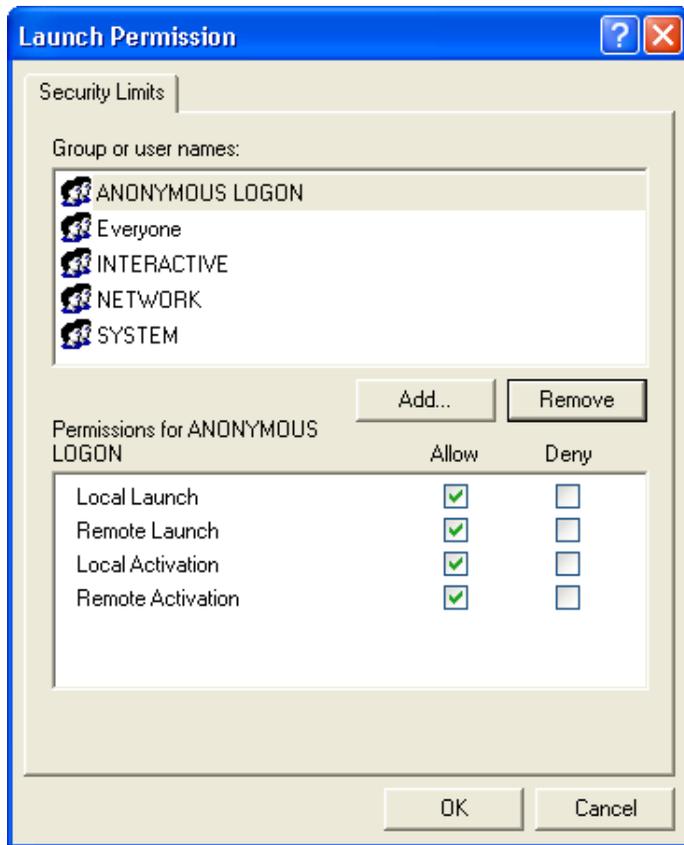


Default Launch Permissions:

- ANONYMOUS LOGON Allow Local Launch
Allow Remote Launch
- INTERACTIVE Allow Local Launch
Allow Remote Launch
Allow Local Activation
Allow Remote Activation
- NETWORK Allow Launch
Allow Remote Launch
Allow Local Activation
Allow Remote Activation
- SYSTEM Allow Launch
Allow Remote Launch
Allow Local Activation
Allow Remote Activation
- Everyone Allow Launch
Allow Remote Launch
Allow Local Activation
Allow Remote Activation

For the Limit Launch permission, do the same as for the Default Launch Permission.

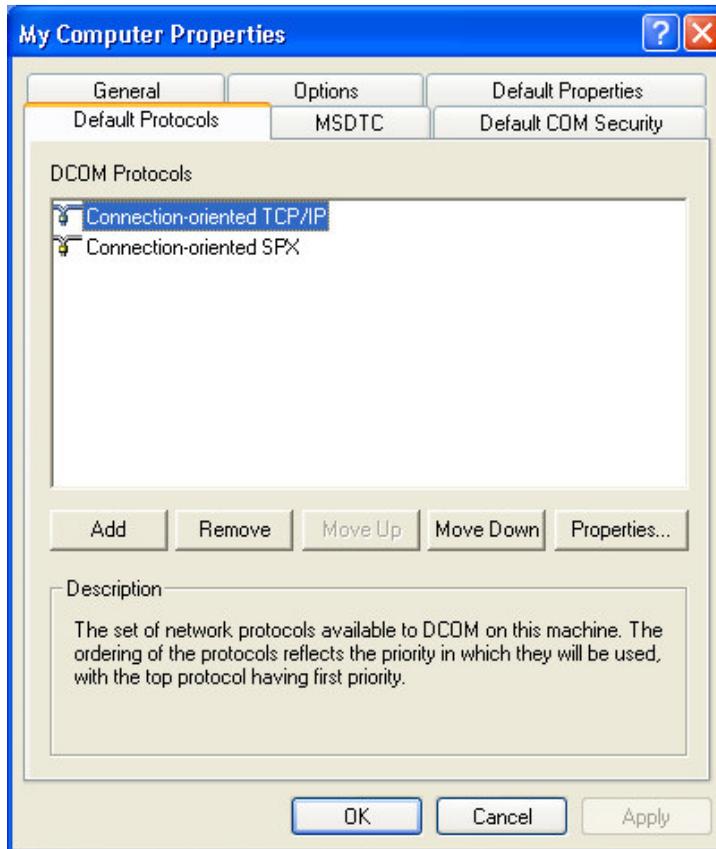
The Limit Launch permission should be set as below.



Default Launch Permissions:

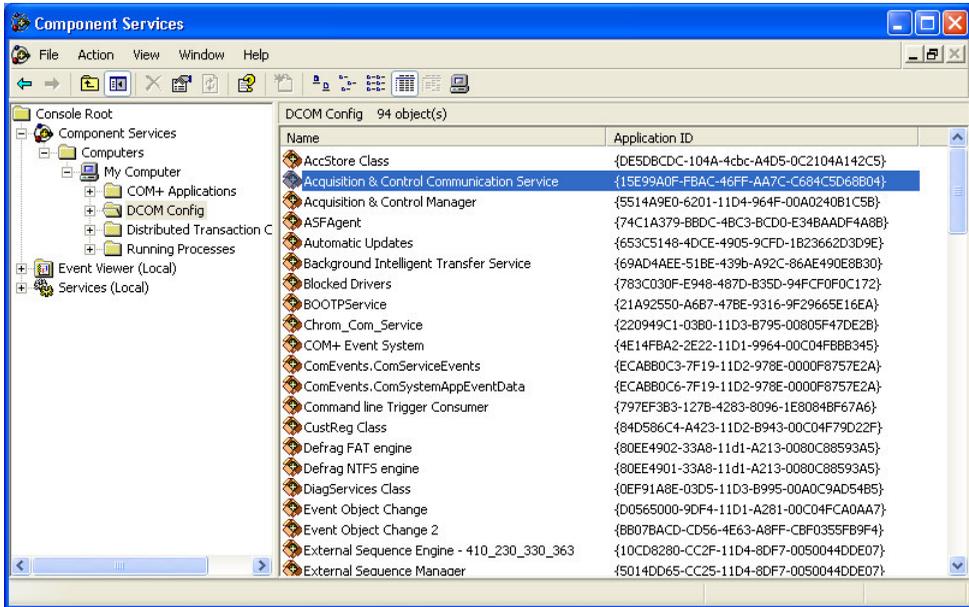
- ANONYMOUS LOGON
Allow Local Launch
Allow Remote Launch
Allow Local Activation
Allow Remote Activation
- INTERACTIVE
Allow Local Launch
Allow Remote Launch
Allow Local Activation
Allow Remote Activation
- NETWORK
Allow Launch
Allow Remote Launch
Allow Local Activation
Allow Remote Activation
- SYSTEM
Allow Launch
Allow Remote Launch
Allow Local Activation
Allow Remote Activation
- Everyone
Allow Launch
Allow Remote Launch
Allow Local Activation
Allow Remote Activation

Select the ***Default Protocols*** tab:



Select Connection-oriented TCP/IP and define it in the first position using the *Move up* button.

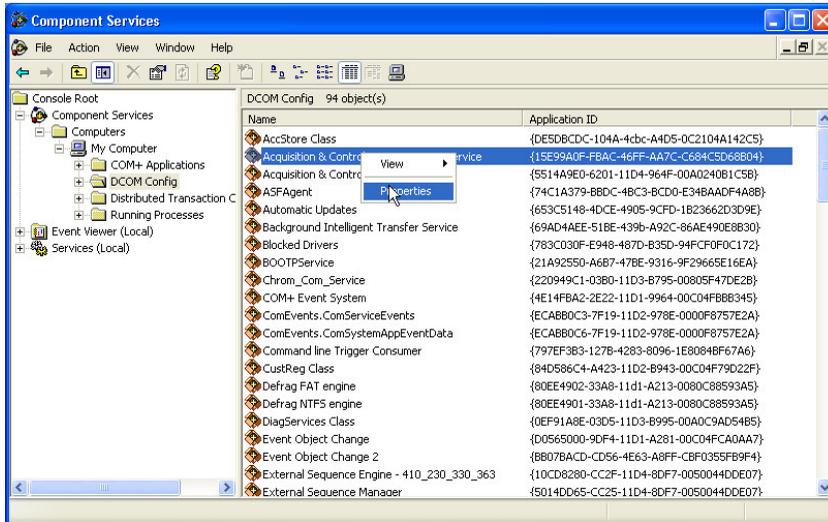
Close the Computer Properties and select DCOM config as in the following window.



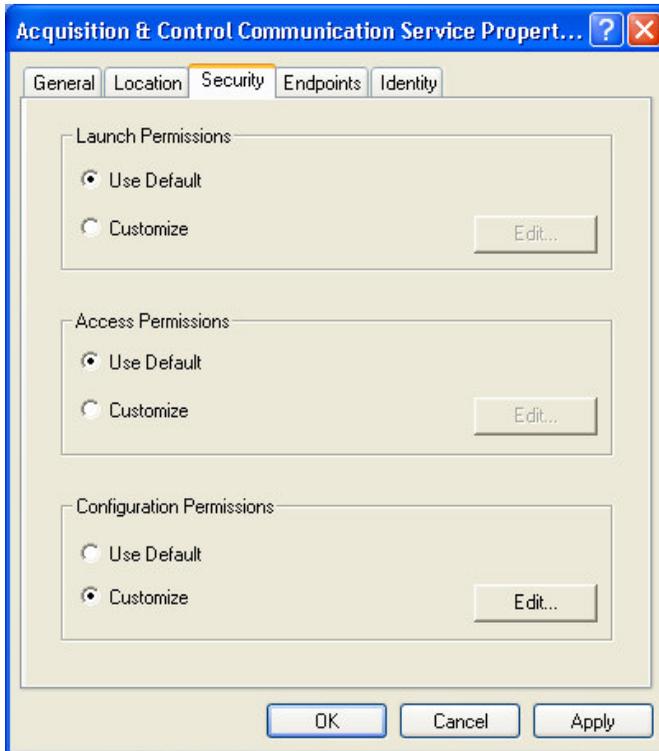
For each following applications, configure the appropriate Permissions:

- Acquisition & Control Communication Service
- Acquisition & Control Manager
- External Sequence manager
- Interface Service
- QuickStart Engine
- QuickStart Manager
- Sequenceauto object or {38425FD5-F403-11D3-9246-0050044DDE07}
- W2AutomationEngine object or {F1F76A40-9B57-49DC-B7E2-92AF5039F4AC}
- AcqManDiamirSide object or {4CDCE86D-C1CC-11D2-BEBD-00A0247B21AC}
- External Sequence Engine object (when available) or {10CD8280-CC2F-11D4-0050044DDE07}

Select each application properties with a right click.



In the opened window select the **Security** tab and select the **Default permissions** for the first two types of permissions (Access and Launch).

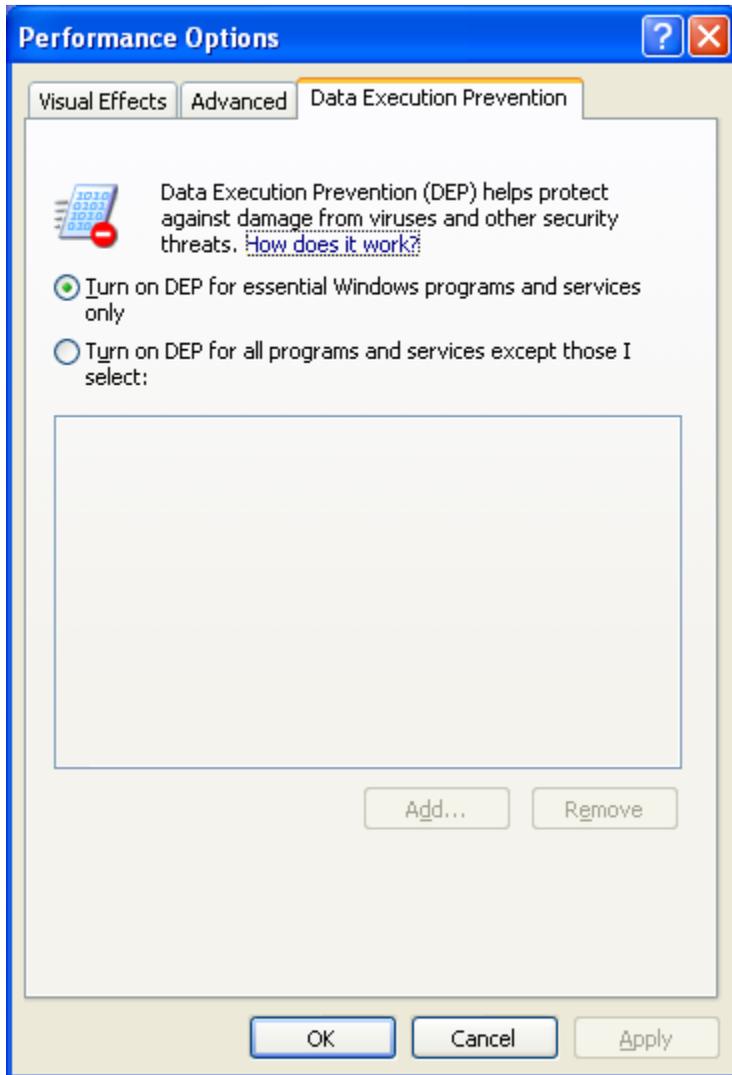


Click on the *Apply* button to apply the modifications for each application.

Data Execution Prevention Configuration

This setting must be deactivated on Windows 2003 Server and it is recommended to deactivate it as well for Windows XP SP2.

To deactivate the DEP, select: System Properties\ Advanced\ Performance Settings\ DataExecution Prevention tab\ Check Turn On DEP for essential Windows Programs and Services only.



FIFOS Configuration

These parameters have to be checked only if encountering connection problems with MIB serial Interfaces.

Windows 2000 & XP Pro

Check in the Services window that the Interface_Service is stopped, otherwise stop it.

From the Windows Start Menu, select Settings\Control Panel.

Select: System\ Hardware\Devices Manager\Ports (COM & LPT)\Communication Port\Port Settings, Advanced\Select Use FIFO Transmit Buffer (1)

Displaying

The Galaxie Chromatography Data System requires that the display has to be set to at least 1024 x 768 pixels and 16-bit color. To change these settings: right-click on the Windows Desktop and select Properties. Click on the Settings Tab to adjust screen resolution and color depth.

Permissions Configuration

This section gives details about the permissions to associate to the following applications and directories:

Select the directory in the Windows explorer, in the popup menu select Properties, then in the security tab, select the Permissions option.

On the Galaxie Main Server and on all the Galaxie Acquisition Servers:

All the permissions can be RX on the server except for the system TEMP directory (i.e. <Galaxie>\Server\TEMP) that should have the RWXD permissions for the users/groups **INTERACTIVE**, **NETWORK SYSTEM**, **DOMAIN USERS**.

More precisely for the \GALAXIE\SERVER folder, the permissions settings are:

Directories or files	INTERACTIVE	SYSTEM	DOMAIN USERS
----------------------	--------------------	---------------	---------------------

*.EXE; *.CHM	*.DLL;	RX	RX	RX
All other files		RWX	RWX	RWX
\TEMP; \DEVICES; \LOGS; \DATA_SHARED		Modify	Modify	Modify
\CFG		RW	RW	RW

The configuration of the permissions is the same on a GALAXIE CHROMATOGRAPHY DATA SYSTEM server under METAFRAME/TERMINAL SERVER and on the acquisition servers.

For users who access this folder over network, permissions must be set in the folder share. Select the **\GALAXIE\SERVER** folder, in context menu select PROPERTIES, then the Sharing tab. Click on the Permissions button and add Everyone in Full control in the list.

On the Data Directory:

The data directories can have the following permission settings if you don't need to overwrite DATA files:

- Administrators: **Full control**
- DOMAIN USERS: **RWL**
- SYSTEM: **RWL**
- INTERACTIVE: **RWL**

The data directories can have the following permission settings if you need to overwrite DATA files:

- Administrators: **Full control**
- DOMAIN USERS: **RWLD**
- SYSTEM: **RWLD**
- INTERACTIVE: **RWLD**

with

R=Read **W**=Write **L**=List Folder Contents
D=Delete **X**=Execute

For users who access the DATA folder over network, permissions must be set in the folder share. Select the DATA folder, in context menu select PROPERTIES, then the Sharing tab. Click on the Permissions button and add Everyone in Full control in the list.

NOTE: 'File and Printer sharing for Microsoft Networks' service must be installed on each PC that runs the Galaxie client or server software. This service must be installed for each network device in the computer that may be used to connect to the Galaxie server or Galaxie clients. When Galaxie is installed on a Windows Workgroup network configuration, each user must have the same Windows logon ID and password on the PC used for the Galaxie server as they do on the PC(s) used for Galaxie clients. Failure to do so may cause Access Violation errors.

On Printer:

If report printing is done while running remote sequences please check that the following security permissions are present in the default printer properties.

DOMAIN USERS: **Print + Manage Printers + Manage Documents**

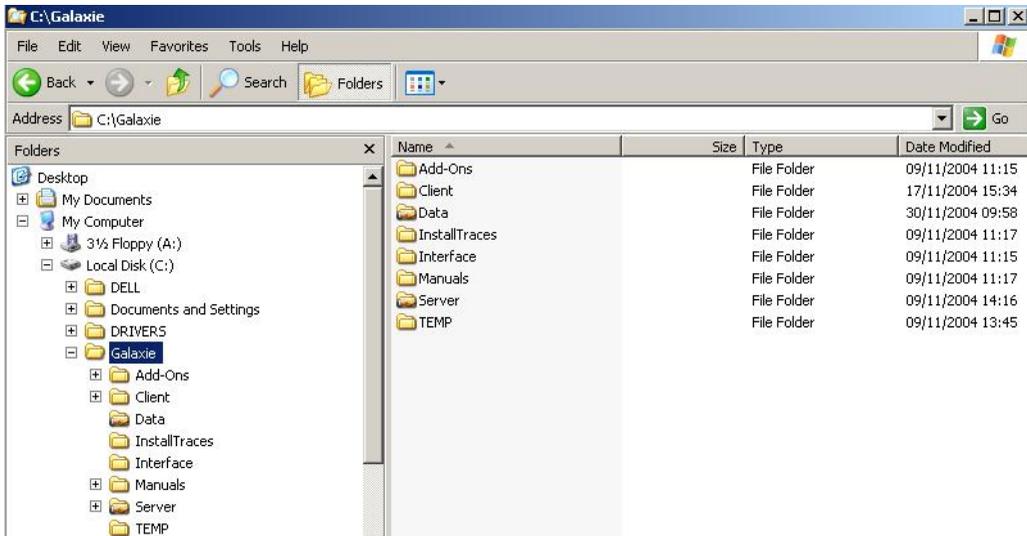
SYSTEM: **Print + Manage Printers + Manage Documents**

INTERACTIVE: **Print + Manage Printers + Manage Documents**

Files Description

This part describes the content of the GALAXIE directory on the Main server created during the software installation, and gives some information about the main files.

The **GALAXIE** directory content is accessible from the Windows explorer:



The **Add-Ons** directory contains the Plug Ins installations.

The **Installtraces** directory contains the logs generated during the Galaxie installation. However if the install ends abruptly due to a problem on the computer the logs will be located in the following directory:

“C:\DocumentsandSettings\Admin\LocalSettings\Temp\
sessionGUID>\<applicationGUID>” where:

<sessionGUID> differs every time an InstallShield session is launched, even if it is dealing with the same setup: for example {7A9045C0-59AE-4B1D-AE8D-B4887E3AAA9B}

<applicationGUID> is constant for a product to install:
For Galaxie : {490A76B0-59E3-11D7-9152-0050042084E2}

The **Client** directory contains mainly:

- **GALAXIE.exe**, the GALAXIE executable file.
- **GALAXIE report editor.exe**, the GALAXIE report manager executive file.
- **W2AutoEngine.exe** program used to print the reports of the sequences launched by the Remote Sequence Manager.
- The Remote sequence exe files: **SeqClient.exe** (the client), **SequenceManager_Service.exe** and **SequenceEngine_Service.exe** (the services exe files).

- All the DLLs related to the above programs.

The **Data** directory contains chromatogram examples and some predefined report styles:

- ***.METH**: the method files.
- ***.DATA**: the chromatogram files.
- ***.SEQU**: the sequence files.
- ***.REPL**: the reprocessing list files.
- ***.SUMR**: the summary files.
- ***.STYL**: the report style files.
- Other type of files:
 - **~\$"Name of the file"*.***: lock files used to prevent the use of the same file by different users simultaneously.
 - **CACHE_*.TXT**: Caches used to speed up the display of the file lists in the open dialog of GALAXIE.
 - ***.tmw**: temporary files used when an acquisition is started.

The **Manuals** directory contains the user's guides of GALAXIE in PDF format.

The **Interface** directory contains:

- Interface_Service.exe, HSerial2.dll and HTCP2IP2.dll, which are the MIB Interface service exe files.
- HapTreeView.exe: which is the supervisor displaying the state of the Hercule boxes
- Hconfiguration.exe, this is the Hercule configuration part (Hercule boxes name's, communication mode (RS232, TCP/IP), IP addresses, etc.).

The **Server** directory contains:

- configurationmanager.exe, the GALAXIE configuration and maintenance manager executable file.
- The Cfg directory contains the configuration of all configured systems (Only for the acquisitions servers).
- The CM DATA directory contains all the parameters contained in the Galaxie configuration Manager.
- The Data shared directory, this file contains
 - The **FormatLib.dat**: is the file containing all the peak, group and chromatogram formats defined in GALAXIE.
 - The **REPO** files represent the repositories created in GALAXIE (variables creation).
 - All the **REGC** files which stores the users preferences
 - Some **INI** files which store the last Suffix ID used for each Group/Project/System set.

- The Devices directory, this directory contains the drivers of all the configured systems.
- The Logs directory contains logs concerning the GALAXIE process (errors occur, list of the injections realized, etc.) (Only for the acquisitions servers).
- The Temp directory, contain a sub-directory for each acquisition system, and each directory stores some temporary files used for the acquisition (*.HTM files: store a HTML representation of the control method, this HTML file will be part of the DATA file at the end of the run (on GALAXIE server) and *.tmp: temporary files used when an acquisition is started (on acquisition server).

Windows Services

This section will describe the different services that GALAXIE uses (note that all the services are declared on all GALAXIE machines except the nexusDB server service):

Acquisition & Control Manager (Exe path is \GALAXIE\Server\AcqManSvr.exe):

- This service runs only on the acquisition servers.
- It is the “control tower” of the GALAXIE system.
- Stopping this service stops also all the running systems of the acquisition server.

Acquisition & Control System – “Name of the system” (Exe path is \GALAXIE\Server\ AcqSystSvr.exe):

- This service runs only on the acquisition servers.
- One service is declared for each GALAXIE systems.
- Stopping one of these services stops all activity on the system.

Acquisition & Control Communication Service (Exe path is \GALAXIE\Server\ AcqCommSvr.exe):

- This service runs only on the acquisition servers.
- It is dedicated to manage the IEEE488 devices (Boards, MIB GPIB interface) that are used by GALAXIE systems.
- Stopping this system will stop the activity on the GALAXIE systems using GPIB resources.

BOOTP Service (Exe path is \GALAXIE\Server\bootpsvr.exe):

- This service runs only on the acquisition servers.
- It is the main service which handles the BOOTP devices (MIB Interface, GCs).

NexusDB_Server (Exe path is \GALAXIE\Server\CM DATA\nxserver.exe):

- This service runs only on the GALAXIE main server.
- It is MANDATORY to leave that service running in all times.
- It is the main service which handles the connections, the access rights for the users, the status of the GALAXIE systems.

External Sequence Manager (Exe path is \GALAXIE\Client\SequenceManager_Service.exe):

- This service can run on the acquisition servers or on the GALAXIE server (depending of the configuration).
- It is the control tower of all sequence engine services running on the server.

External Sequence Engine – “Name of the system” (Exe path is \GALAXIE\Client\ SequenceEngine_Service.exe):

- One of these services is declared for each GALAXIE systems.
- It handles the remote sequence launched from the remote sequence client.

Interface_Service (Exe path is \GALAXIE\Interface\Interface_Service.exe):

- This service is used to communicate with the MIB Interfaces.
- It runs only on the acquisition servers.

System Maintenance

The recommended maintenance is:

As the files generated are quite small and numerous, use a disk defragmentation tool.

Once a month, delete all (except the one of the current day):

- *.tmw in the data directories.
- Delete all files in the \GALAXIE\SERVER\TEMP directory of the acquisition server.
- Delete all files in the \TEMP directories of all servers.

Troubleshooting

This section describes some known errors after having installed Galaxie and the way to avoid it.

DB integrity check tool

If it is impossible to log-in the Galaxie configuration manager with the error "server connection failed", run the DBintegrity check tool located in the Galaxie\server directory on the main server. For more information about on the DB integrity check tool, please read its manual.

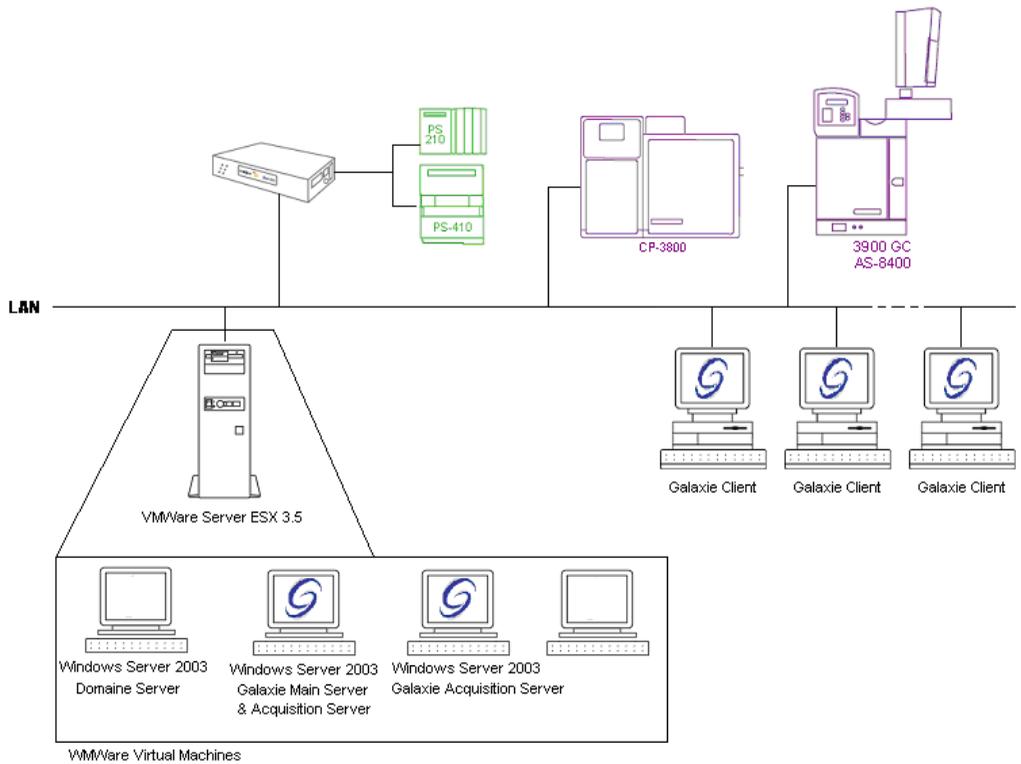
Networking

Network spanning trees can affect in really rare cases Galaxie operation (remote sequence hangs). If it is the case simply disable this network feature.

Galaxie installation fails if more than one network card is activated (error "Lhotse failed to initialize, code -13" during the installation). Only one card must be enabled in order to install Galaxie correctly.

VMWare platform

A Galaxie installation can be virtualized with VMWare Server. The following picture represents a configuration of the Galaxie installation running on a virtual platform.



We have fully validated the usage of virtual servers using the VMWare ESX server 3.5 application.

The validated platform was as follows:

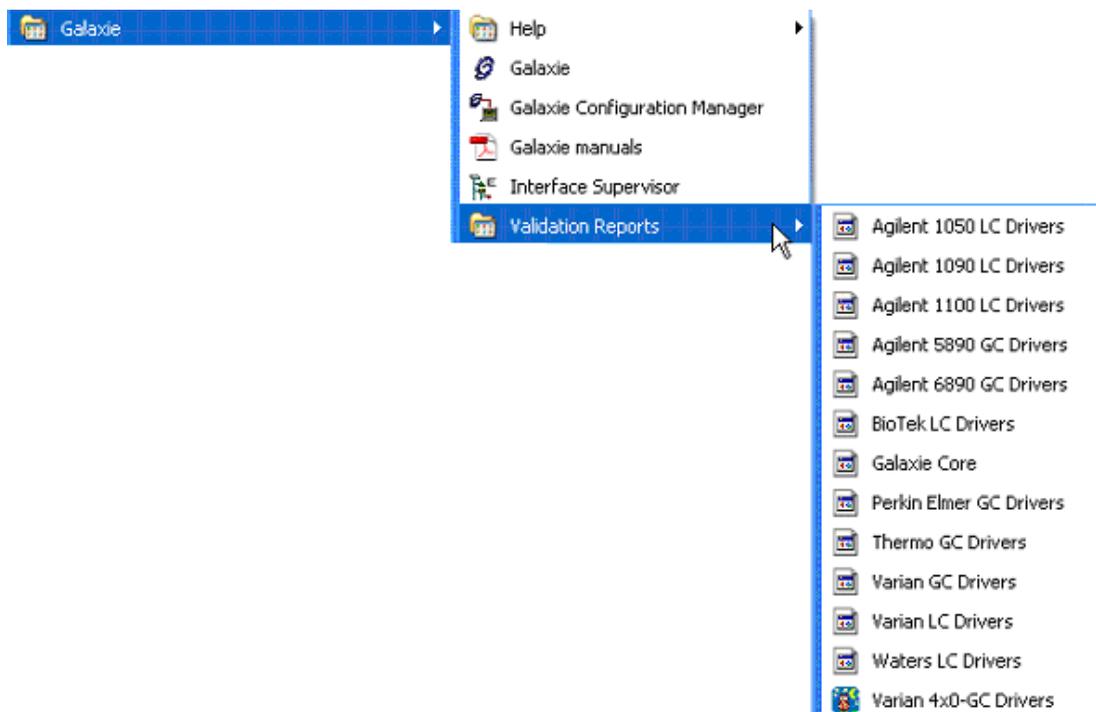
- **VMWare server ESX 3.5** installed on a physical server with the following properties:
 - 2 Processors
 - Processors speed: 3.2 GHz
 - Memory: total: 2GB
 - A Windows 2003 Server **Domain Controller** running on a Virtual Machine (Allocated memory 758 MB)
 - A Windows 2003 Server **Galaxie Main Server** running on a Virtual Machine (Allocated memory 1024 MB)
 - Galaxie acquisition & control services running on the Galaxie Main Server Virtual machine
 - A Galaxie client computer was installed on a physical computer.

All default settings of VMWare server were kept and the Galaxie installation does not need any particular attention compare to an installation on physical machines.

Software Validation

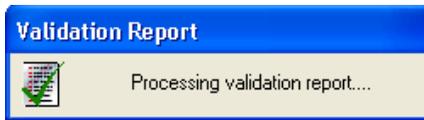
It is possible to validate the installation of Galaxie Core or any driver setup. The validation program is installed automatically during Galaxie installation.

After Galaxie installation, a new section named “Validation Reports” is added in the Galaxie Windows Start Menu:

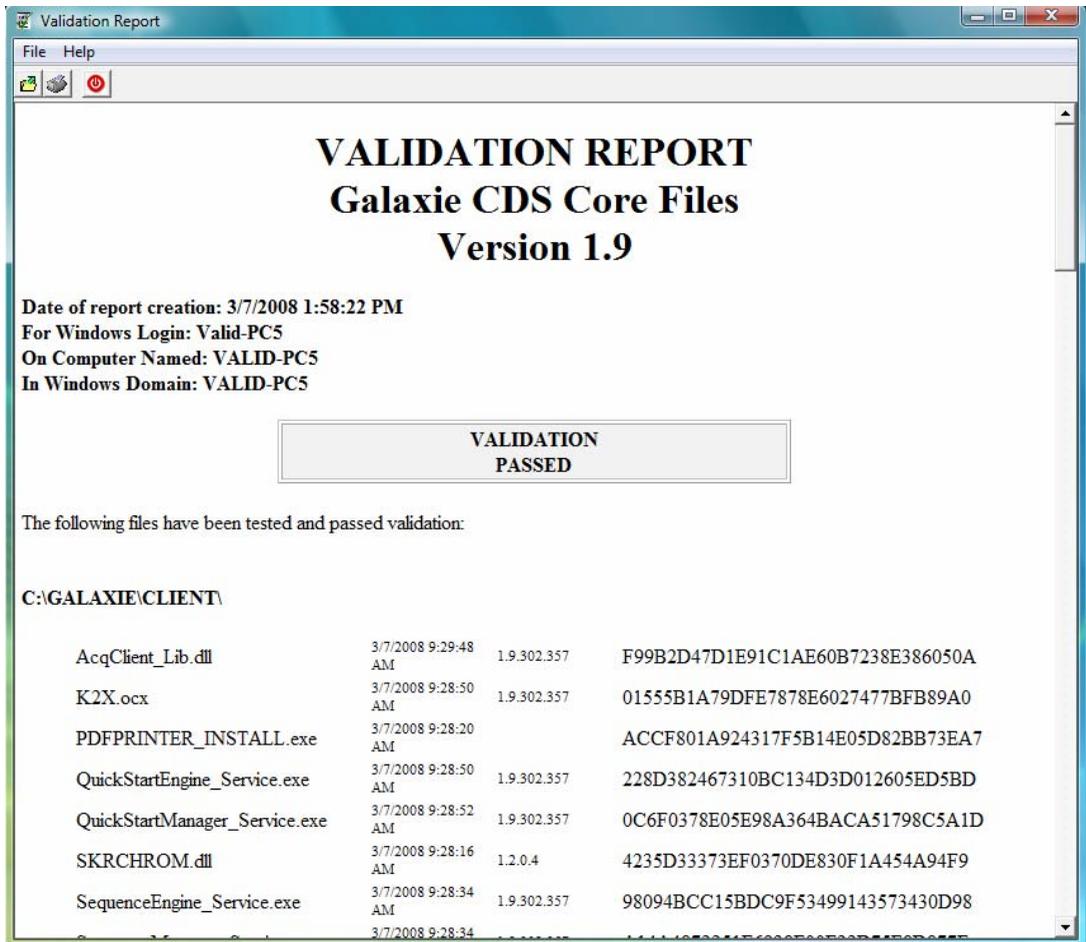


Select the software installation you want to validate (Galaxie Core or any driver).

Then, the validation program is launched. Wait until the following screen disappears.



The read-only validation report is then displayed on the screen.



It can be printed and is automatically saved in <Galaxie>\Server\IQOQ\.

Galaxie Drivers

This chapter describes the principles and operations of the GALAXIE drivers (Analog and instrument control).

Principles

Each GALAXIE system is composed of several modules, for instance an analog system:

- One manual injector
- Star 800 MIB Acquisition Control

A system controlling a VARIAN 3900 GC with an 84xx autosampler will be composed of:

- VARIAN 3900 GC only

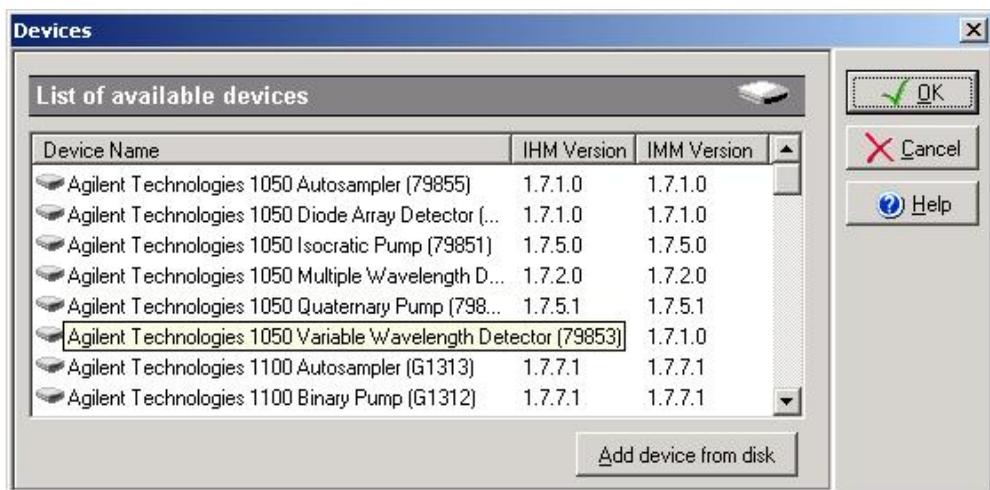
Each module is in two parts:

- The *_IMM.dll file which contains all the code to control the device.
- The *_IHM.dll file which contains all the screens necessary to configure, build methods, and display the status of the device.

When a system starts on the acquisition server; the corresponding service loads the *_IMM.dll files for all the modules installed on the system from the Main server to the Galaxie\server\devices directory on the Acquisition Server.

Files Location

In GALAXIE Configuration Manager (menu “Option | Devices...”), the screen displays all the available modules for the system:



This list is stored in the \GALAXIE\SERVER\CMdata directory.

NOTE: The installation of drivers must be done on the main server. In addition some drivers must also be installed on each acquisition server of the Galaxie system. Those drivers are the Varian LC drivers, the Varian Micro-GC drivers and the Agilent LC drivers.

The drivers DLLs are stored in the \GALAXIE\SERVER\DEVICES directory. The acquisition servers need to have the *_IMM.dll files in this directory, the clients need to have the *_IHM.dll files in this directory.

Refresh Mechanism

When a GALAXIE client wants to display (to build a method or for status view), the corresponding file *_IHM.dll is searched in the \GALAXIE\SERVER\DEVICES directory of the client. If the file is

not present or too old, it is automatically copied from the acquisition server which hosts the system.

Varian LC Driver Installation

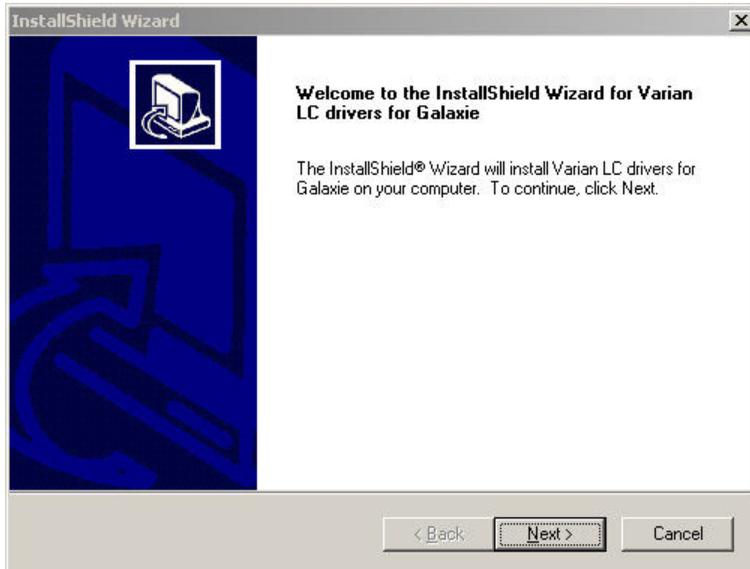
Installing the Driver Software

The Galaxie software must already be installed before installing the driver software.

You must have administrator rights to install the driver. The Varian drivers must be installed only on the server.

1. When you insert the Galaxie CD into your CD drive, the CD browser will start automatically. If it does not, you can launch the browser by running **Install.exe** from the root directory of the CD.
2. From the CD browser click on the *Install Varian Drivers* button.
3. Then click on the *Install Varian LC* button.

The following screen will appear:



4. Click on the *Next* button, read and accept the **License Agreement** and enter your driver *Serial Number* in the corresponding field. The serial number is provided on your driver serial number card and is different from the Galaxie serial number.

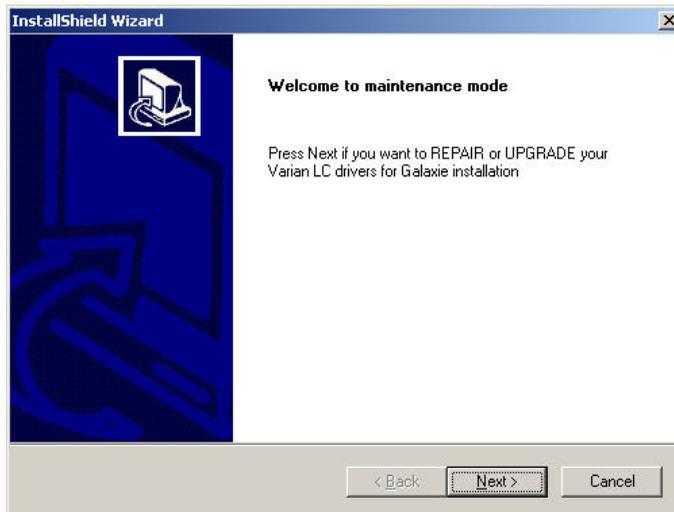
Note that the serial number is case sensitive.



Then press the *Next* button and click on *Finish* at the end of the installation.

5. If you want to reinstall or upgrade your drivers, you will need to run the setup (steps 1, 2 and 3) again.

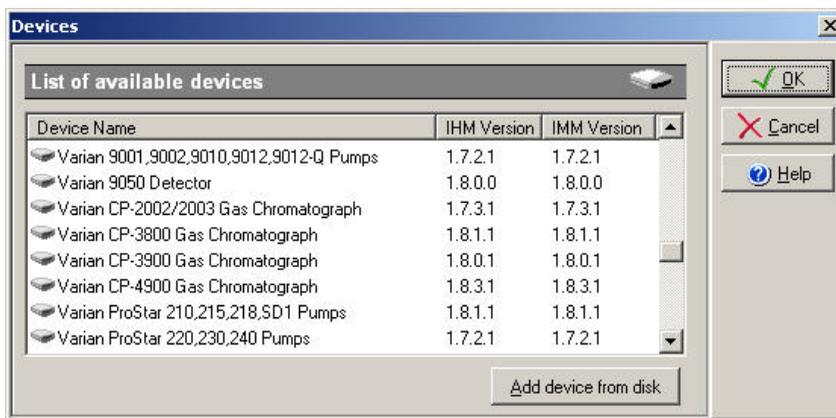
The following screen will appear:



Then press *Next* and the drivers will be automatically

reinstalled or upgraded. Click on *Finish* at the end of the installation to exit the maintenance mode.

6. To see which drivers are installed, select *Options* from the Galaxie Configuration Manager main menu and select *Devices*. The following screen containing the installed devices appears:



The **Add device from disk** button can be used for installing beta or pre-release drivers. Use this button **only** when directed by a technical support representative.

Varian GC and Micro-GC Driver Installation

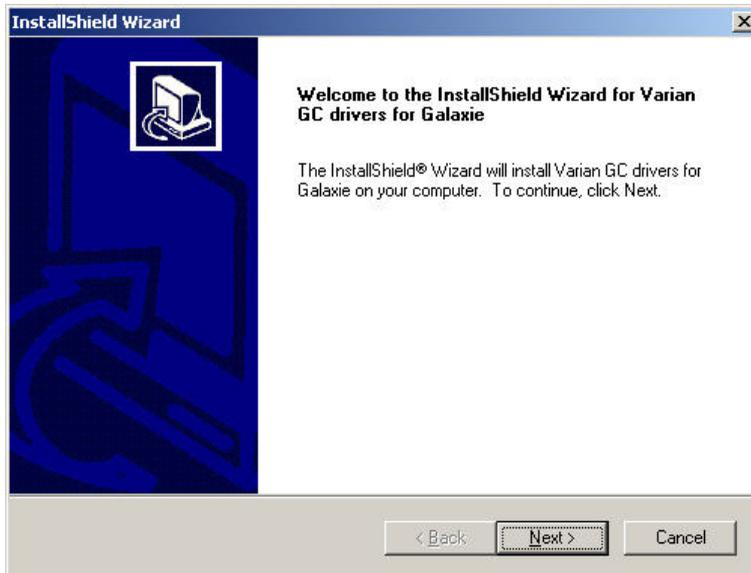
Installing the Driver Software

The Galaxie software must already be installed before installing the driver software.

You must have administrator rights to install the driver. The Varian drivers must be installed only on the server.

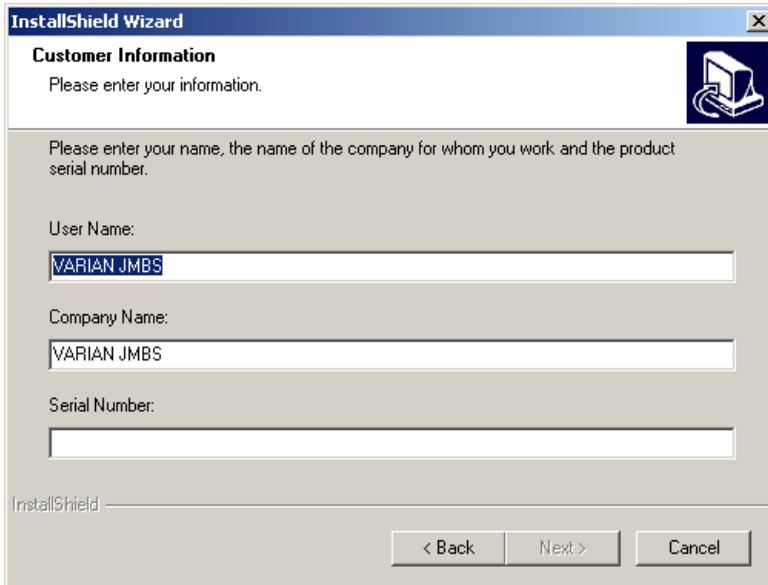
1. When you insert the Galaxie CD into your CD drive, the CD browser will start automatically. If it does not, you can launch the browser by running **Install.exe** from the root directory of the CD.
2. From the CD browser click on the *Install Varian Drivers* button.
3. Then click on the *Install Varian GC* button

The following screen will appear:



4. Click on the *Next* button, read and accept the ***License Agreement*** and enter your driver *Serial Number* in the corresponding field. The serial number is provided on your driver serial number card and is different from the Galaxie serial number.

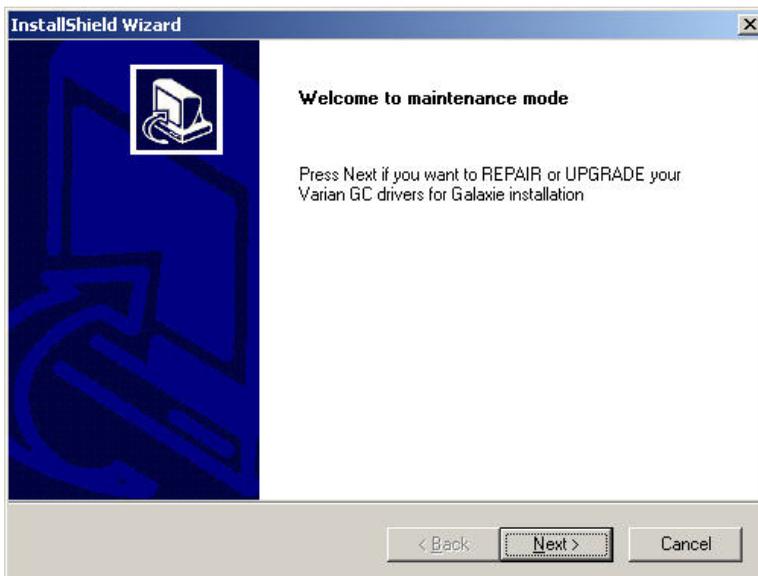
Note that the serial number is case sensitive.



Then press the *Next* button and click on *Finish* at the end of the installation.

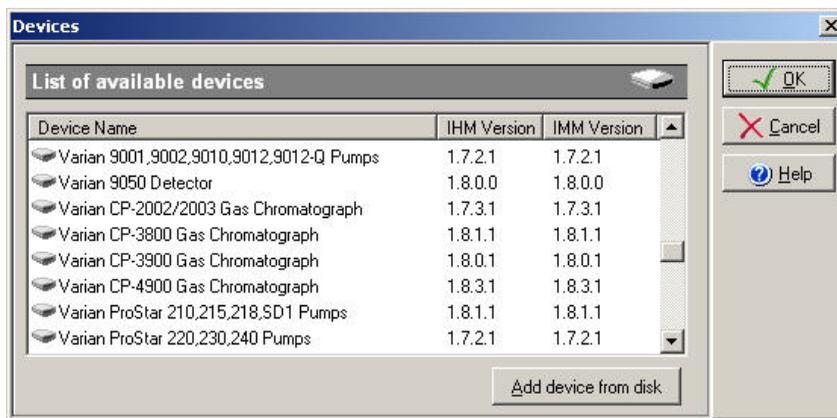
5. If you want to reinstall or upgrade your drivers, you need to run the setup (steps 1, 2 and 3) again.

The following screen will appear:



Then press *Next* and the drivers will be automatically reinstalled or upgraded. Click on *Finish* at the end of the installation to exit the maintenance mode.

6. To see which drivers are installed select *Options* from the Galaxie Configuration Manager main menu and select *Devices*. The following screen containing the installed devices appears:



The **Add device from disk** button can be used for installing beta or pre-release driver. Use this button **only** when directed by a technical support representative.

Varian 4x0 GC

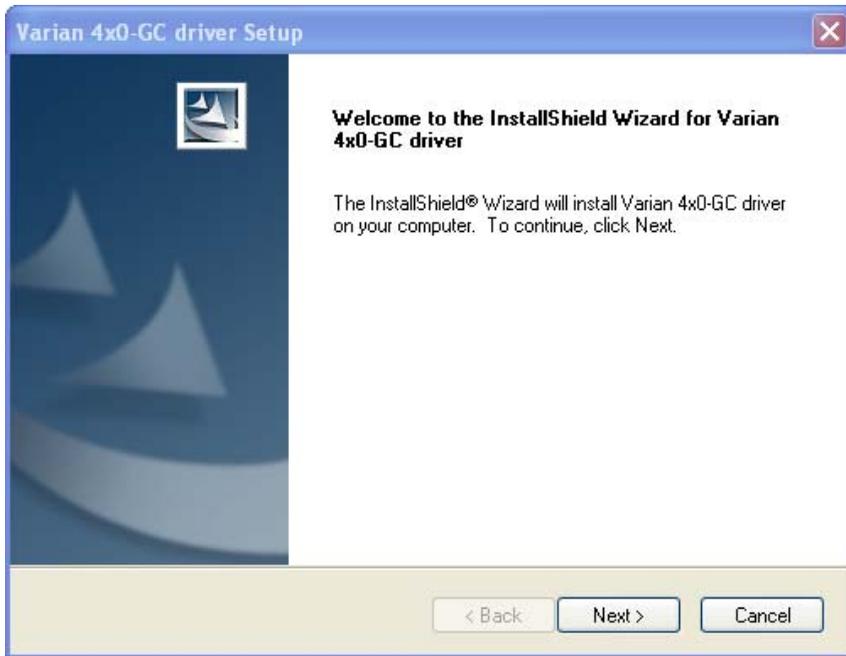
Installing the Driver Software

The Galaxie software must already be installed before installing the driver software.

You must have administrator rights to install the driver. The Varian drivers must be installed on both the main server and the acquisition server in the case you want to configure a 450-GC and only on the main server for 430-GC.

1. When you insert the Galaxie CD into your CD drive, the CD browser will start automatically. If it does not, you can launch the browser by running **Install.exe** from the root directory of the CD.

The following screen will appear:



2. Click on the *Next* button, read and accept the **License Agreement** and enter your driver *Serial Number* in the corresponding field. The serial number is provided on your driver serial number card and is different from the Galaxie serial number.

Note that the serial number is case sensitive.

Varian 4x0-GC driver Setup

Customer Information
Please enter your information.

Please enter your name, the name of the company for which you work and the product serial number.

User Name:

Company Name:

Serial Number:

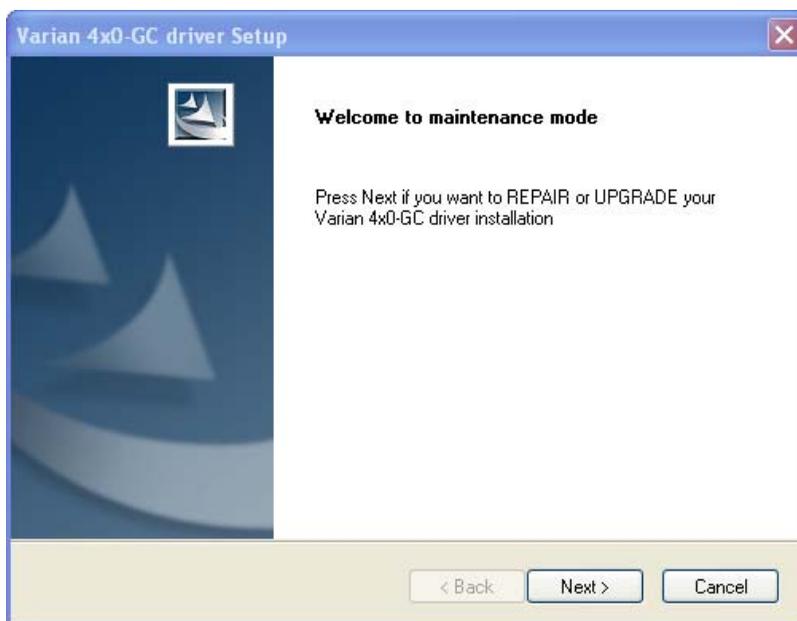
InstallShield

< Back Next > Cancel

Then press the *Next* button and click on *Finish* at the end of the installation.

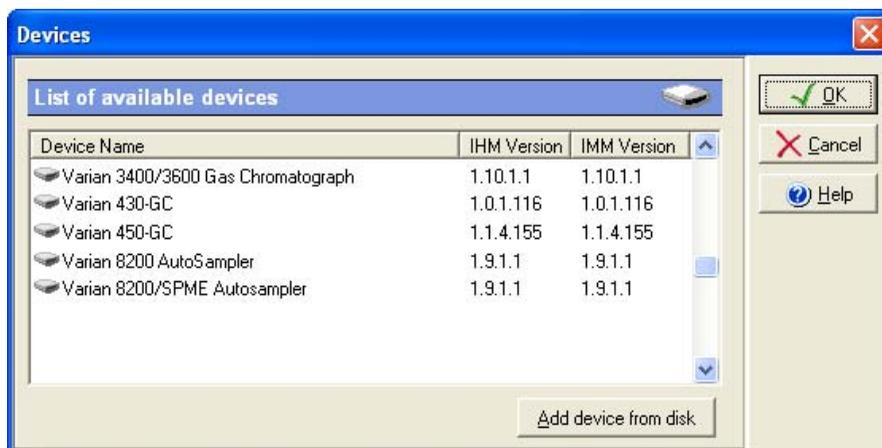
5. If you want to reinstall or upgrade your drivers, you need to run the setup again.

The following screen will appear:



Then press *Next* and the drivers will be automatically reinstalled or upgraded. Click on *Finish* at the end of the installation to exit the maintenance mode.

6. To see which drivers are installed select *Options* from the Galaxie Configuration Manager main menu and select *Devices*. The following screen containing the installed devices appears:



The  button can be used for installing beta or pre-release driver. Use this button **only** when directed by a technical support representative.

Agilent LC 1050 Driver Installation

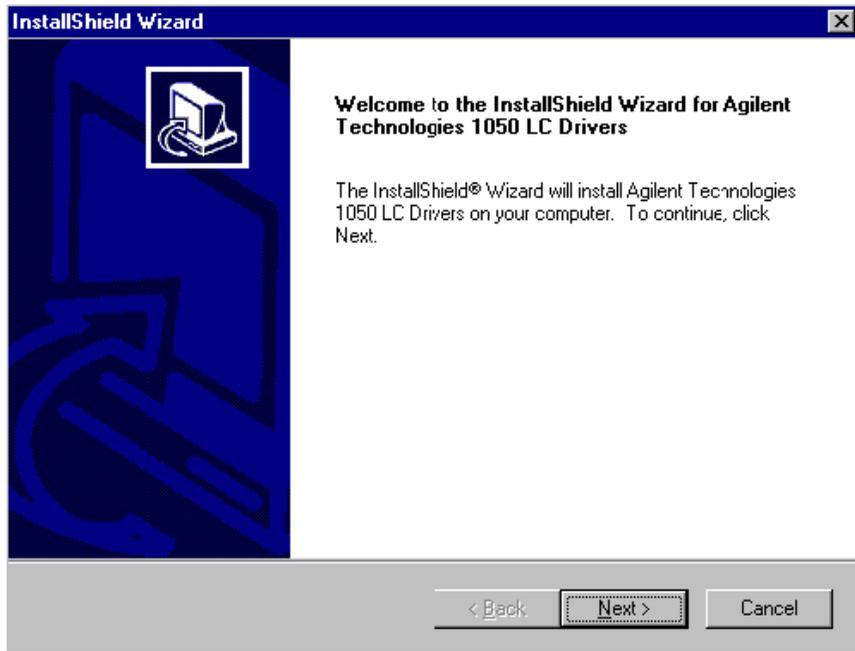
Installing the Driver Software

The Galaxie software must already be installed before installing the driver software.

You must have administrator rights to install the driver. The drivers must be installed only on the server.

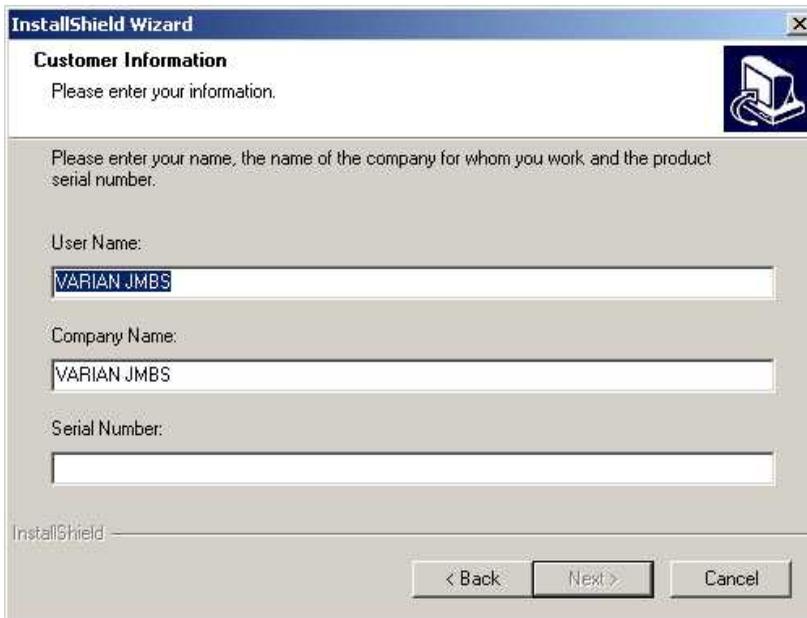
1. When you insert the Galaxie CD into your CD drive, the CD browser will start automatically. If it does not, you can launch the browser by running **Install.exe** from the root directory of the CD.
2. From the CD browser click on the *Install 3rd Party LC Drivers* button.
3. Then click on the *Install Agilent 1050* button.

The following screen will appear:



4. Click on the *Next* button, read and accept the **License Agreement** then enter your driver *Serial Number* in the corresponding field. The serial number is provided on your driver serial number card and is different from the Galaxie serial number.

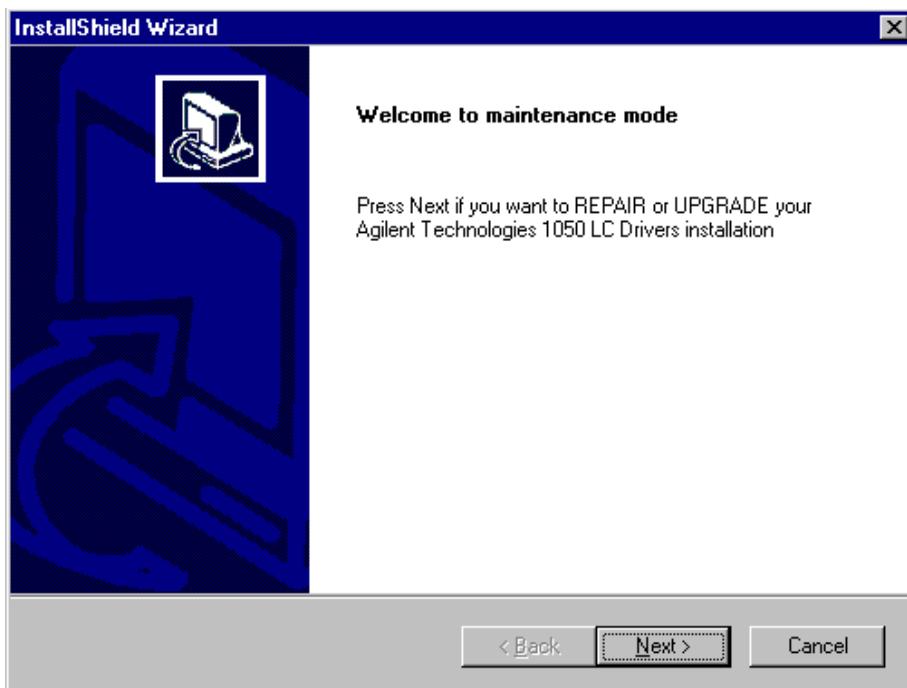
Note that the serial number is case sensitive.



Then press the *Next* button and click on *Finish* at the end of the installation.

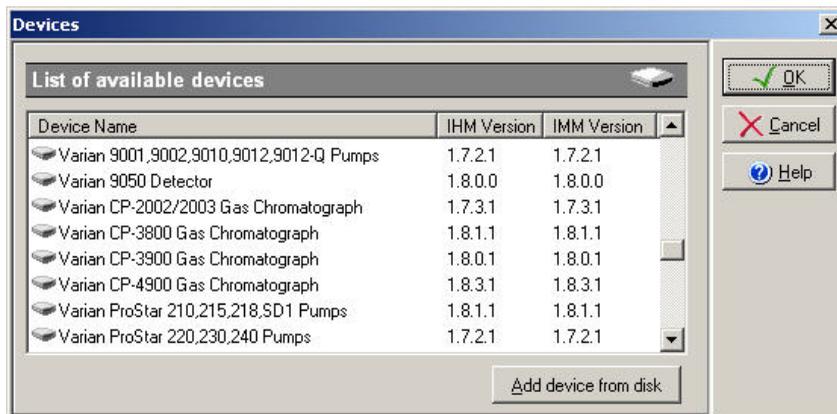
5. If you want to reinstall or upgrade your drivers, you will need to run the setup (steps 1, 2 and 3) again.

The following screen will appear:



Then press *Next* and the drivers will be automatically reinstalled or upgraded. Click on *Finish* at the end of the installation to exit the maintenance mode.

6. To see which drivers are installed, select *Options* from the Galaxie Configuration Manager main menu and select *Devices*. The following screen containing the installed devices appears:



The  button can be used for installing beta or pre-release drivers. Use this button **only** when directed by a technical support representative.

Agilent LC 1090 Driver Installation

Installing the Driver Software

The Galaxie software must already be installed before installing the driver software.

You must have administrator rights to install the driver. The drivers must be installed only on the server.

1. When you insert the Galaxie CD into your CD drive, the CD browser will start automatically. If it does not, you can launch the browser by running **Install.exe** from the root directory of the CD.
2. From the CD browser click on the *Install 3rd Party LC Drivers* button.
3. Then click on the *Install Agilent 1090* button.

The following screen will appear:



4. Click on the *Next* button, read and accept the ***License Agreement*** then enter your driver *Serial Number* in the corresponding field. The serial number is provided on your driver serial number card and is different from the Galaxie serial number.

Note that the serial number is case sensitive.

InstallShield Wizard

Customer Information

Please enter your information.

Please enter your name, the name of the company for whom you work and the product serial number.

User Name:
VARIAN JMBS

Company Name:
VARIAN JMBS

Serial Number:

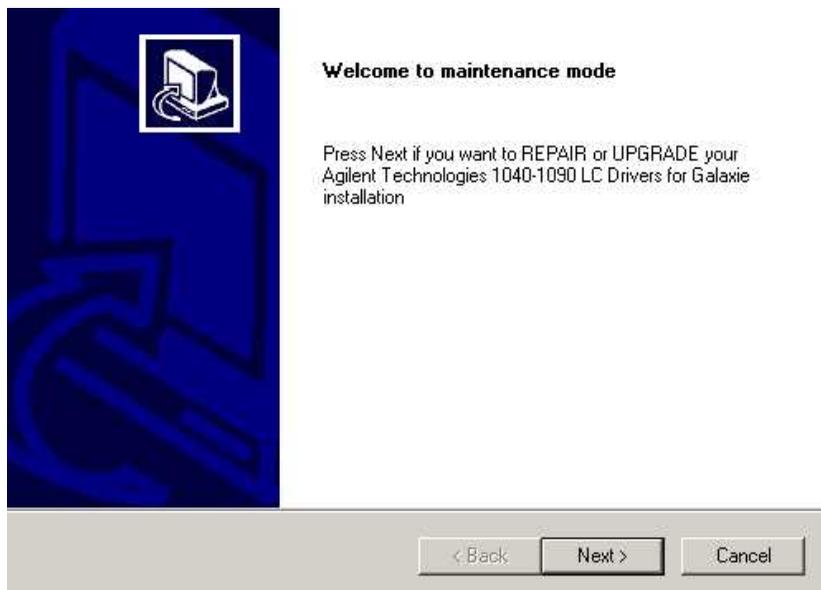
InstallShield

< Back Next > Cancel

Then press the *Next* button and click on *Finish* at the end of the installation.

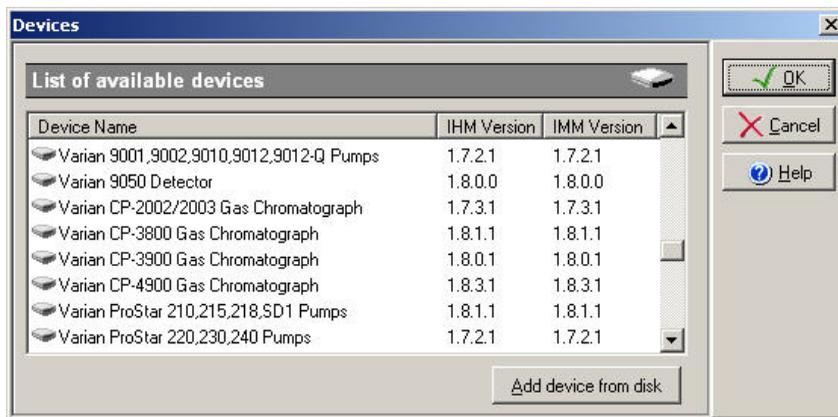
5. If you want to reinstall or upgrade your drivers, you will need to run the setup (steps 1, 2 and 3) again.

The following screen will appear:



Then press *Next* and the drivers will be automatically reinstalled or upgraded. Click on *Finish* at the end of the installation to exit the maintenance mode.

6. To see which drivers are installed, select *Options* from the Galaxie Configuration Manager main menu and select *Devices*. The following screen containing the installed devices appears:



The  button can be used for installing beta or pre-release drivers. Use this button **only** when directed by a technical support representative.

Agilent LC 1100/1200 Driver Installation

Installing the Driver Software

The Galaxie software must already be installed before installing the driver software.

You must have administrator rights to install the driver. The drivers must be installed only on the server.

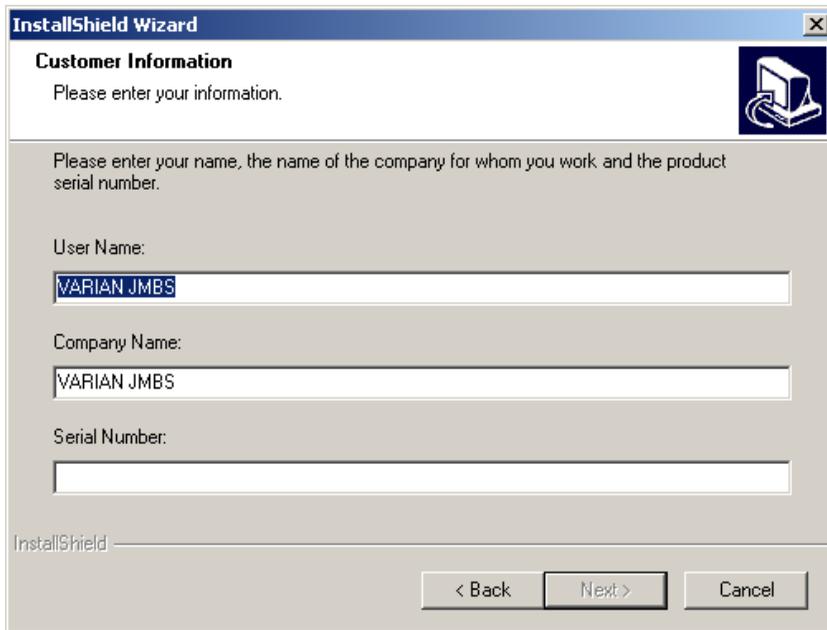
1. When you insert the Galaxie CD into your CD drive, the CD browser will start automatically. If it does not, you can launch the browser by running **Install.exe** from the root directory of the CD.
2. From the CD browser click on the *Install 3rd Party LC Drivers* button.
3. Click on the *Install Agilent 1100* button.

The following screen will appear:



4. Click on the *Next* button, read and accept the **License Agreement** then enter your driver *Serial Number* in the corresponding field. The serial number is provided on your driver serial number card and is different from the Galaxie serial number.

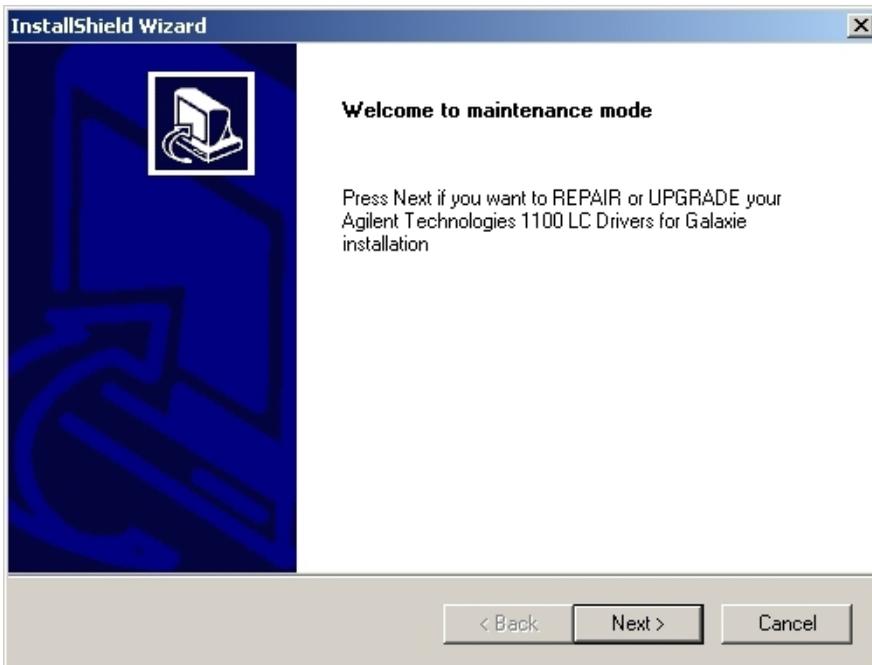
Note that the serial number is case sensitive.



Then press the *Next* button and click on *Finish* at the end of the installation.

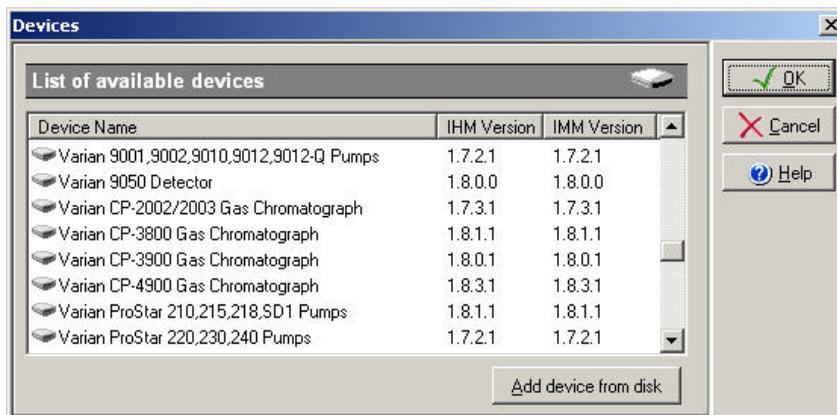
5. If you want to reinstall or upgrade your drivers, you will need to run the setup (steps 1, 2 and 3) again.

The following screen will appear:



Then press *Next* and the drivers will be automatically reinstalled or upgraded. Click on *Finish* at the end of the installation to exit the maintenance mode.

- To see which drivers are installed, select *Options* from the Galaxie Configuration Manager main menu and select *Devices*. The following screen containing the installed devices appears:



The  button can be used for installing beta or pre-release drivers. Use this button **only** when directed by a technical support representative.

Agilent GC 5890 – AS 7673 Driver Installation

Installing the Driver Software

The Galaxie software must already be installed before installing the driver software.

You must have administrator rights to install the driver. The drivers must be installed only on the server.

1. When you insert the Galaxie CD into your CD drive, the CD browser will start automatically. If it does not, you can launch the browser by running **Install.exe** from the root directory of the CD.
2. From the CD browser click on the *Install 3rd Party GC Drivers* button.
3. Then click on the *Install Agilent 4890/5890* button.

The following screen will appear:



4. Click on the *Next* button, read and accept the **License Agreement** then enter your driver *Serial Number* in the corresponding field. The serial number is provided on your driver serial number card and is different from the Galaxie serial number.

Note that the serial number is case sensitive.

The screenshot shows a Windows-style dialog box titled "InstallShield Wizard". The main heading is "Customer Information" with a sub-instruction: "Please enter your information." Below this, a larger instruction reads: "Please enter your name, the name of the company for whom you work and the product serial number." There are three input fields: "User Name:" containing "VARIAN JMBS", "Company Name:" containing "VARIAN JMBS", and "Serial Number:" which is empty. At the bottom right are three buttons: "< Back", "Next >", and "Cancel". The "InstallShield" logo is visible in the bottom left corner.

Then press the *Next* button and click on *Finish* at the end of the installation.

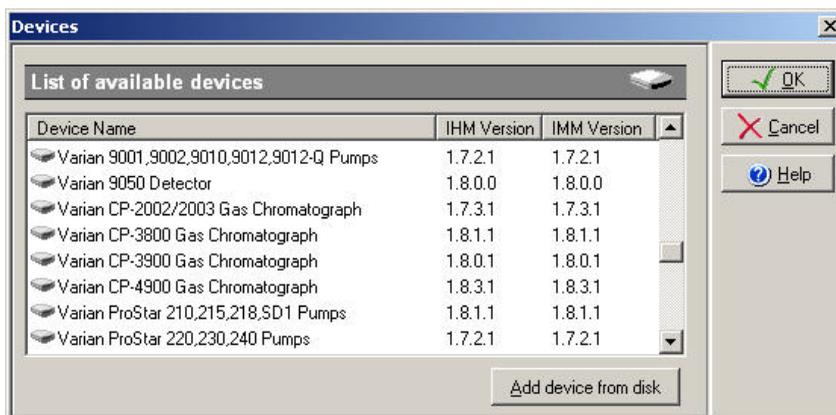
5. If you want to reinstall or upgrade your drivers, you will need to run the setup (steps 1, 2 and 3) again.

The following screen will appear:



Then press *Next* and the drivers will be automatically reinstalled or upgraded. Click on *Finish* at the end of the installation to exit the maintenance mode.

6. To see which drivers are installed, select *Options* from the Galaxie Configuration Manager main menu and select *Devices*. The following screen containing the installed devices appears:



The  button can be used for installing beta or pre-release drivers. Use this button **only** when directed by a technical support representative.

Agilent GC 6890 Driver Installation

Installing the Driver Software

The Galaxie software must already be installed before installing the driver software.

You must have administrator rights to install the driver. The drivers must be installed only on the server.

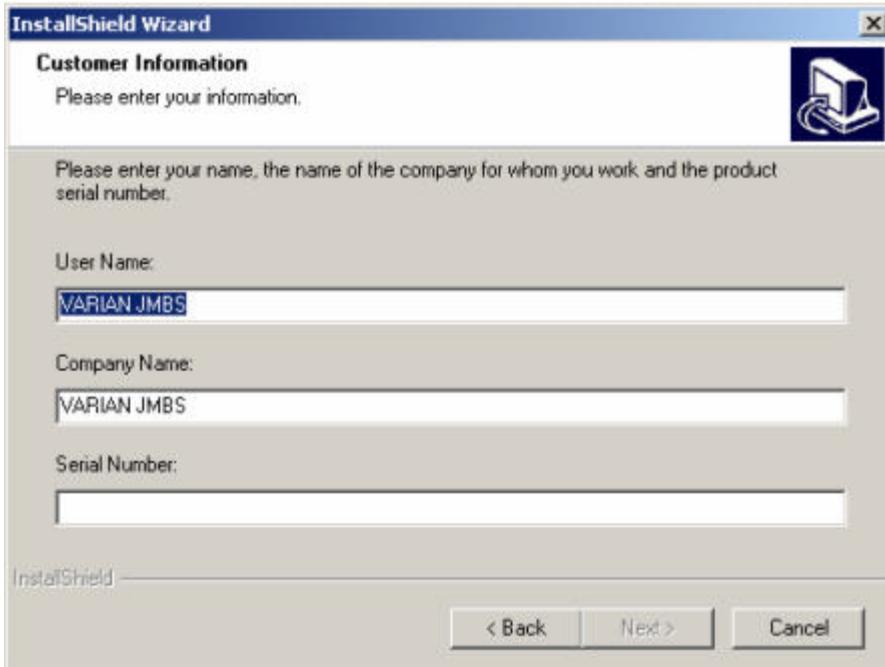
1. When you insert the Galaxie CD into your CD drive, the CD browser will start automatically. If it does not, you can launch the browser by running **Install.exe** from the root directory of the CD.
2. From the CD browser click on the *Install 3rd Party GC Drivers* button.
3. Then click on the *Install Agilent 6890/6850* button.

The following screen will appear:



4. Click on the *Next* button, read and accept the **License Agreement** then enter your driver *Serial Number* in the corresponding field. The serial number is provided on your driver serial number card and is different from the Galaxie serial number.

Note that the serial number is case sensitive.



Then press the *Next* button and click on *Finish* at the end of the installation.

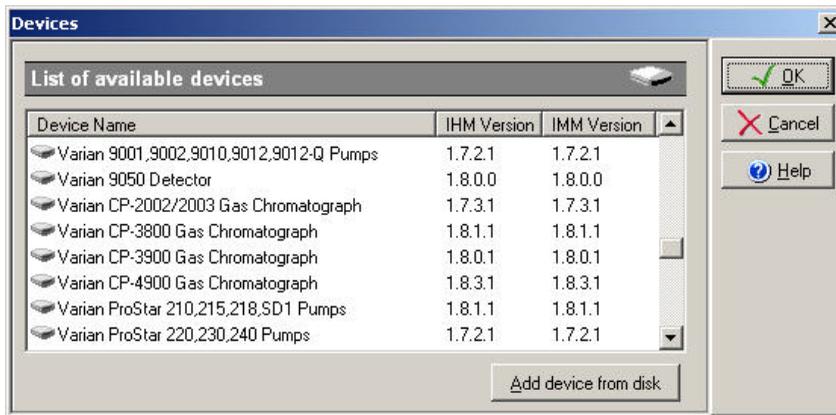
5. If you want to reinstall or upgrade your drivers, you will need to run the setup (steps 1, 2 and 3) again.

The following screen will appear:



Then press *Next* and the drivers will be automatically reinstalled or upgraded. Click on *Finish* at the end of the installation to exit the maintenance mode.

6. To see which drivers are installed, select *Options* from the Galaxie Configuration Manager main menu and select *Devices*. The following screen containing the installed devices appears:



The  button can be used for installing beta or pre-release drivers. Use this button **only** when directed by a technical support representative.

Agilent GC 7890 Driver Installation

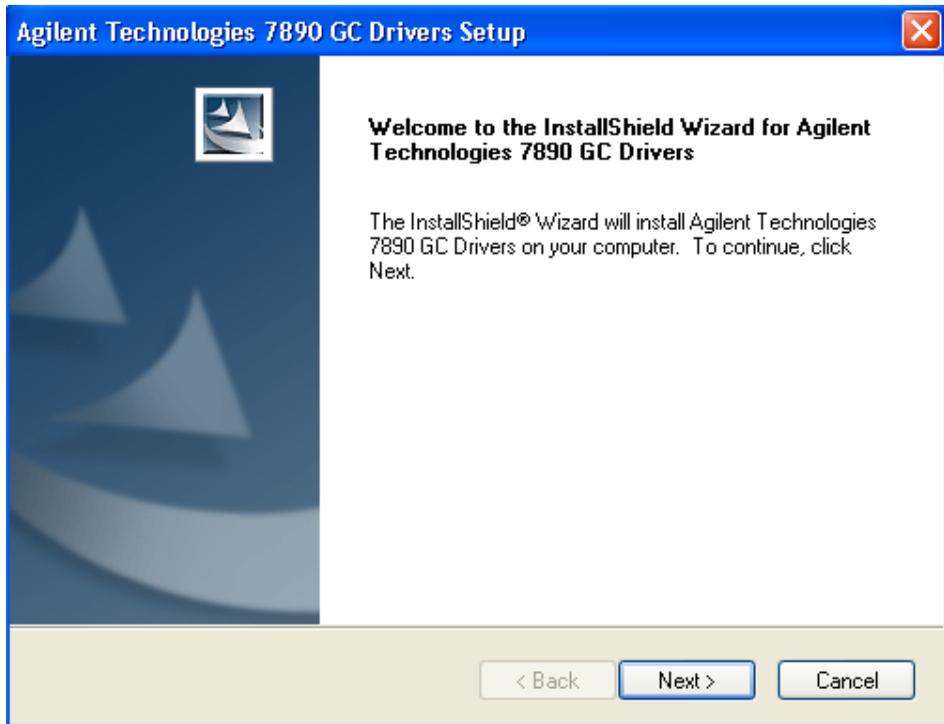
Installing the Driver Software

The Galaxie software must already be installed before installing the driver software.

You must have administrator rights to install the driver. The drivers must be installed only on the server.

1. When you insert the Galaxie CD into your CD drive, the CD browser will start automatically. If it does not, you can launch the browser by running **Install.exe** from the root directory of the CD.
2. From the CD browser click on the *Install 3rd Party GC Drivers* button.
3. Then click on the *Install Agilent 6890/6850* button.

The following screen will appear:



4. Click on the *Next* button, read and accept the **License Agreement** then enter your driver *Serial Number* in the corresponding field. The serial number is provided on your driver serial number card and is different from the Galaxie serial number.

Note that the serial number is case sensitive.

Agilent Technologies 7890 GC Drivers Setup

Customer Information

Please enter your information.

Please enter your name, the name of the company for which you work and the product serial number.

User Name:
Varian

Company Name:
Varian Data Systems

Serial Number:

InstallShield

< Back Next > Cancel

Then press the *Next* button and click on *Finish* at the end of the installation.

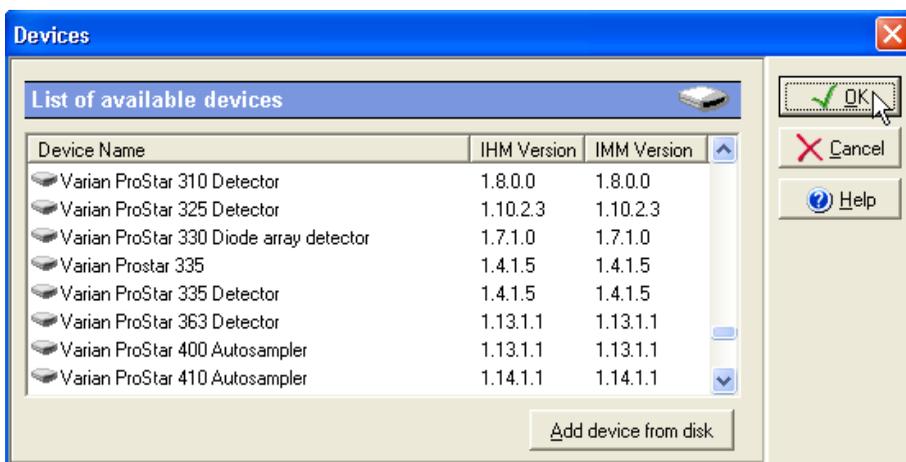
5. If you want to reinstall or upgrade your drivers, you will need to run the setup (steps 1, 2 and 3) again.

The following screen will appear:



Then press *Next* and the drivers will be automatically reinstalled or upgraded. Click on *Finish* at the end of the installation to exit the maintenance mode.

6. To see which drivers are installed, select *Options* from the Galaxie Configuration Manager main menu and select *Devices*. The following screen containing the installed devices appears:



The  button can be used for installing beta or pre-release drivers. Use this button **only** when directed by a technical support representative.

PerkinElmer™ GC Driver Installation

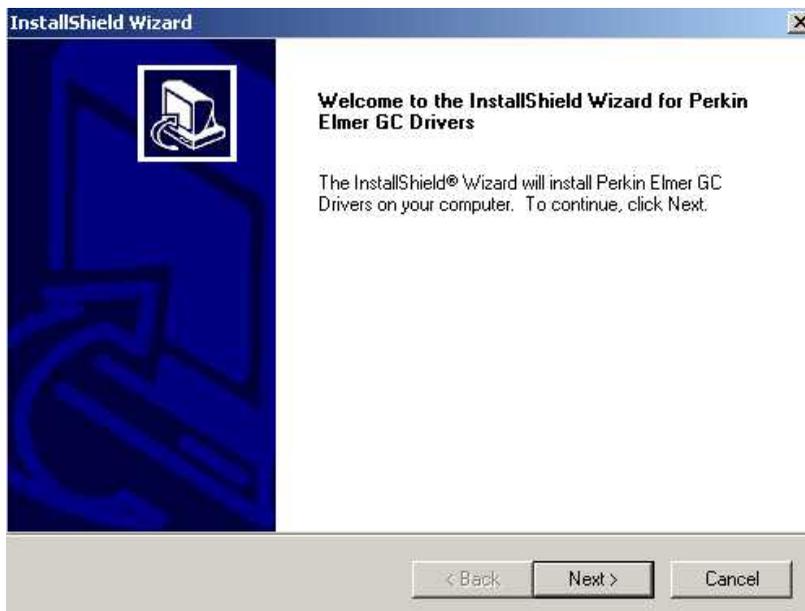
Installing the Driver Software

The Galaxie software must already be installed before installing the driver software.

You must have administrator rights to install the driver. The drivers must be installed only on the server.

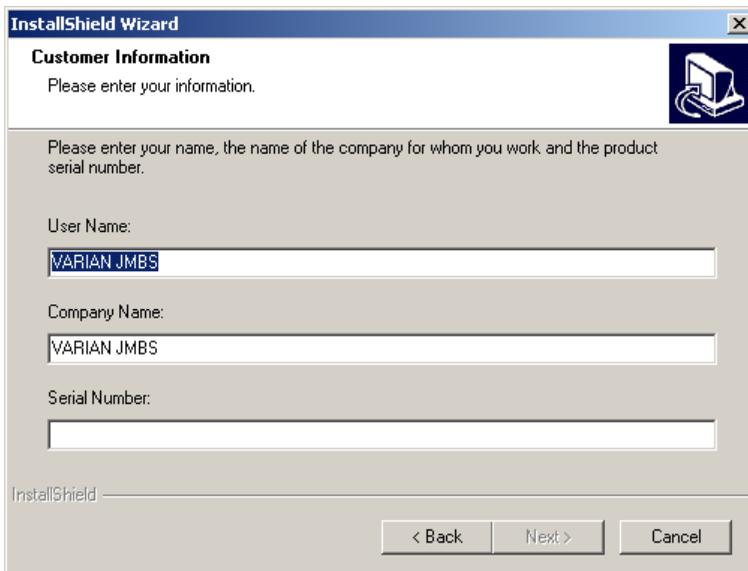
1. When you insert the Galaxie CD into your CD drive, the CD browser will start automatically. If it does not, you can launch the browser by running **Install.exe** from the root directory of the CD.
2. From the CD browser click on the *Install 3rd Party GC Drivers* button.
3. Then click on the *Install PE Autosystem* button.

The following screen will appear:



4. Click on the *Next* button, read and accept the ***License Agreement*** then enter your driver *Serial Number* in the corresponding field. The serial number is provided on your driver serial number card and is different from the Galaxie serial number.

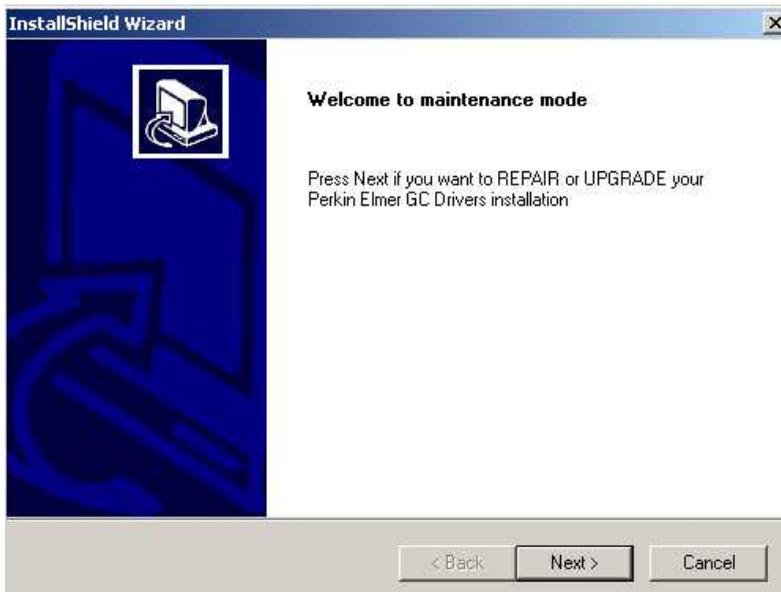
Note that the serial number is case sensitive.



Then press the *Next* button and click on *Finish* at the end of the installation.

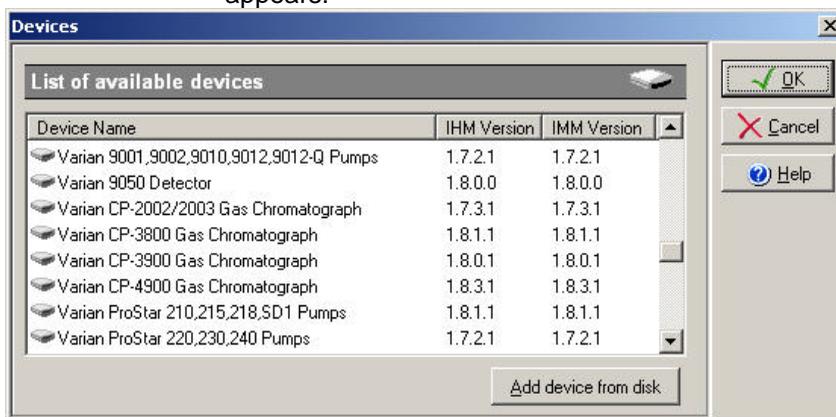
5. If you want to reinstall or upgrade your drivers, you will need to run the setup (steps 1, 2 and 3) again.

The following screen will appear:



Then press *Next*. The drivers will be automatically reinstalled or upgraded. Click on *Finish* at the end of the installation to exit the maintenance mode.

6. To see which drivers are installed, select *Options* from the Galaxie Configuration Manager main menu and select *Devices*. The following screen containing the installed devices appears:



The **Add device from disk** button can be used for installing beta or pre-release drivers. Use this button only when directed by a technical support representative.

Thermo GC Driver Installation

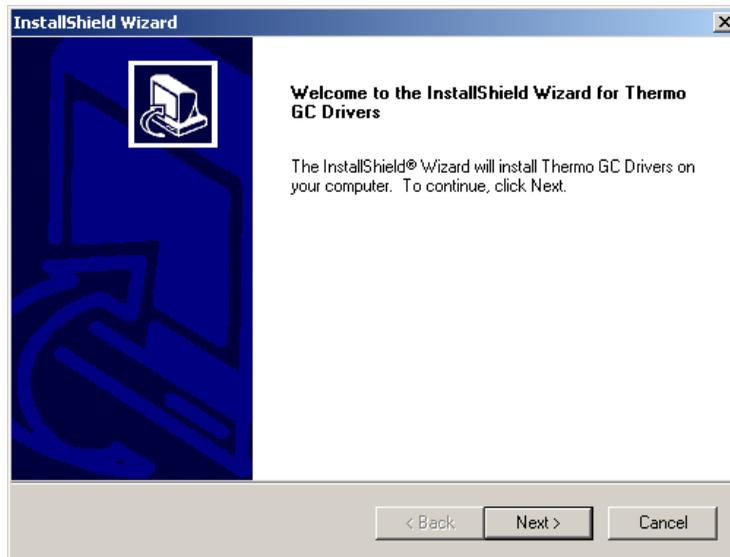
Installing the Driver Software

The Galaxie software must already be installed before installing the driver software.

You must have administrator rights to install the driver. The drivers must be installed only on the server.

1. When you insert the Galaxie CD into your CD drive, the CD browser will start automatically. If it does not, you can launch the browser by running **Install.exe** from the root directory of the CD.
2. From the CD browser click on the *Install 3rd Party GC Drivers* button.
3. Then click on the *Install Thermo GC 8000* button.

The following screen will appear:



4. Click on the *Next* button, read and accept the **License Agreement** then enter your driver *Serial Number* in the corresponding field. The serial number is provided on your driver serial number card and is different from the Galaxie serial number.

Note that the serial number is case sensitive.

InstallShield Wizard

Customer Information
Please enter your information.

Please enter your name, the name of the company for whom you work and the product serial number.

User Name:
VARIAN JMBS

Company Name:
VARIAN JMBS

Serial Number:

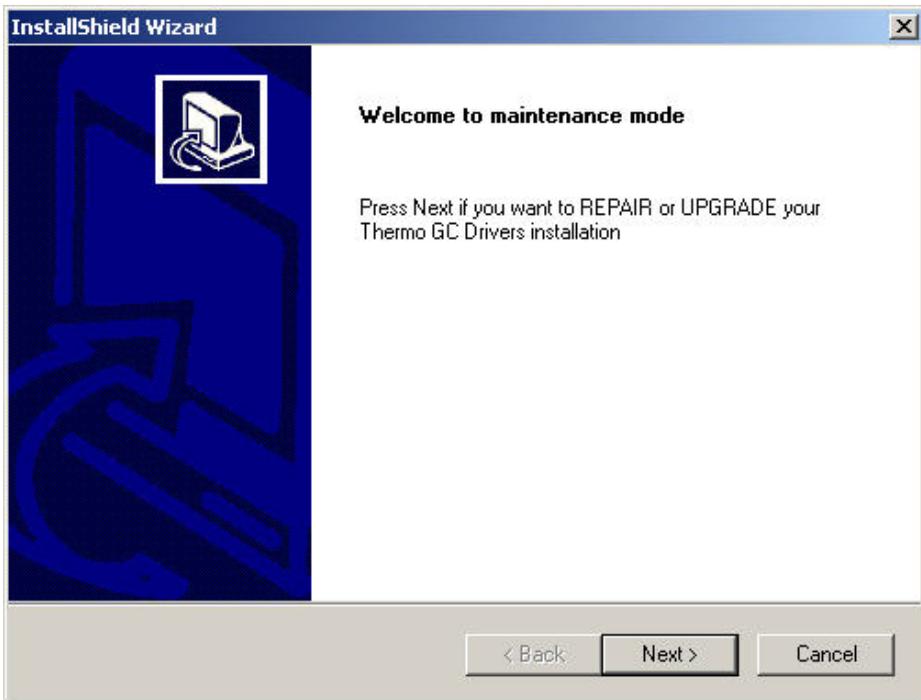
InstallShield

< Back Next > Cancel

Then press the *Next* button and click on *Finish* at the end of the installation.

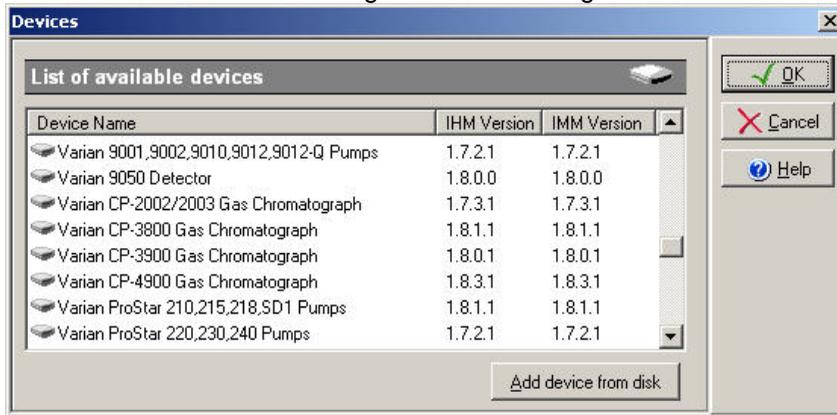
5. If you want to reinstall or upgrade your drivers, you will need to run the setup (steps 1, 2 and 3) again.

The following screen will appear:



Then press *Next*. The drivers will be automatically reinstalled or upgraded. Click on *Finish* at the end of the installation to exit the maintenance mode.

6. To see which drivers are installed, select *Options* from the Galaxie Configuration Manager main menu and select *Devices*. The following screen containing the installed devices appears:



The  button can be used for installing beta or pre-release drivers. Use this button only when directed by a technical support representative.

Waters® LC Driver Installation

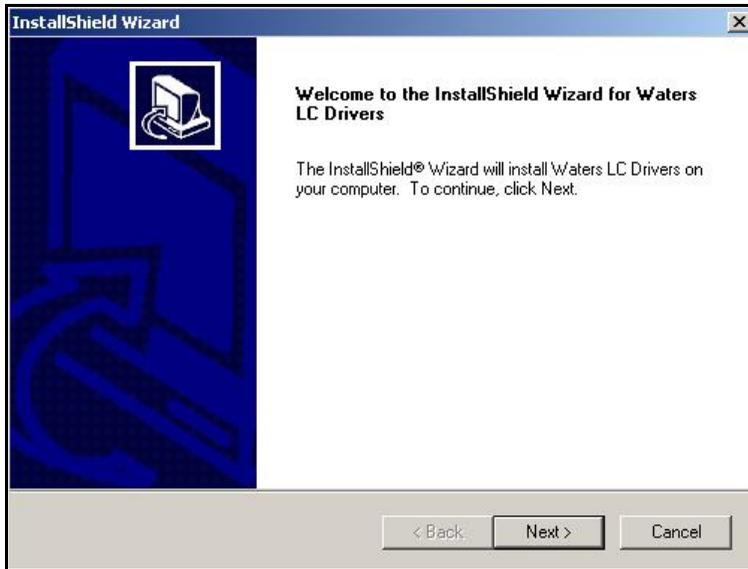
Installing the Driver Software

The Galaxie software must already be installed before installing the driver software.

You must have administrator rights to install the driver. The Waters drivers must be installed only on the server.

1. When you insert the Galaxie CD into your CD drive, the CD browser will start automatically. If it does not, you can launch the browser by running **Install.exe** from the root directory of the CD.
2. From the CD browser click on the *Install 3rd Party LC Drivers* button.
3. Then click on the *Install Agilent 1100* button.

The following screen will appear:



4. Click on the Next button, read and accept the **License Agreement** then enter the driver *Serial Number* in the corresponding field. The serial number is provided on the driver serial number card and is different from the Galaxie serial number.

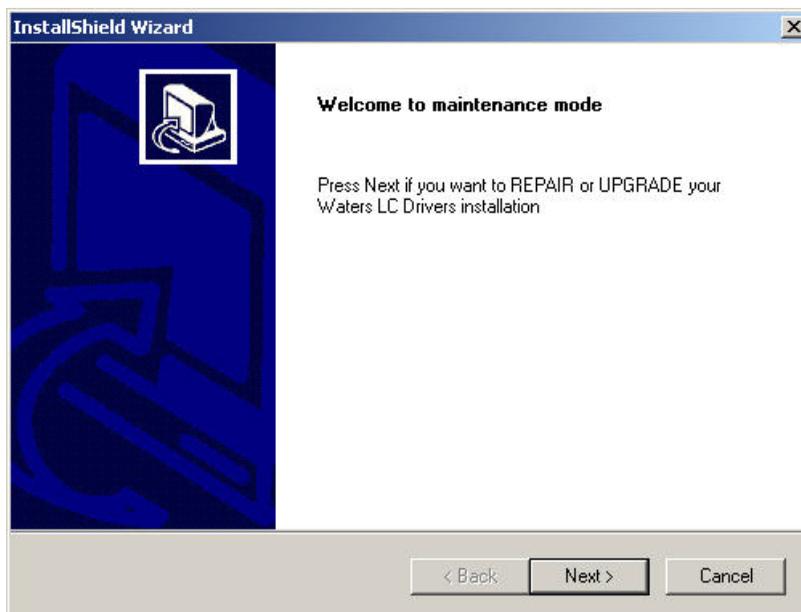
Note that the serial number is case sensitive.

The screenshot shows a Windows-style dialog box titled "InstallShield Wizard". The main heading is "Customer Information" with a sub-instruction "Please enter your information." and a small icon of a computer monitor. Below this, there is a larger instruction: "Please enter your name, the name of the company for whom you work and the product serial number." The form contains three input fields: "User Name:" with the text "Varian Inc.", "Company Name:" with the text "Varian Inc.", and "Serial Number:" which is currently empty. At the bottom left, the text "InstallShield" is visible. At the bottom right, there are three buttons: "< Back", "Next >", and "Cancel".

Then press the *Next* button and click on *Finish* at the end of the installation.

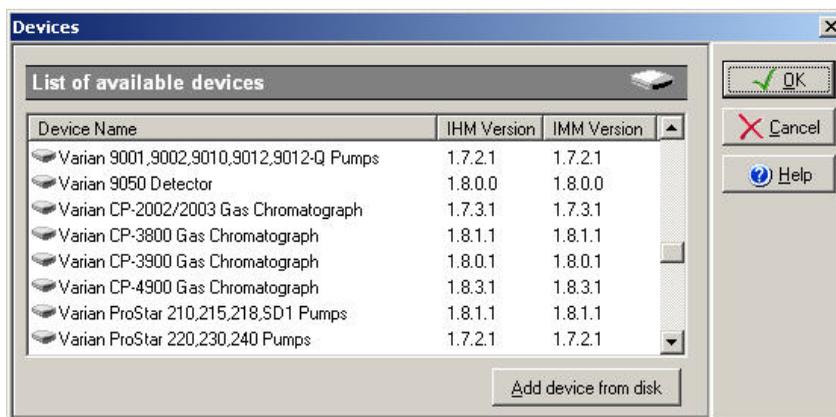
5. If you want to reinstall or upgrade your drivers, you will need to run the setup (1, 2 and 3) again.

The following screen will appear:



Then press *Next*. The drivers will be automatically reinstalled or upgraded. Click on *Finish* at the end of the installation to exit the maintenance mode.

6. To see which drivers are installed, select *Options* from the Galaxie Configuration Manager main menu and select *Devices*. The following screen containing the installed devices appears:



The  button can be used for installing beta or pre-release drivers. Use this button **only** when directed by a technical support representative.

National Instrument GPIB Board Installation

Installing the Driver Software

The Galaxie software must already be installed before installing the driver software.

You must have administrator rights to install the driver.

Do not install the NI GPIB board before installing the drivers.

NOTE: for the NI-GPIB driver version 2.5, the NI GPIB board must not be installed prior to the driver installation if the Operating System is Windows 2000. If the OS is Windows XP or Vista, the board can be or not installed prior to the NI GPIB driver installation.

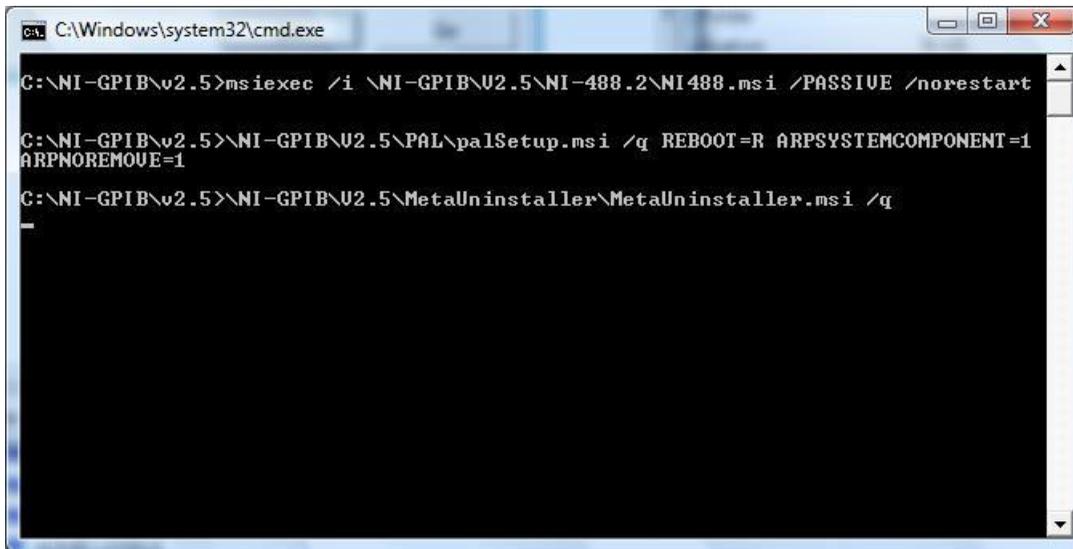
If you have installed more than one GPIB board in your PC, note their serial numbers and positions to be sure to associate the right card together with the right system module.

1. When you insert the Galaxie CD into your CD drive, the CD browser will start automatically. If it does not, you can launch the browser by running **Install.exe** from the root directory of the CD.
2. From the CD browser click on the *Install Varian LC Drivers* button or the *Install 3rd Party LC Drivers* button and then click on the *NI PCI board GPIB Drivers* button.

The following screen will appear:



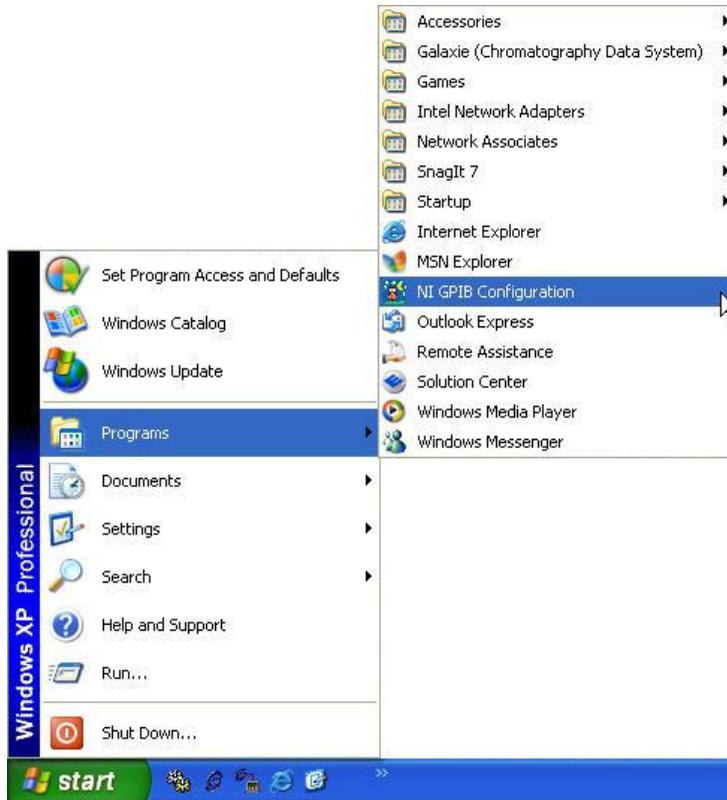
3. Click on Yes and the installation will start.



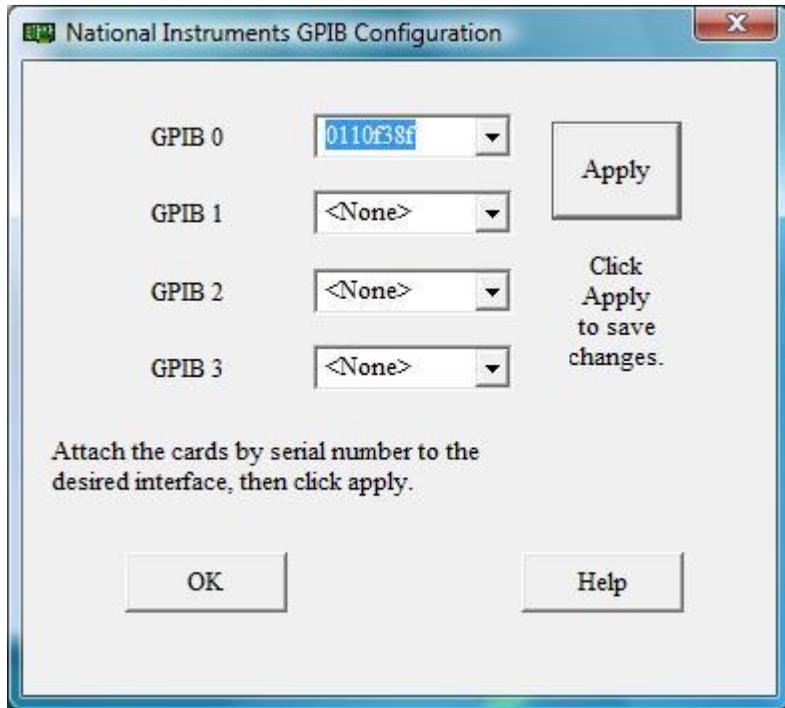
When the installation is finished the previous screen is closed.

Then turn off the computer. When the computer is stopped, install the NI GPIB board in an empty PCI slot and start the computer.

It is now possible to check the configuration of the NI GPIB board in the computer with the **NI GPIB configuration** program. A shortcut is created during the installation in the programs directory (see below). If this link is not present the program can be found in the winnt/system32 directory.



When installing GPIB board in a computer each board is associated to a GPIB number (0, 1, 2 or 3). In the **NI GPIB configuration** software you may associate a number to a GPIB board.



To associate a GPIB board to a GPIB number, select the appropriate board according to their serial number in the dropdown list. One GPIB board can only be associated to one number. Once the configuration is changed it is mandatory to reboot the computer.

If the ProStar 330 is part of your system, the GPIB0 must be the GPIB board connected to the ProStar 330.

MIB Interface Install

This part describes the software configuration of the MIB Interfaces.

MIB Interface drivers installation is automatically performed during Galaxie installation (do not forget to reboot the computer after Galaxie installation). One acquisition server can manage several MIB Interfaces.

MIB Interface Configuration

The MIB Interface can be configured to communicate with the Galaxie Station over a 10BaseT Ethernet configuration using TCP/IP protocol.

To configure the MIB Interface on the Galaxie Station, select the



icon *Interface configuration* in the *Tools* tab of the browser in the **Galaxie Configuration Manager Software**, or select the menu *Option* and click on *Interface Configuration*.

#	Name	Description	MIB	Communication	COM Port	BOOTP	IP address	Network interface
1	Ster 800 MIB N°1		800	TCPIP		<input type="checkbox"/>	10.190.200.81	255.255.255.0 / 010.190.200.1
2	Ster 800 MIB N°2		800	TCPIP		<input type="checkbox"/>	10.190.200.82	255.255.255.0 / 010.190.200.1
3	Ster 800 MIB N°3		800	TCPIP		<input type="checkbox"/>	10.190.200.83	255.255.255.0 / 010.190.200.1
4	Ster 800 MIB N°4		850	TCPIP		<input type="checkbox"/>	10.190.200.84	255.255.255.0 / 010.190.200.1
5	Ster 800 MIB N°5		850	TCPIP		<input type="checkbox"/>	10.190.200.85	255.255.255.0 / 010.190.200.1
6	Ster 800 MIB N°6		850	TCPIP		<input type="checkbox"/>	10.190.200.86	255.255.255.0 / 010.190.200.1
7	Ster 800 MIB N°7		800	TCPIP		<input type="checkbox"/>	10.190.200.87	255.255.255.0 / 010.190.200.1

 New
 Modify
 Remove
 Undo
 Apply

The settings for a previously configured MIB Interface can be changed by clicking on *Modify* and changing the parameters as necessary in the dialog box.

If a MIB Interface will no longer be used with this Galaxie acquisition server, it can be deleted from the table by selecting the line and clicking on *Remove*.

To add a MIB Interface to the list, click on *New*. The following dialog box will be displayed:

8x0 MIB parameters

Name

Description

8x0 MIB
 800 MIB 850 MIB

Communication
 RS232 TCPIP

RS232 Parameters
 COM

Ok Cancel 

Follow the directions below to configure the Galaxie acquisition server to communicate with the MIB Interface.

First of all select the Interface type you use: *800 MIB* or *850 MIB*

- If *800 MIB* is selected, two possible configuration setups are available:
 - TCP/IP over Ethernet using BOOTP,
 - TCP/IP over Ethernet using a static IP address (which requires the purchase of a serial cable, Varian part number 03-907938-42, to download the configuration and IP address to the MIB Interface),

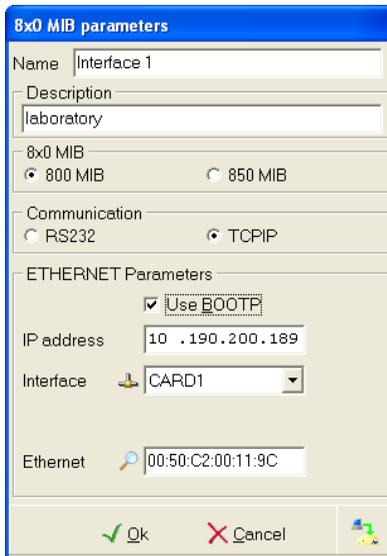
(Direct RS-232 serial communication is no more supported).

- If *850 MIB* is selected, only TCPIP configuration is available.

TCP/IP over Ethernet Communication with BOOTP (for Star 800 MIB only):

TCP/IP over Ethernet using BOOTP is the default configuration of the Star 800 MIB. Enter the *Name* that you want Galaxie to use to identify this Star 800 MIB. This field must be filled in with a unique name for the Star 800 MIB. The *Description* field may be entered to provide additional information about the Star 800 MIB. For example, this field may contain the physical location of the Star 800 MIB.

Next, select *TCPIP* mode in the *Communication* section of the **8x0 MIB parameters** dialog box. The dialog box will change to show the *Ethernet parameters* section. Check the *Use BOOTP* option.



Three parameters have to be set in the Ethernet parameters section: the *IP address*, the network *Interface*, and the *Ethernet* address.

1. Enter the IP address that will be used by the Star 800 MIB when it is connected to the network. For Star 800 MIBs connected to company networks, this IP address must be provided by the network administrator.

The subnet mask and gateway for the Star 800 MIB must be set. These parameters should be the same as the settings for the network card that will be used in the Galaxie computer to communicate with the Star 800 MIB.

2. Click on the  button to display the following screen:



3. Select the Name of the card, and then enter the Subnet mask and Gateway IP settings that correspond to those of the Network Interface card in the Galaxie acquisition server that will be used to communicate with the Star 800 MIB. If you are not sure of the settings to use, please contact your network administrator.
4. If you know the Ethernet address of the Star 800 MIB that you want to configure, you can enter it manually in the corresponding field. If you do not know it, you can click the  button and then reboot (unplug and plug the interface) the Star 800 MIB. The Ethernet addresses of Star 800 MIBs which use BOOTP to connect and have not received an IP address are displayed in this "BOOTP Clients Discovery" window.



Select the Ethernet address corresponding to Star 800 MIB that you are configuring and click on *Validate*. The selected Ethernet address is automatically transferred to the **8x0 MIB parameters** window.

5. Click on *OK* to add the configuration to the Interface configuration manager (the BOOTP server, listing all the devices working in BOOTP mode, will be automatically updated with this information).

NOTE: In this configuration, when the Star 800 MIB is first powered up, the bottom left green LED (1) lights to indicate that the Star 800 MIB is receiving power. The middle right yellow LED (5) lights to indicate that an Ethernet cable is attached. The middle left yellow

LED (2) and the top right red LED (3) will alternately flash to indicate that the Star 800 MIB is waiting for an IP address. If these two LEDs (2, 3) do NOT alternately flash, verify that the small switch next to the Ethernet port on the Star 800 MIB is set all the way towards the Ethernet cable. If these two LEDs (2, 3) still do not flash back and forth, then the Star 800 MIB may not be correctly configured for BOOTP.

When the Star 800 MIB transmits its BOOTP request, the bottom right green LED (4) will flash briefly showing that an Ethernet transmission has occurred. When an IP address has been successfully received, the flashing yellow and flashing red LEDs (2, 3) will stop flashing.



The BOOTP option works with a dedicated server: **BOOTP server**. It allows the user to modify the IP address of a Star 800 MIB from the station instead of loading it manually using a separately purchased serial cable.

BOOTP mode of operation: when starting a device (Star 800 MIB, some GCs, etc.) using the BOOTP, it sends request in the subnet it belongs to, to be assigned an IP address. If no IP address is assigned, the device keeps asking periodically until it gets one. The BOOTP server receives the request and lists it to allow user to associate an IP address (identified by its Ethernet address) with it, then the BOOTP server broadcasts this information across the subnet to allow the device to find it.

NOTE: Devices using BOOTP transmit BOOTP requests only when first switched on. Once getting their IP address they are operational and no longer transmit BOOTP requests.

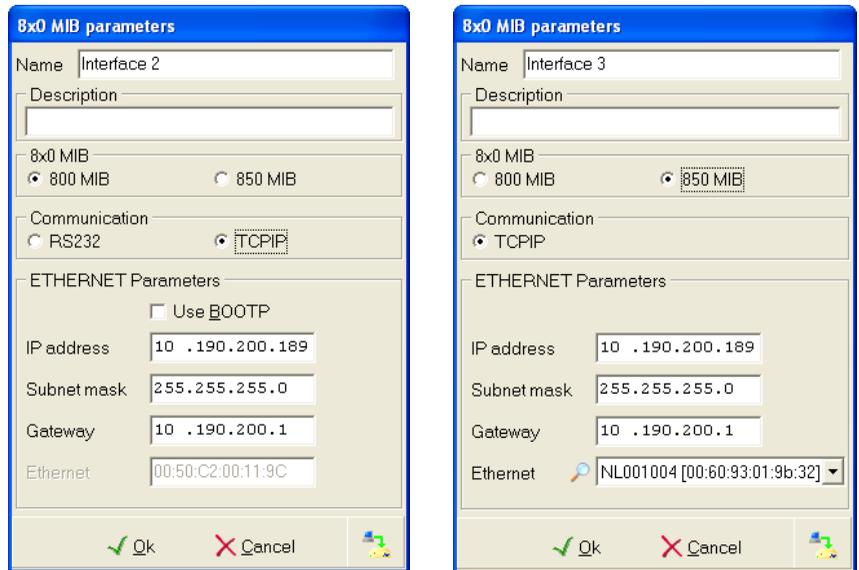
BOOTP server install: the BOOTP server installation is automatically done during the Galaxie installation.

TCP/IP over Ethernet Communication via Fixed IP Address

If you decide to configure your Star 800 MIB Interface to use a fixed IP address, you will need to purchase a Star 800 MIB serial configuration cable (to change from BOOTP to fixed IP for example). Note that this cable is a separately purchased item and is NOT included with the Star 800 MIB. The 850 MIB Interface is already configured in TCPIP, you don't need to send the configuration thanks to a cable into the interface.

Enter the *Name* that you want Galaxie to use to identify MIB Interface. This field must be filled in with a unique name. The *Description* field may be entered to provide additional information about the MIB Interface. For example, this field may contain the physical location of the MIB Interface.

Next, select the *TCPIP* mode in the *Communication* section of the **8x0 MIB parameters** dialog box. The dialog box will change to show the *Ethernet parameters* section. Uncheck the *Use BOOTP* option in the case of Star 800 MIB.



Three parameters have to be set in the Ethernet parameters section: the *IP address*, the *Subnet mask*, and the *Gateway*.

1. Enter the IP address that will be downloaded to the MIB Interface. For MIB Interface connected to company networks, this IP address must be provided by the network administrator.

2. The *Subnet mask* and *Gateway* for the MIB Interface must also be entered. These parameters should be the same as the settings for the network card that will be used in the Galaxie acquisition server to communicate with the MIB Interface. If you are not sure of the settings to use, contact your network administrator.

In the case of a 850 MIB Interface, the user must select the

MIB in the  scrolling list. The scrolling list lists all the 850 MIB interfaces connected. Click on the  button to refresh the list.

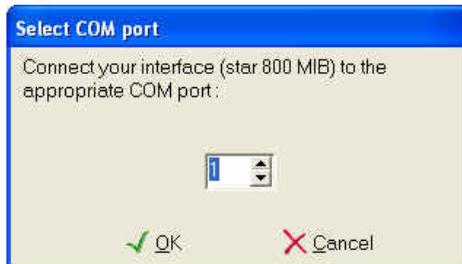
These parameters now need to be downloaded to the MIB Interface. To download these parameters:

In the case of a Star 800 MIB Interface:

1. Connect the separately purchased serial cable from the 9-pin "D"-shell connector on the Star 800 MIB to a serial port on the computer.



2. Then click on the  button. The following message is displayed:



3. The user then has to enter the number of the COM Port of the computer that is connected to the Star 800 MIB via the serial cable and click on *OK*.



4. Unplug and plug again the power supply of the MIB. The configuration including the fixed IP address will be downloaded to the Star 800 MIB, then the following message is displayed to indicate that the download was completed successfully:

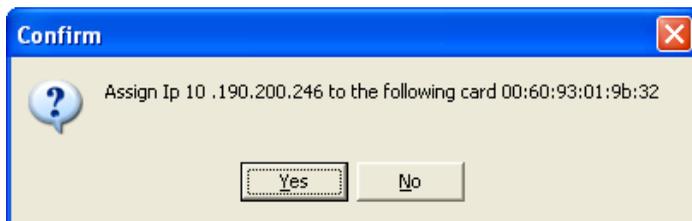


5. Unplug the Star 800 MIB interface and remove the serial cable connected to the computer.
6. Plug the Star 800 MIB back in.

In the case of a 850 MIB Interface:



Click on the  button. The following message is displayed:



Click on Yes, a successful message is displayed:



NOTE: It is advised to use fix IP address for the STAR 800 MIB

NOTE: In this configuration, when the Star 800 MIB is first powered up, the bottom left green LED (1) lights to indicate that the Star 800 MIB is receiving power. The middle right yellow LED (5) lights to indicate that an Ethernet cable is attached. The middle left yellow LED (2) and the top right red LED (3) will flash briefly while diagnostics are run and then go out. If these two LEDs (2, 3) alternately flash, the download of the fixed IP address was not successful and this process needs to be repeated.



Interface Supervisor

The MIB Interfaces are used either to control instruments or to acquire signal of one or several detectors (analog or digital). During the chromatographic systems configuration in Galaxie Configuration Manager, the used MIB Interfaces are named and the analog channels or COM Ports are identified.

The Interface supervisor allows you to check the MIB Interfaces state in real time. To start this tool in the Galaxie Configuration



Manager click on the icon **Interface supervisor** or select the menu Options and click on *Interface Supervisor*.



Each MIB Interface is represented by an interface symbol followed by its name. For each MIB Interface the resources list (analog channels (ANALOG)), relays (RELAYS), RS-232 serial ports (RS-232 or GPIB) are also displayed, as its channels state: allocated channels displayed in orange and not allocated ones in green. If the station does not communicate with the interface (problem of physical connection to the network or to the RS-232 connector, power supply not connected, etc.), no channel will appear for this interface and its name will be preceded by a red cross.

For each Star 800 MIB Interface, it is also possible to display the following information by putting the mouse cursor onto the Star 800 MIB interface name (display a hint): Interface Type: Varian 800

MIB, description (if defined when sending the configuration into the Star 800 MIB Interface), the Mac address, the firmware version, the IP address.

For each 850 MIB Interface, it is also possible to display the following information by putting the mouse cursor onto the 850 MIB interface name: Interface Type: Varian850 MIB, the Mac address and the serial number, the IP address



Click on the  icon to display the MIB Interface list with details about connections (analog, relay, GPIB).



Click on the  icon to display the MIB Interface list in medium or reduced size, that is to say the MIB Interface list and the channel number (e.g., analog (1/2) means that 2 analog channels are declared and that one is allocated) or only the MIB Interface names.



The  button updates the supervisor if pressed.

Diagnostics

If a MIB interface is preceded by a red cross in the supervisor:

- Verify that the interface is switched ON.
- In the case of a Star 800 MIB Interface, verify that the toggle switch located on the back panel of the interface is on the *Ethernet* position (if not, place the switch in the Ethernet position, then plug the interface back in).
- Verify that the IP address captured in *Interface configuration* is correctly entered, and that it corresponds to the IP address of the interface.
- Verify that a valid Ethernet cable connection exists between the interface and the hub (or wall plug).
- If the interface is still not detected, reprogram the network parameters of the interface (Refer to the section on *MIB Interface Configuration*).

If the above steps do not solve the communication problem, please contact your technical support.

BOOTP Server Configuration

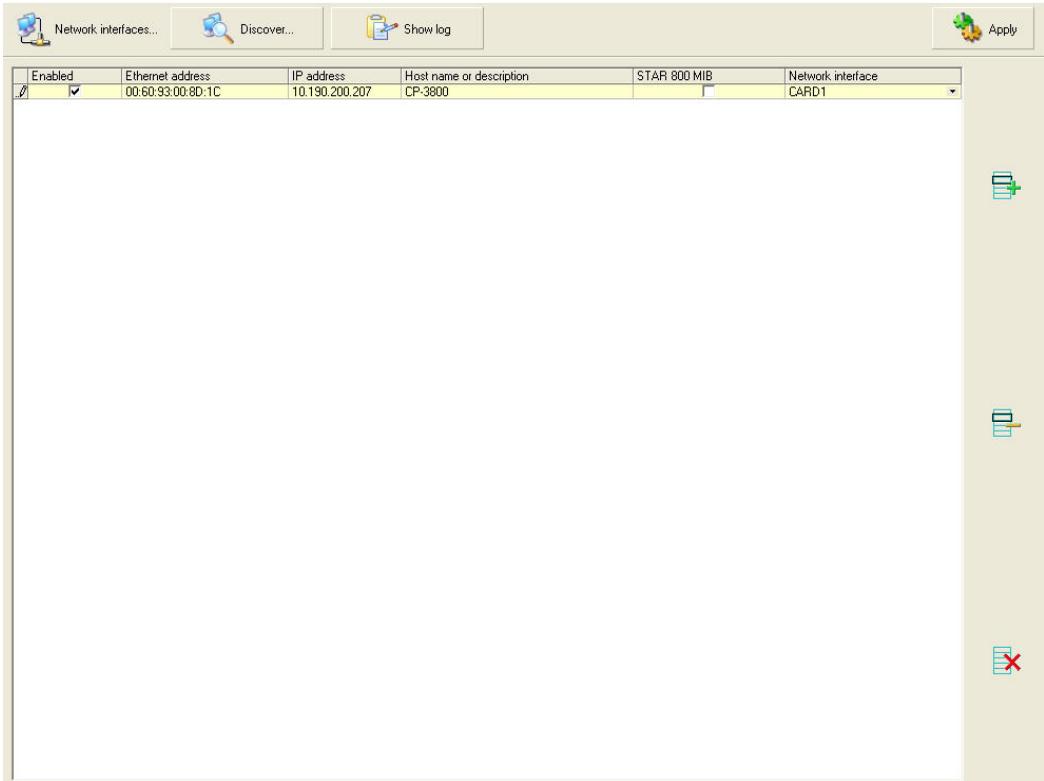
A BOOTP Server is used to send IP addresses to TCP/IP devices.

The BOOTP Server lists Ethernet addresses along with the IP addresses that are to be assigned to the corresponding devices.

7. Start the BOOTP Server Configuration tool in the Galaxie Configuration Manager by clicking on the icon



BootP configuration or in the menu Options click on BOOTP configuration. The following screen appears:



8. First press the  button to declare the parameters of the network where the instruments and the BOOTP server are located.

The following screen appears:



Enter a *Name* for the network card, the *Subnet mask* and *IP Gateway* addresses.

More than one network card may be declared by clicking



on . Delete the selected line by clicking on . Delete



all the lines by clicking on .



9. Click on the  button and the BOOTP server will automatically find the instruments which are requesting an IP address and will list their Ethernet addresses.

10. The following screen appears:

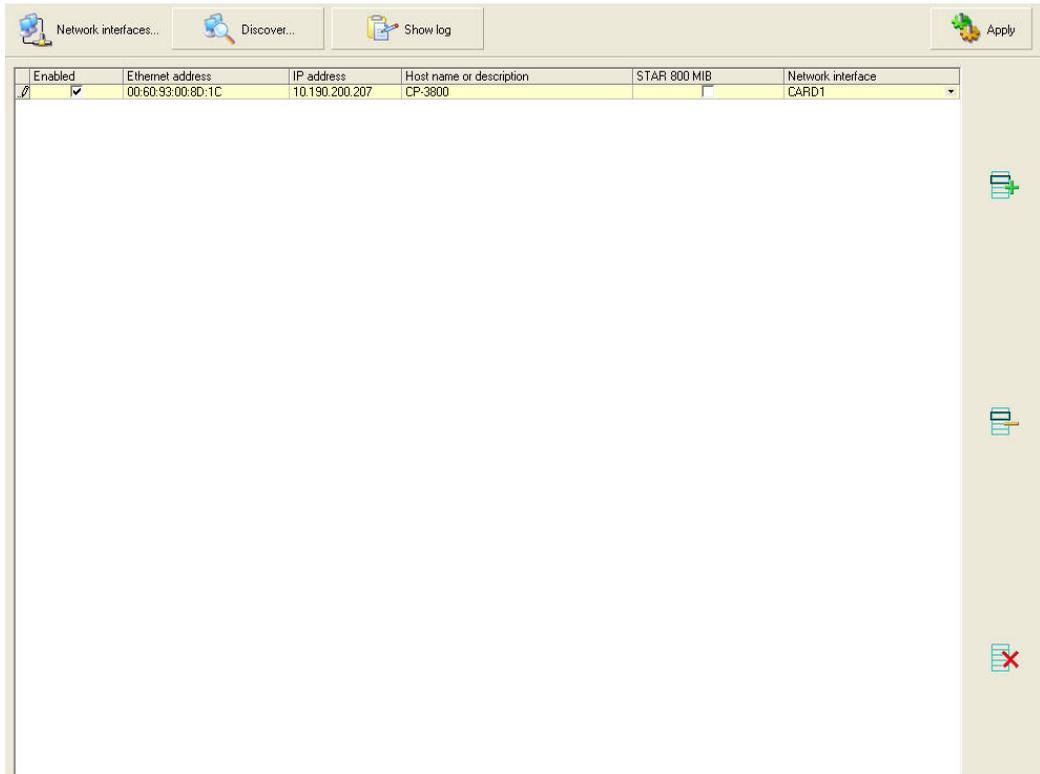


If you power on the needed instruments, their Ethernet addresses will appear a few seconds later.

Select the needed instruments and click on



The corresponding instruments are then listed in the main screen:



11. Complete the mandatory fields by entering the IP address assigned to the selected instrument, its Name or Description and the Network interface previously declared and assigned to the instrument.

NOTE: Do not check the *STAR 800 MIB* box when configuring an instrument different than a Star 800 MIB box.

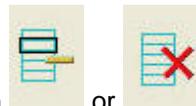
To setup Star 800 MIB BOOTP, use the *Interface Configuration* tool.



12. By clicking on the  button, an instrument can be declared manually.

In this case, enter the Ethernet address which allows the computer to locate the instrument and to upgrade the IP address without reloading it every time it changes.

Complete the other fields (*IP address, Name, etc.*) as described above.



Delete the selected line by clicking on  or  to clear all lines in the table.



13. Click on the  button to see details about the requests sent by the instruments, the answers of the BOOTP server, or the errors.
14. When all the instruments have been correctly declared, click on *OK*, or *Apply* to validate.

NOTE: The BOOTP server provided by Galaxie is installed during the installation of the Galaxie software.

Communication Engine Configuration

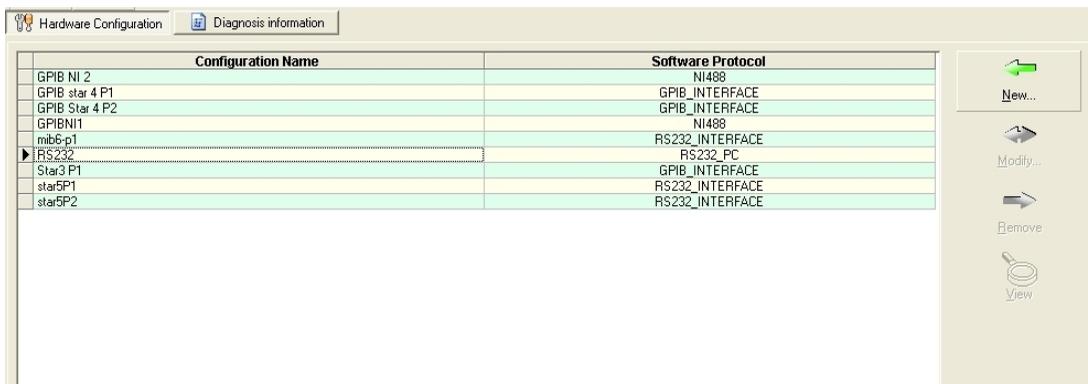
Depending on the instrument modules that compose the system, different hardware resources can be used by the drivers to communicate with the chromatographic system GPIB_Interface, NI 488, RS232_3800, RS232_Interface or RS232_PC. These hardware resources have to be configured.



Communication engine configuration

Click on the icon in the Tools tab of the browser, or select in the Option menu the Communication Engine Configuration in the **Galaxie Configuration Manager Software**.

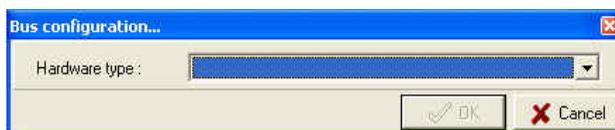
The following screen appears:



By default the *Hardware Configuration* tab is selected. This screen lists the configured types of hardware used by the instrument for communication and precise the software protocol used.



To configure a new type of hardware, click on the *New...* button, the following screen is displayed:

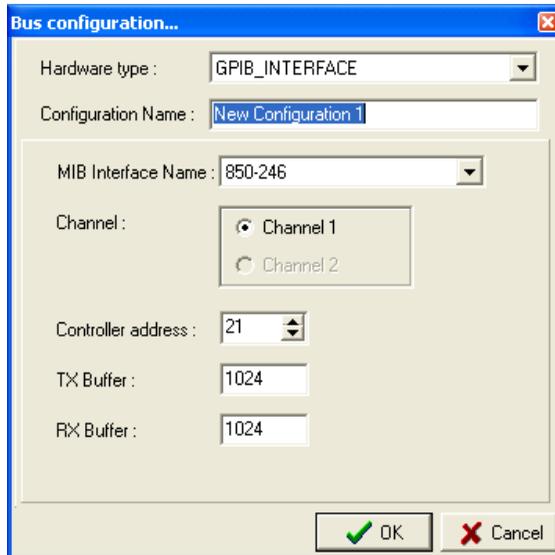


Select in the scrolling list, the *Hardware type* required by the chromatographic instrument, a new screen appears, depending on the choice.

Listed here are the available choices:

CEC488	(communication by GPIB ISA Card, no longer supported)
GPIB_INTERFACE	(communication by a GPIB port on the MIB Interface)
NI488	(communication by GPIB PCI card installed in the computer)
RS232_3800	(communication by RS232 ports in the Varian 3800 GC)
RS232_INTERFACE	(communication by RS232 ports on a MIB Interface)
RS232_PC	(communication by RS232 ports installed in the computer)
SICL_488	(communication by GPIB, no longer supported)

- If GPIB_INTERFACE is selected in the Hardware type list, the following screen appears :



Change the type of the hardware by selecting in the list the new type of hardware required by the instrument. In case of change, refer to the sub-section corresponding to the new selected type of hardware to see details about its configuration.

Give a logical name to the Communication Bus in the field *Configuration Name*.

Select in the list the name of the MIB Interface configured prior to accessing this screen.

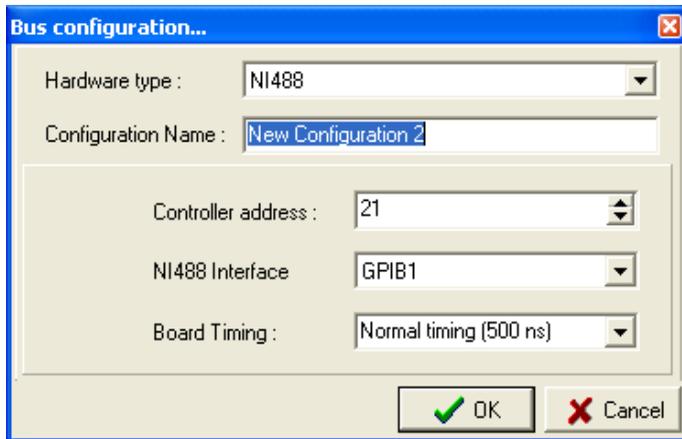
Select the position of the GPIB card in the MIB Interface (channel 1= bottom card, channel 2= upper card).

Enter a GPIB address for the card in the field *Controller address*.

NOTE: 21 is the default value. Be sure that this address won't be used by any module connected to the GPIB board.

Let the default values (1024) for the transmission and reception buffers parameters. These parameters are communication parameters.

- If NI488 is selected in the Hardware type list, the following screen appears:



Change the type of the hardware by selecting in the list the new type of hardware required by the instrument. In case of change, refer to the sub-section corresponding to the new selected type of hardware to see details about its configuration.

Give a logical name to the Communication Bus in the field *Configuration Name*.

Enter a GPIB address to the card in the field *Controller address*.

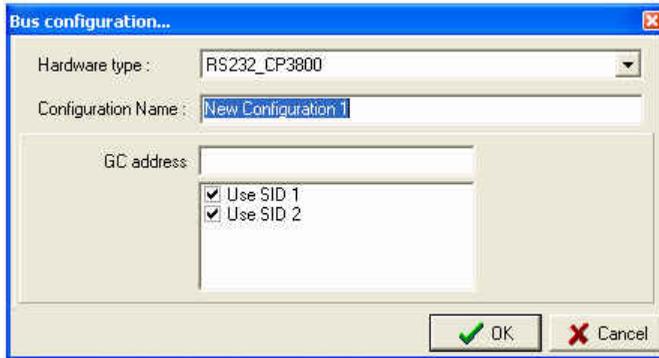
In the field *NI 488 Interface*, select on which GPIB card the communication bus will be created.

In the *Board timing* field, let the default value (*Normal timing (500 ns)*), except for using Hitachi instruments where it is necessary to select *Slow timing (2 μ s)*.

NOTE: 21 is the default value. Be sure that this address won't be used by any module connected to the GPIB board.

NOTE: The NI PCI GPIB board used to connect to the ProStar 330 PDA should NOT be configured in this application.

- If RS232_3800 is selected in the Hardware type list, the following screen appears:



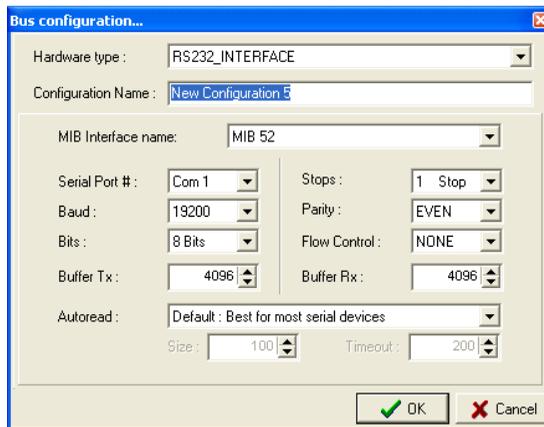
This communication bus is used only if a Varian 8200 AutoSampler is connected to a Varian 3800 GC.

Give a logical name to the card in the field *Configuration Name*.

Enter the IP address of the GC in the corresponding field.

(Refer to the instrument driver manual for more details on how to use SID options)

- If RS232_Interface or RS232_PC is selected in the Hardware type list, the following screen appears:



Or



Give a logical name to the communication bus in the field *Configuration Name*.

Define the serial port (of the MIB Interface for the RS232_Interface and of the computer for the RS232_PC). For almost all the instruments the default values are used for the other parameters (Baud, Bits, etc.). Refer to the instrument User's Guide for special values.

For the RS232_INTERFACE, let default for most of serial devices, or Short frames for a bus connecting a ESL2100 or 356-LC RI Detectors.

NOTE: The serial ports used to connect to the Agilent 5890 or 6890 series of GCs and their autosamplers should NOT be configured in this application.

The new hardware is now displayed in the main *Hardware Configuration* screen.

The following options are available from the *Hardware Configuration* screen:



modify the configuration of the selected hardware.

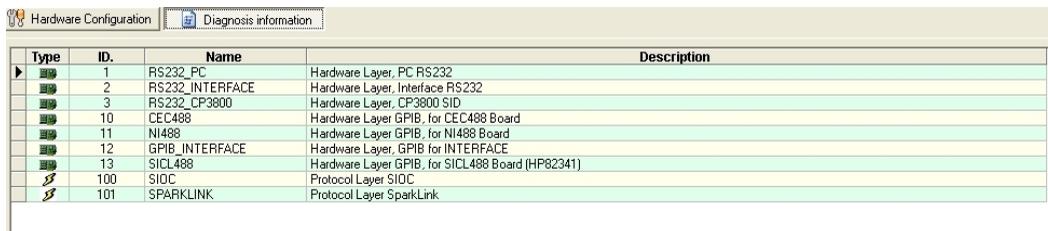


delete the selected hardware.



show the details of the configuration of the selected hardware.

Select the *Diagnosis information* tab, the following screen appears:



Type	ID	Name	Description
	1	RS232_PC	Hardware Layer, PC RS232
	2	RS232_INTERFACE	Hardware Layer, Interface RS232
	3	RS232_CP3800	Hardware Layer, CP3800 SID
	10	CEC488	Hardware Layer GPIB, for CEC488 Board
	11	NI488	Hardware Layer GPIB, for NI488 Board
	12	GPIB_INTERFACE	Hardware Layer, GPIB for INTERFACE
	13	SICL488	Hardware Layer GPIB, for SICL488 Board (HP82341)
	100	SIOC	Protocol Layer SIOC
	101	SPARKLINK	Protocol Layer SparkLink

In this form, all the available hardware resources and software protocols are listed.

Remarks:

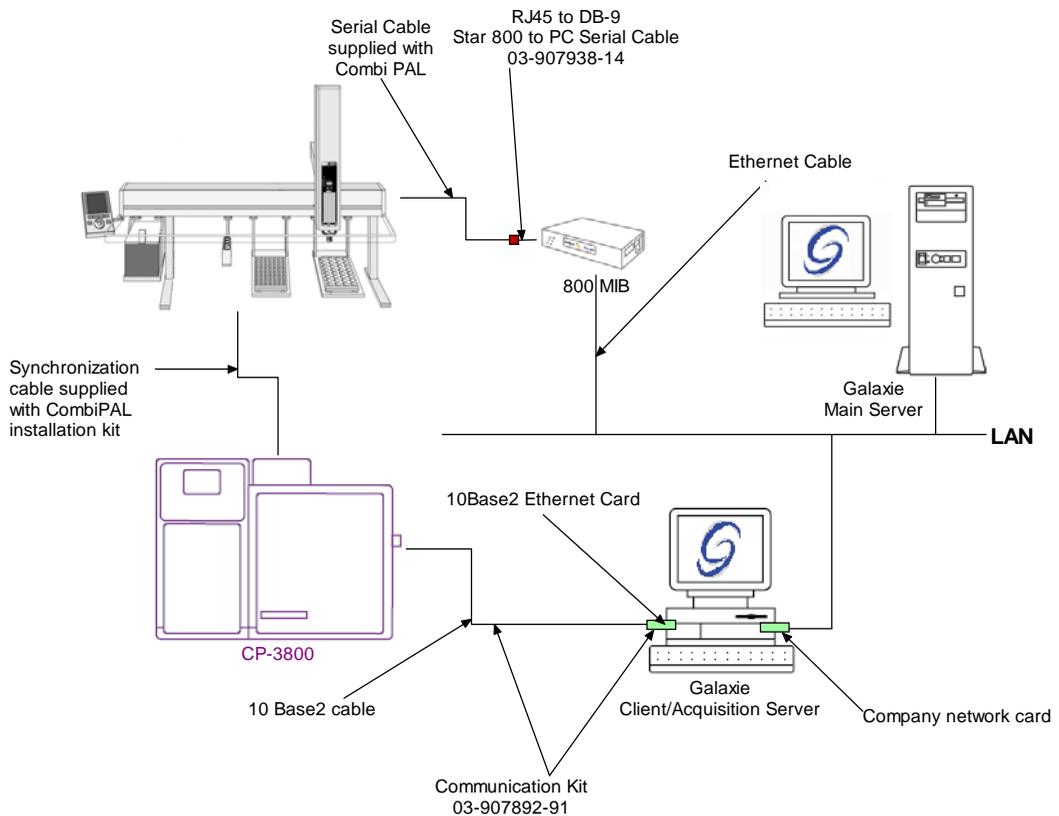
If working with an instrument module using a GPIB communication protocol, two steps have to be done:

- Configuration of the GPIB card.
- Configuration of the instrument module.

Systems Configuration

Varian GC Systems

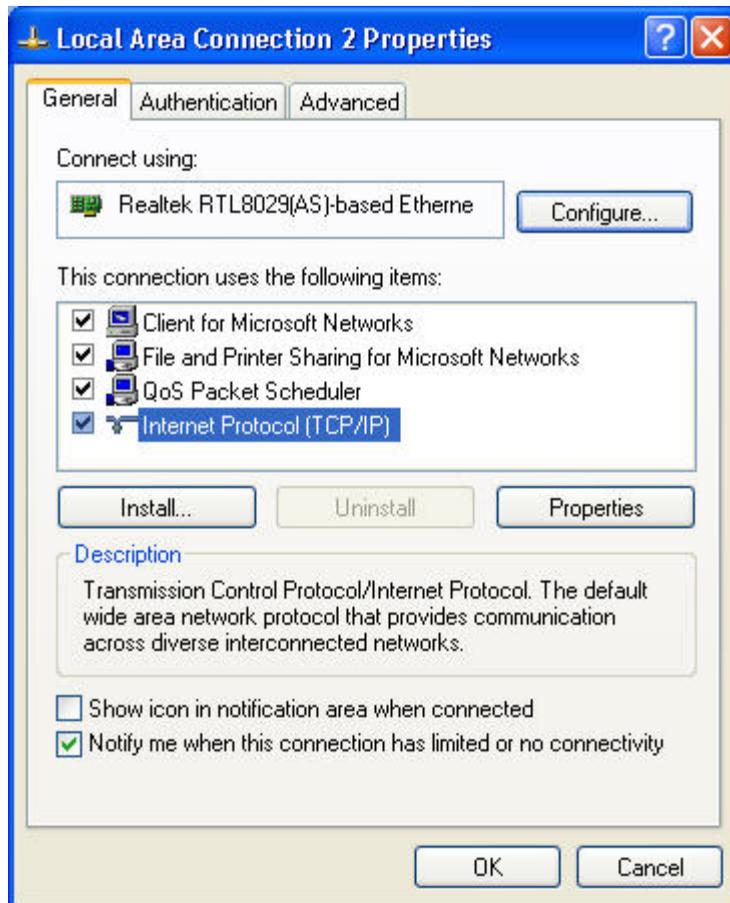
Example 1: Combi PAL Autosampler, CP-3800 directly connected to the Acquisition Server

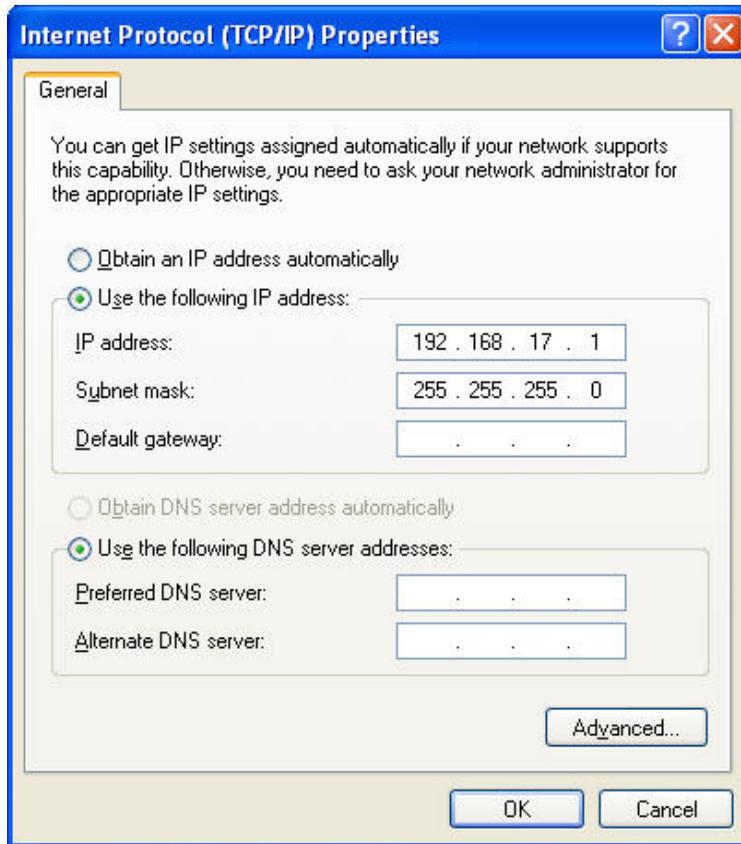


This example describes how to configure the system shown above. In this configuration the acquisition server of the system must be the computer with the 10Base2 Ethernet card where the CP-3800 is connected to. Please also note that all the following steps must be done on the acquisition server.

To configure the system shown above, please do the following steps:

1. Configure the two network cards in the computer.
 - The IP address of company network card can be left with its current IP setting (fixed, DHCP etc...)
 - Define a fixed IP address for the 10Base2 Network card as following.

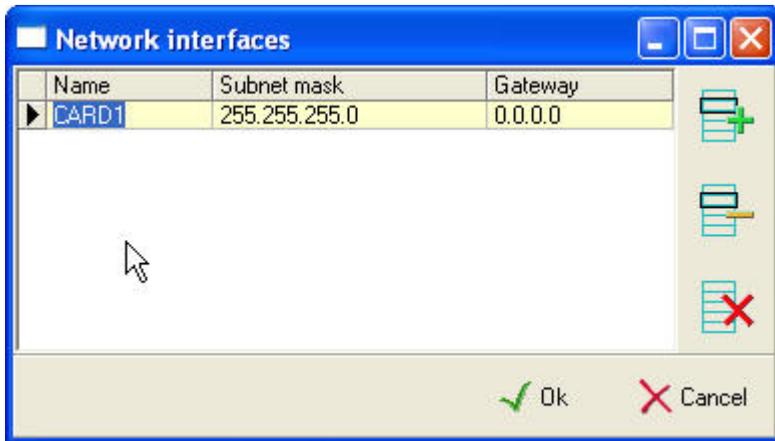




Please note that the IP range used for the 10base2 Ethernet card must be different to the IP range used for the company network card.

2. Configure the MIB Interface (refer to section *MIB Interface Configuration* of this manual).
3. Setup the BOOTP server if the CP-3800 does not have a fix IP address (refer to section *BOOTP Configuration* of this manual). To do so please follow the steps below.

- 1- Configure a network interface in the BOOTP configuration tool as following.



2- Turn ON the GC and press the

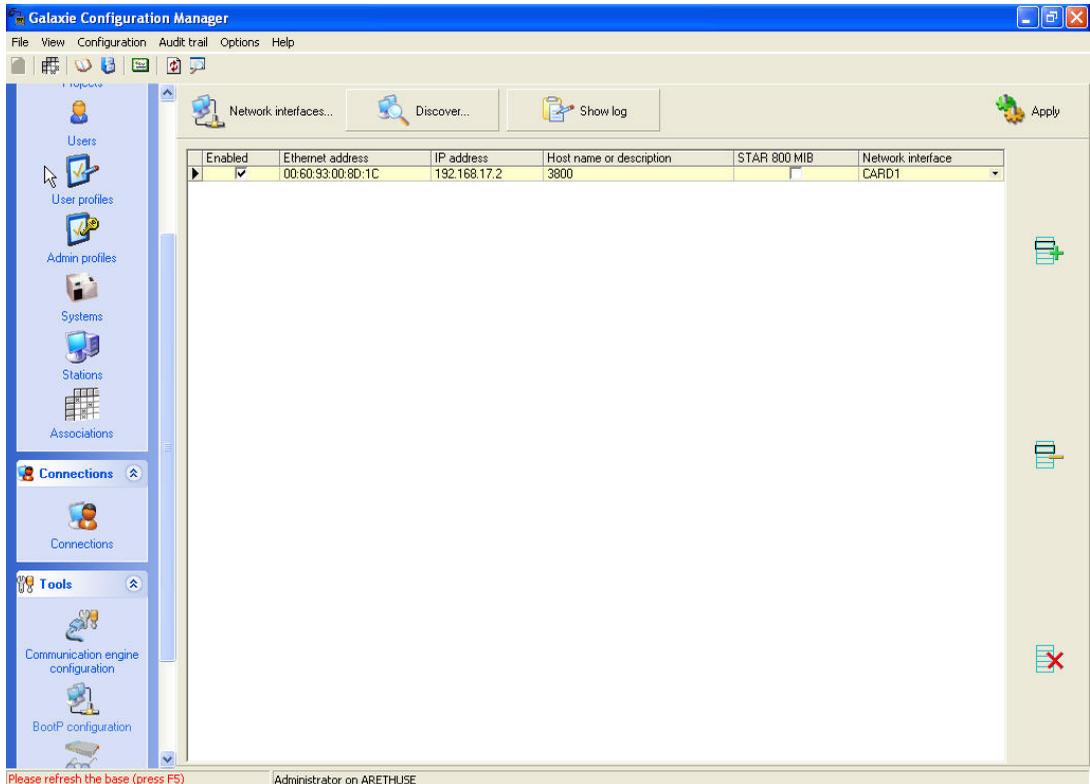


button.

3- Select in the screen the Mac address of the CP-3800 and press Validate.



4- Type the IP address of the GC and also a host name.



5- Finally press the  button to validate the configuration.

4. In the **Galaxie Configuration Manager**, create a new system. The following screen will be displayed.

Edit System

System (Creating a new item)

Name: Combi PAL 3800

Description: [Empty text area]

Laboratory: [Empty dropdown] Laboratories ...

Description: [Empty text area]

Acquisition server: ARETHUSE

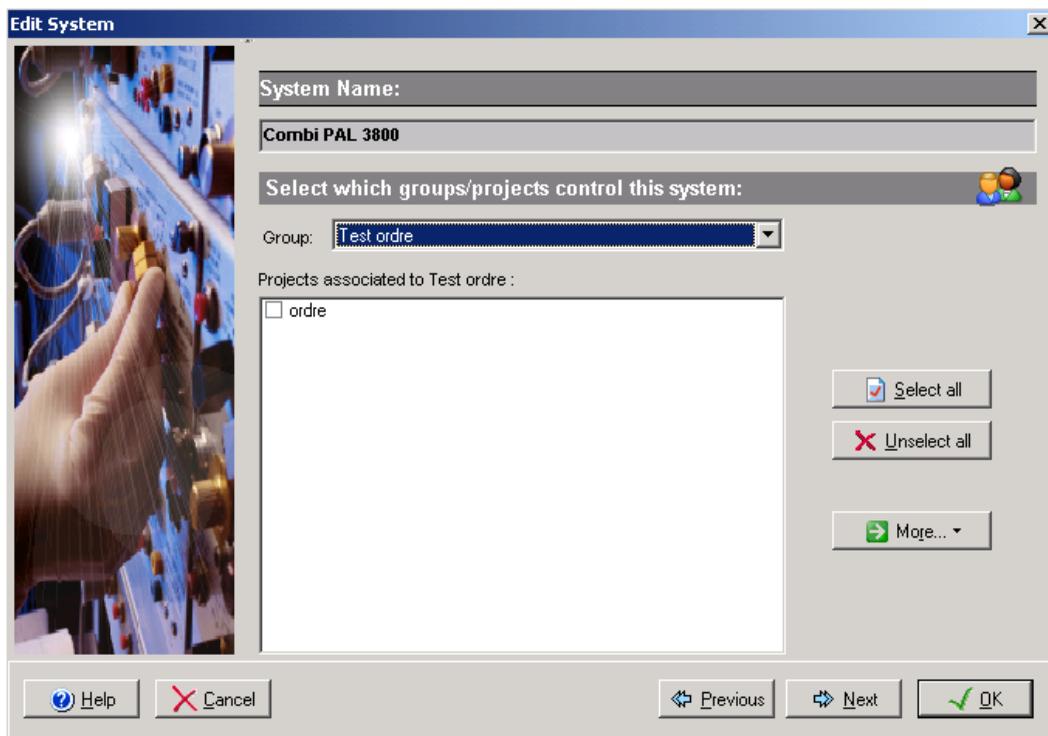
Sequence server: ARETHUSE

System locked

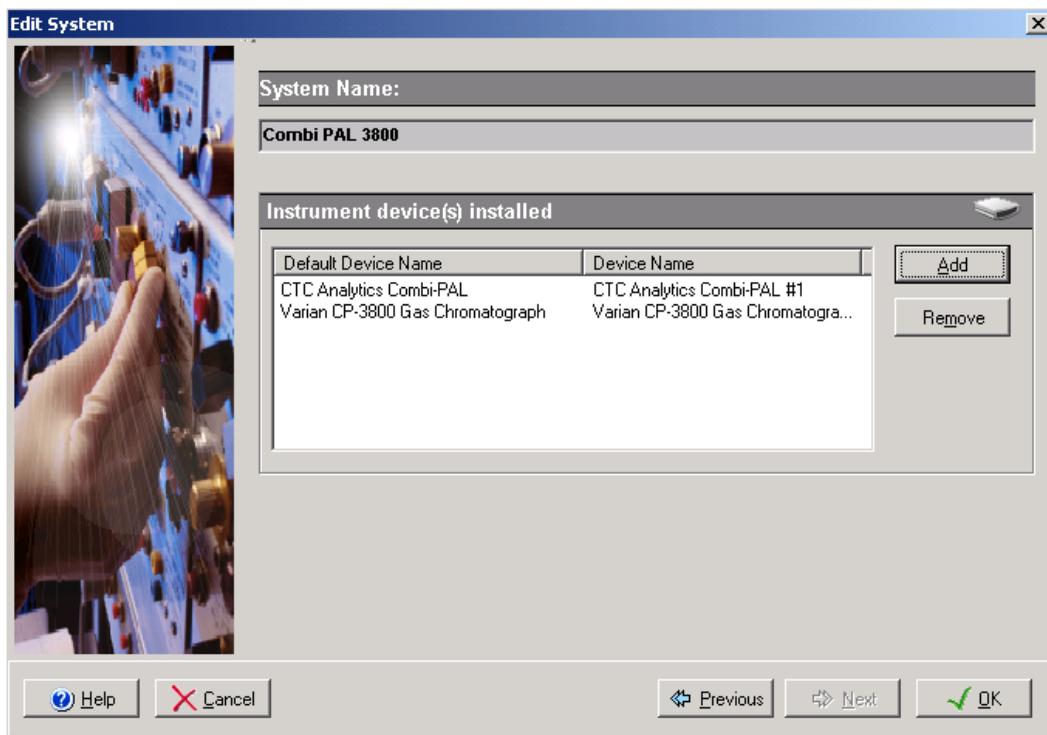
Help Cancel Previous Next OK

Enter the *Name* of the system, select in the *Acquisition server* and *Sequence server* the name of the acquisition server. The acquisition server of the system must be the computer with the 10Base2 Ethernet card. Then click on *Next*.

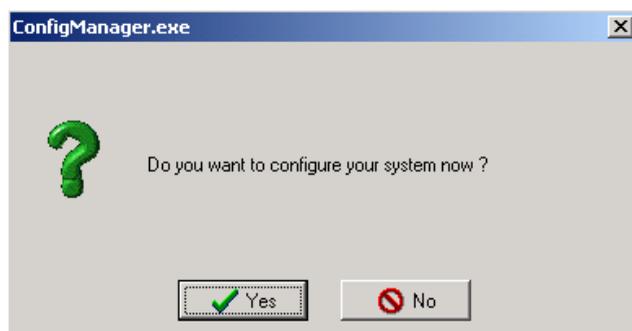
5. In the following screen associate one or more project(s) to the system and click on *Next*. If no groups/projects are defined, click on *Next*.



6. To configure that system, it is mandatory to install two devices: the Combi PAL and the CP-3800. Click on the *Add* button, select in the *Device Type* list CTC Analytics Combi PAL and press *OK*. Repeat the same operation but this time select in the *Device Type* list Varian CP-3800 Gas Chromatograph. When the two devices have been added, the screen should be as below.

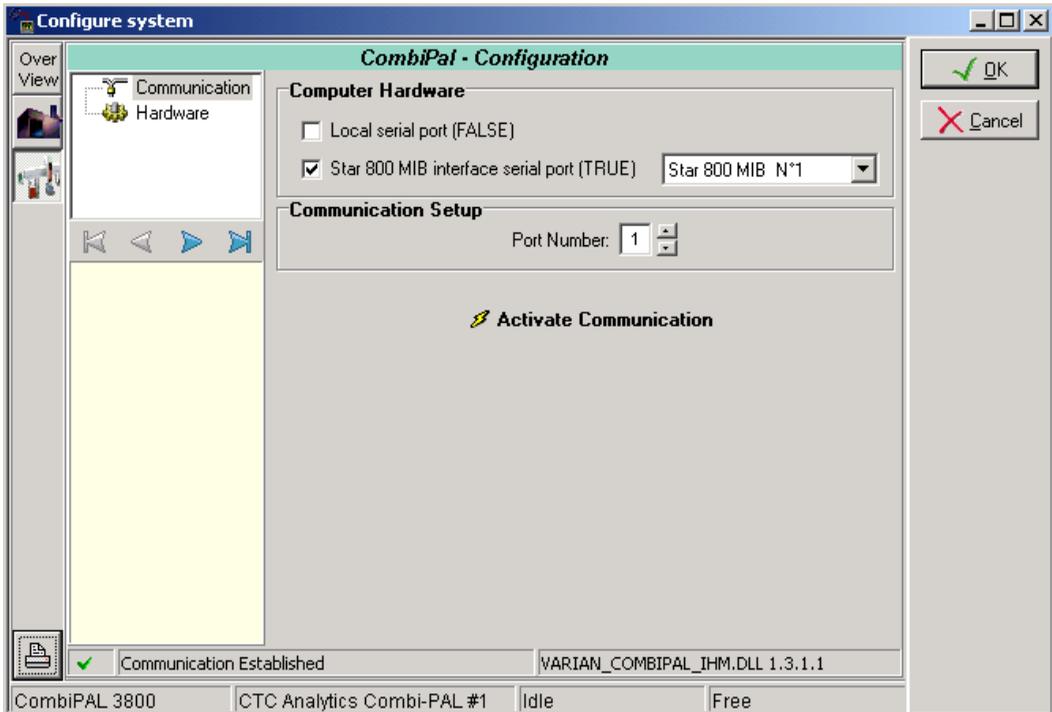


- Click on the *OK* button and answer *Yes* to the question "Do you want to configure your system now?"



- In the next screen, press the Combi PAL icon and click on the *Communication* tab. Select *Star 800 MIB interface serial port* and in the dropdown list select the Star 800 MIB interface previously configured. Enter in the *Port Number* field, the port number of the MIB

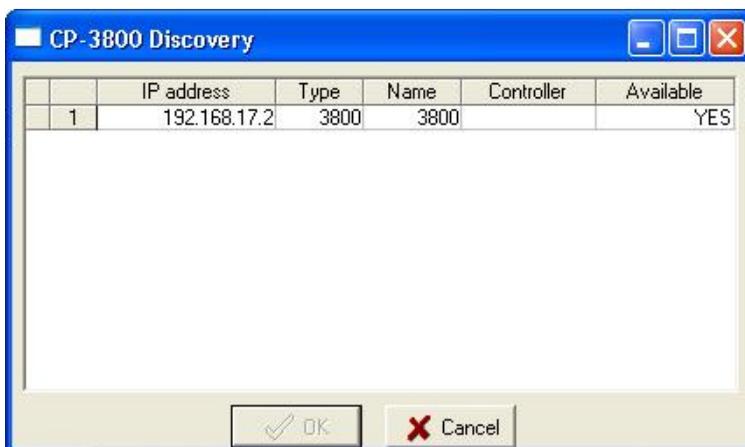
Interface where the Combi PAL is connected to and press the *Activate Communication* button.



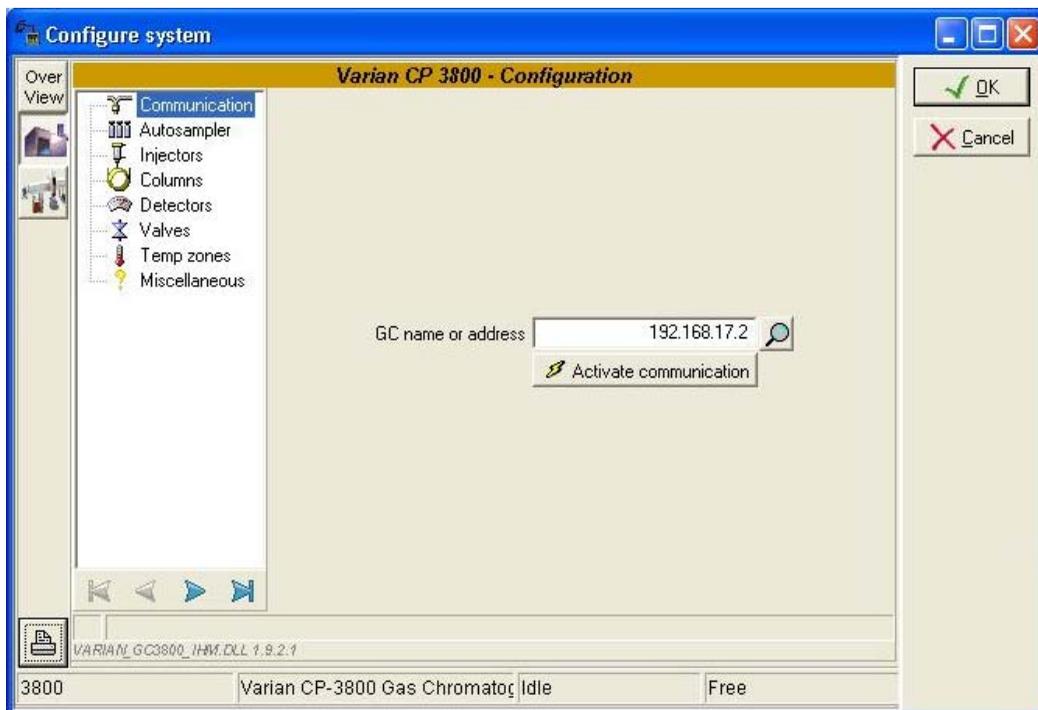
If the communication is successful, the following progress bar should appear on the screen.



9. Press the CP-3800 icon and click on the *Communication* tab. Type the GC IP address in the *GC name or address* field or click on the magnifying glass to search the CP-3800 connected to the network card.



Select the correct GC and click on OK. Then press the *Activate communication* button. If the communication is successful a message should appear at the bottom of the configuration screen "Setup received from the instrument" (see below).

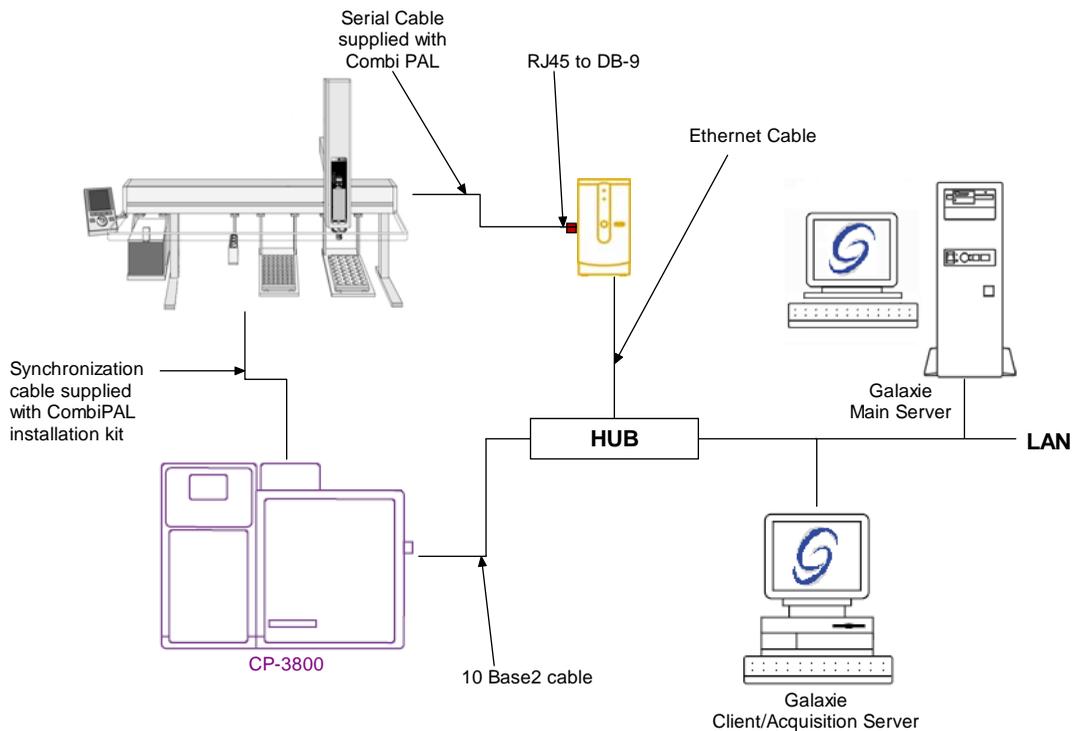


NOTE: It is advised to use fix IP address to communicate with instrument

10. Click on the *OK* button to finish the configuration of the system.
11. Finally stop the system by right clicking on its name in the organization view. Then right click again and press start. It is now possible to configure the Overview by going back in the configuration of the system.



Example 2: Combi PAL AutoSampler, CP-3800 connected to a HUB



To configure the system shown above, please do the following steps:

1. Configure the MIB Interface on the acquisition server (refer to section *MIB Interface Configuration* of this manual- configure 850-MIB).
2. Setup the BOOTP server if the CP-3800 does not have a fixed IP address (refer to section *BOOTP Configuration* of this manual).
3. In the **Galaxie Configuration Manager**, create a new system. The following screen will be displayed.

Edit System

System (Creating a new item)

Name: Combi PAL 3800

Description: [Empty text area]

Laboratory: [Empty dropdown] Laboratories ...

Description: [Empty text area]

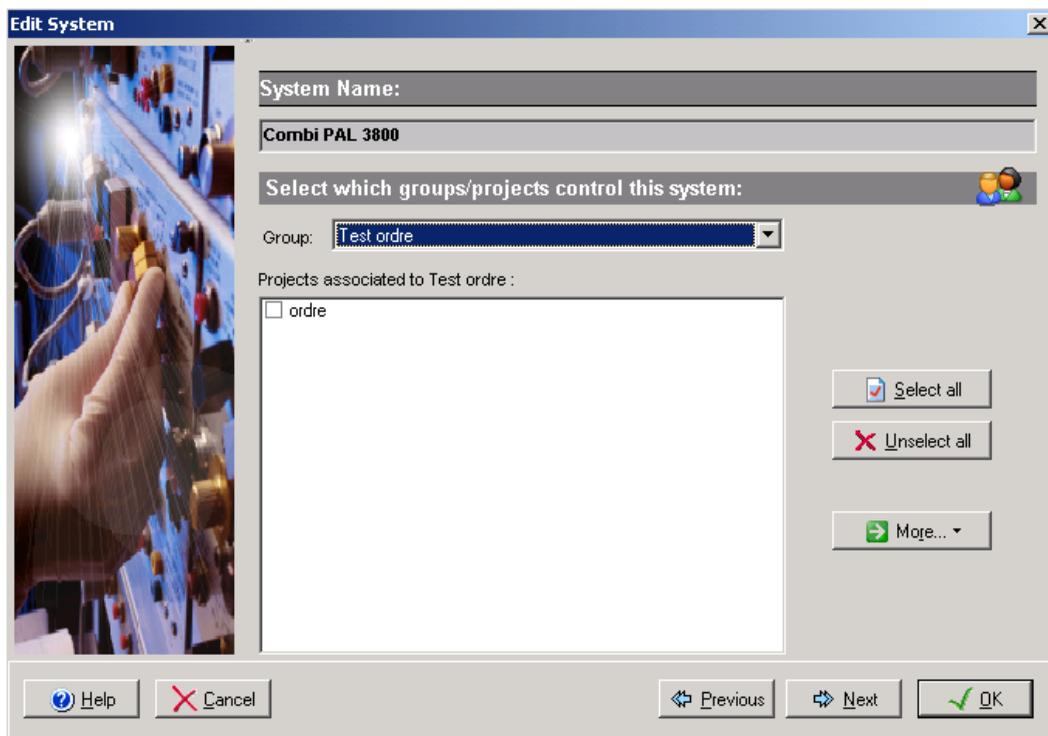
Acquisition server: ARETHUSE Sequence server: ARETHUSE

System locked

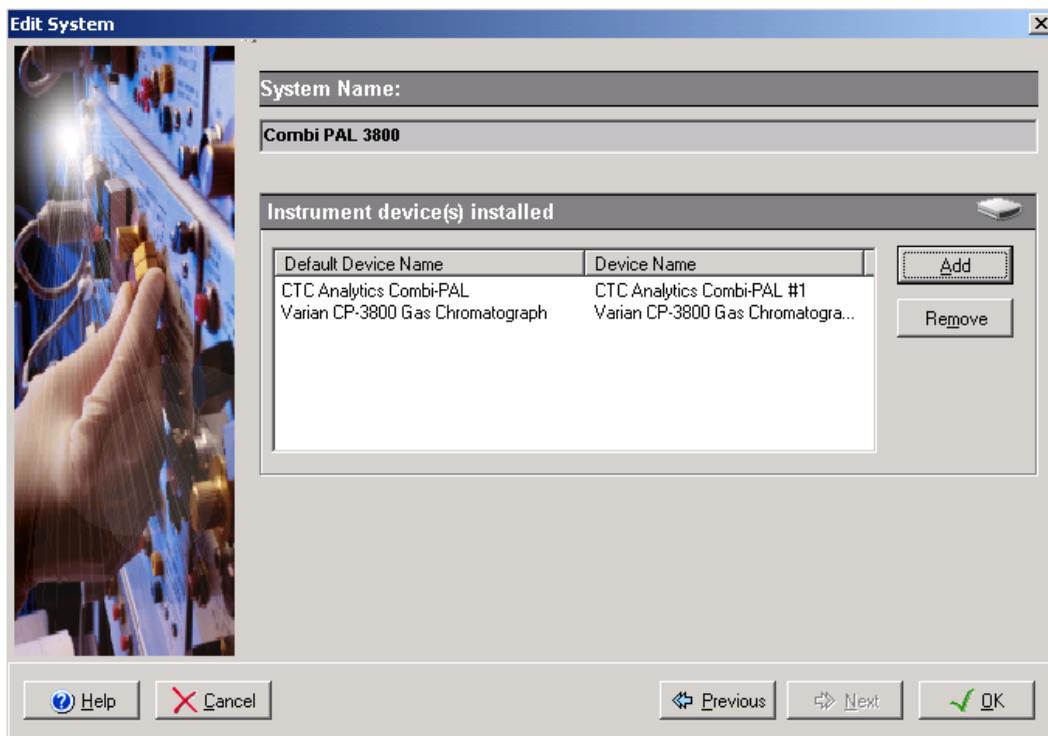
Help Cancel Previous Next OK

Enter the *Name* of the system, select in the *Acquisition server* and *Sequence server* the name of the acquisition server and the name of the sequence server. Then click on *Next*.

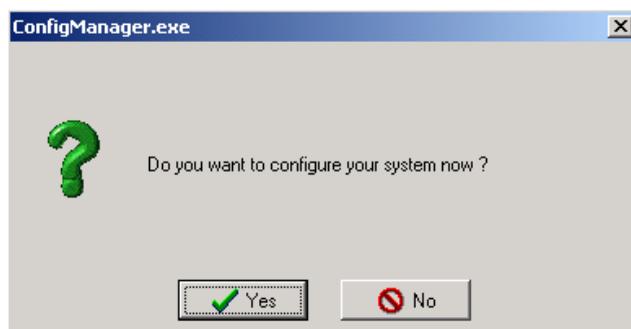
4. In the following screen, associate one or more project(s) to the system and click on *Next*. If no groups/projects are defined, click on *Next*.



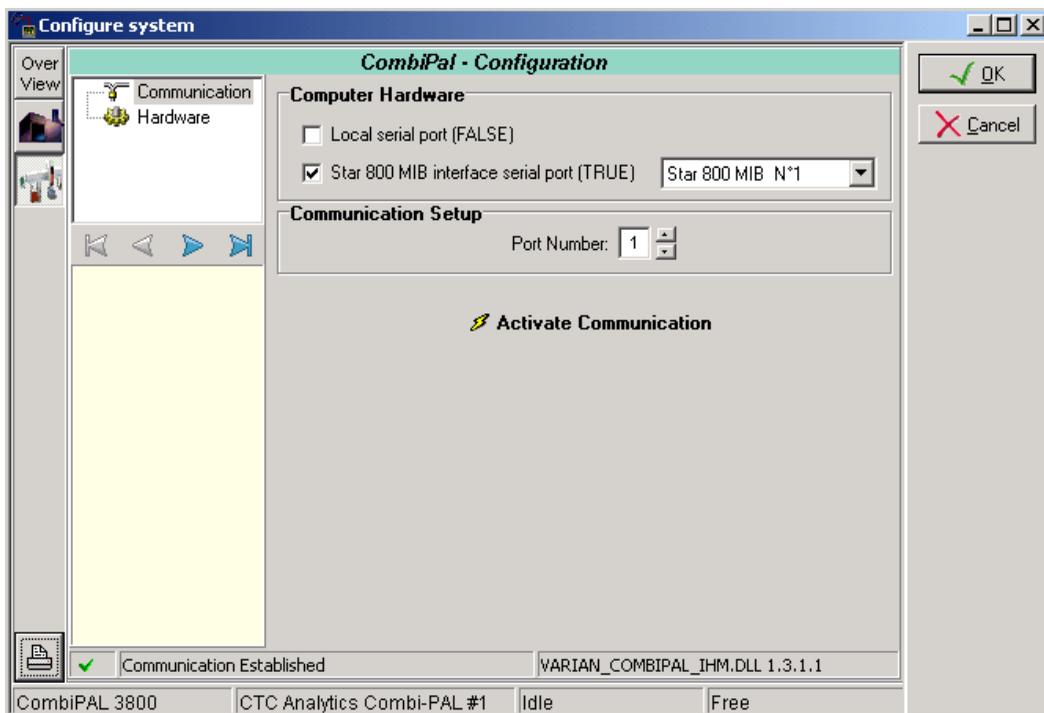
5. To configure that system, it is mandatory to install two devices; the Combi PAL and the 3800. Click on the *Add* button, select in the *Device Type* list CTC Analytics Combi-PAL and press *OK*. Repeat the same operation but this time select in the *Device Type* list Varian CP-3800 Gas Chromatograph. When the two devices have been added, the screen should be as below.



- Click on the *OK* button and answer *Yes* to the question: "Do you want to configure your system now?"



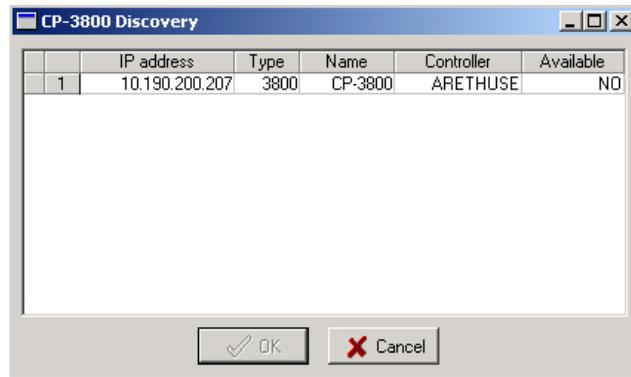
- In the next screen, press the Combi PAL icon and click on the *Communication* tab. Select *Star 800 MIB interface serial port* and in the dropdown list select the MIB Interface previously configured. Enter in the *Port Number* field, the port number of the MIB Interface where the Combi PAL is connected to and press the *Activate Communication* button.



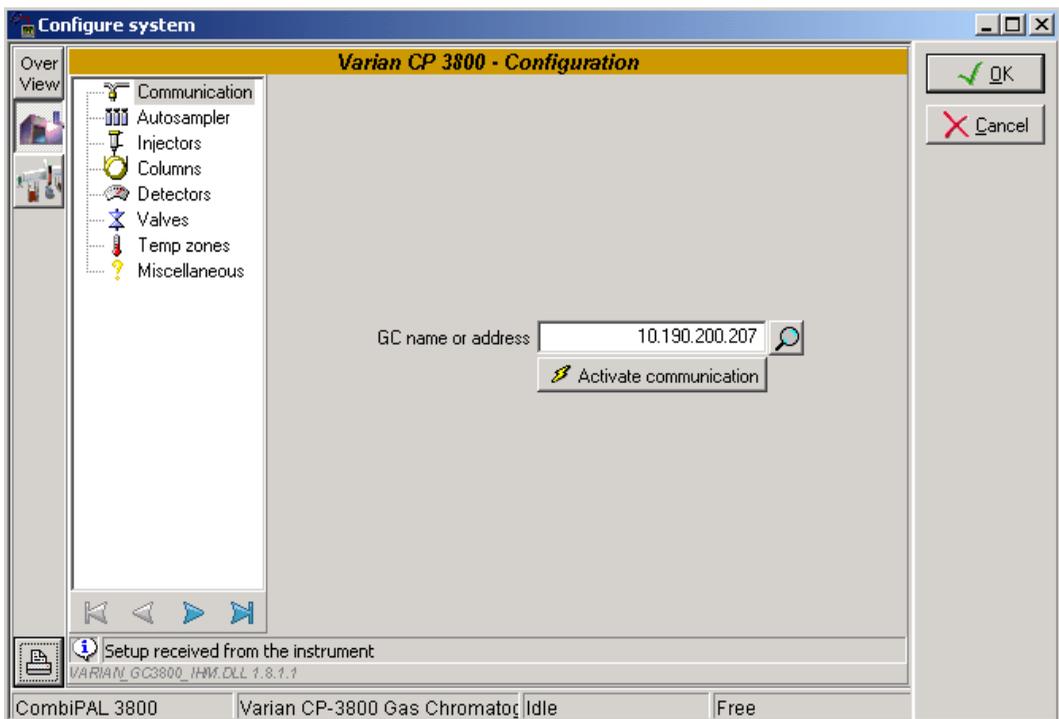
If the communication is successful, the following progress bar should appear on the screen.



8. Press the CP-3800 icon and click on the *Communication* tab. Type the GC IP address in the *GC name or address* field or click on the magnifying glass to search all the 3800 connected to the network.



Select the correct GC and click on **OK**. Then press the *Activate communication* button. If the communication is successful a message should appear at the bottom of the configuration screen "Setup received from the instrument" (see below).

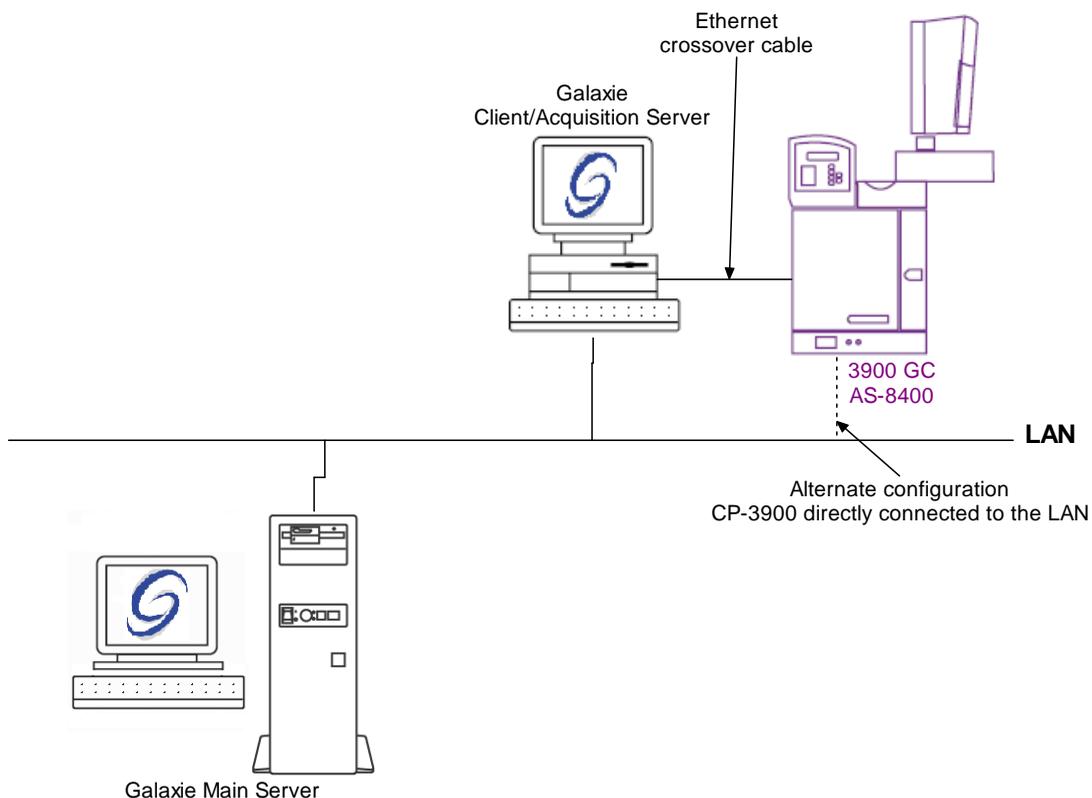


NOTE: It is advised to use fix IP address to communicate with instrument

9. Click on the *OK* button to finish the configuration of the system.
10. Finally stop the system by right clicking on its name in the organization view. Then right click again and press start. It is now possible to configure the Overview by going back in the configuration of the system.



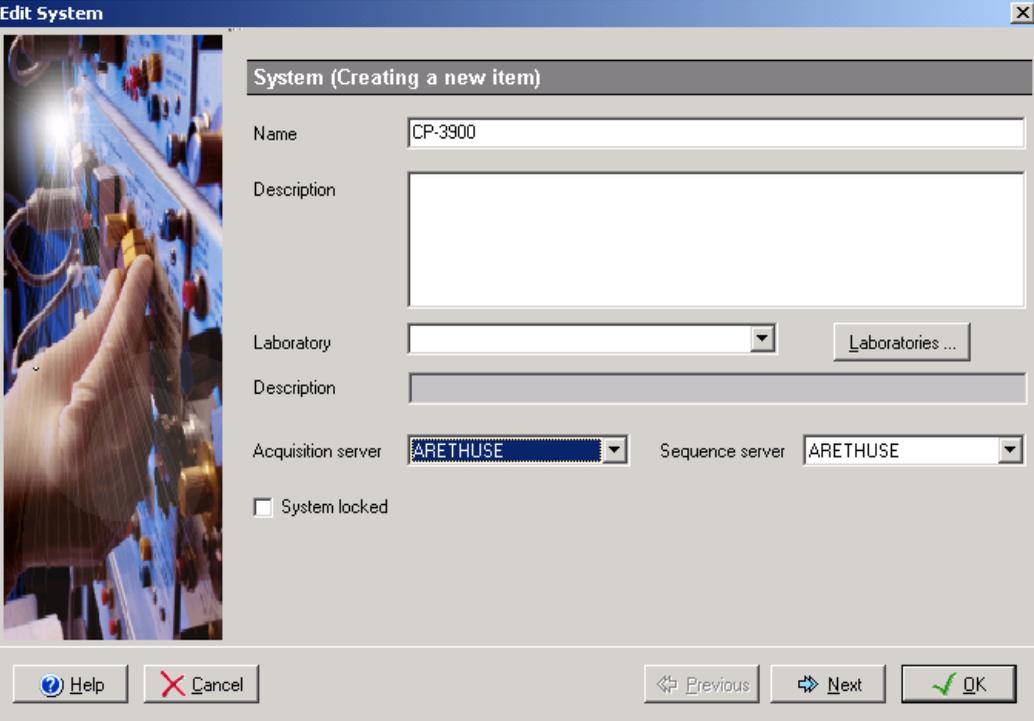
Example 3: 8400 Autosampler, 3900 GC



To configure the system shown above, please do the following steps:

1. Setup the BOOTP server to give the 3900 GC an IP address (refer to section *BOOTP Configuration* of this manual).
2. In the **Galaxie Configuration Manager**, create a new system.

The following screen will be displayed.



Edit System

System (Creating a new item)

Name: CP-3900

Description:

Laboratory: [Dropdown] Laboratories ...

Description:

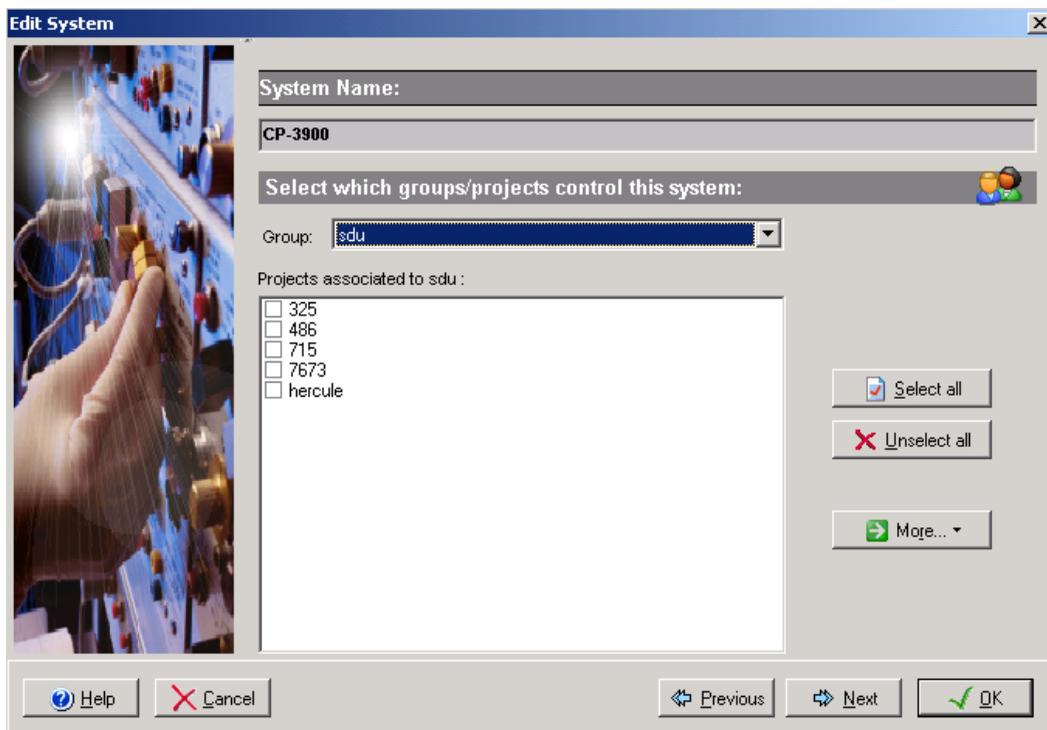
Acquisition server: ARETHUSE Sequence server: ARETHUSE

System locked

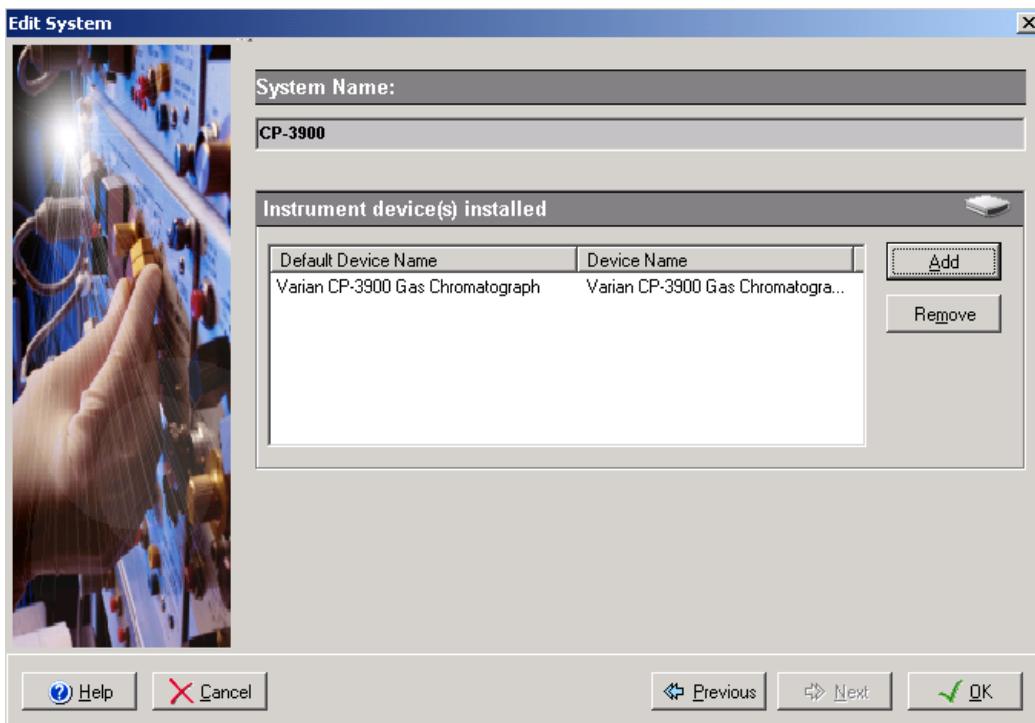
Help Cancel Previous Next OK

Enter the *Name* of the system, select in the *Acquisition server* and *Sequence server* the name of the acquisition server and the name of the sequence server. Then click on *Next*.

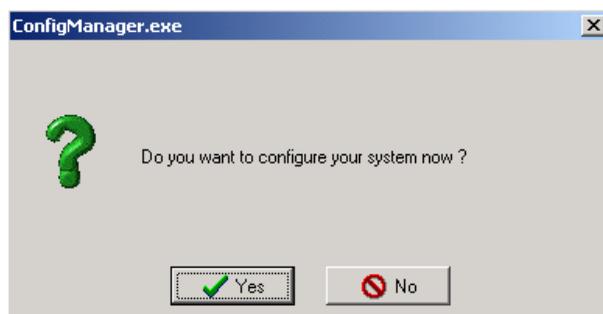
3. In the following screen associate one or more project(s) to the system and click on *Next*. If no groups/projects are defined, click on *Next*.



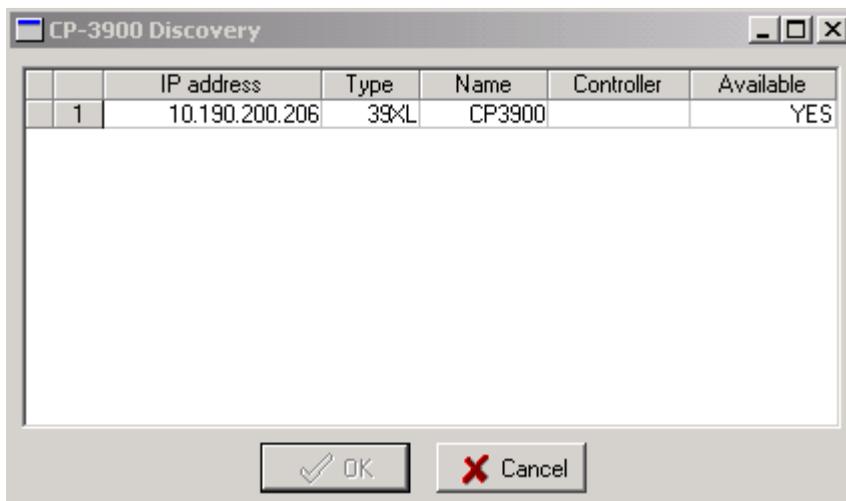
4. To configure that system, it is mandatory to install one device; the 3900 GC. Click on the *Add* button, select in the *Device Type* list Varian 3900 Gas Chromatograph and press *OK*. When the device has been added, the screen should be as below.



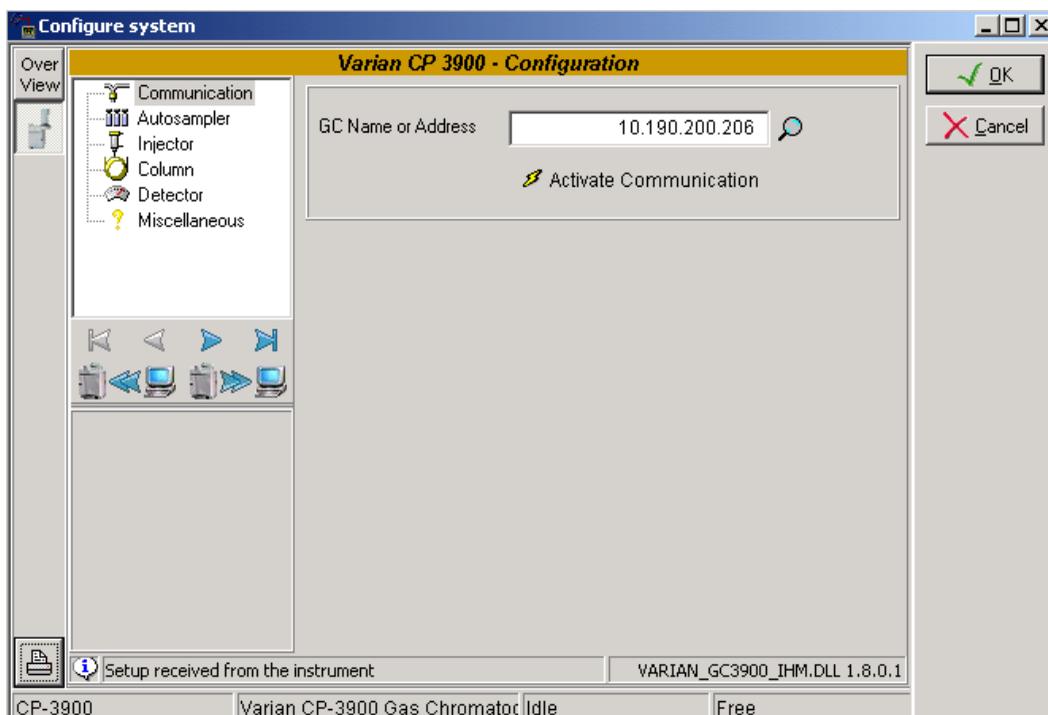
- Click on the *OK* button and answer *Yes* to the question: "Do you want to configure your system now?"



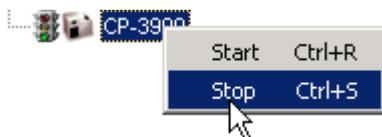
- In the next screen, press the 3900 GC icon and click on the *Communication* tab. To search on the subnet all the connected 3900 GC instruments, press the magnifying glass icon. If you know the IP address, enter it directly in the IP address field. If the search icon was pressed, a window will pop up listing all the 3900 GCs on the subnet.



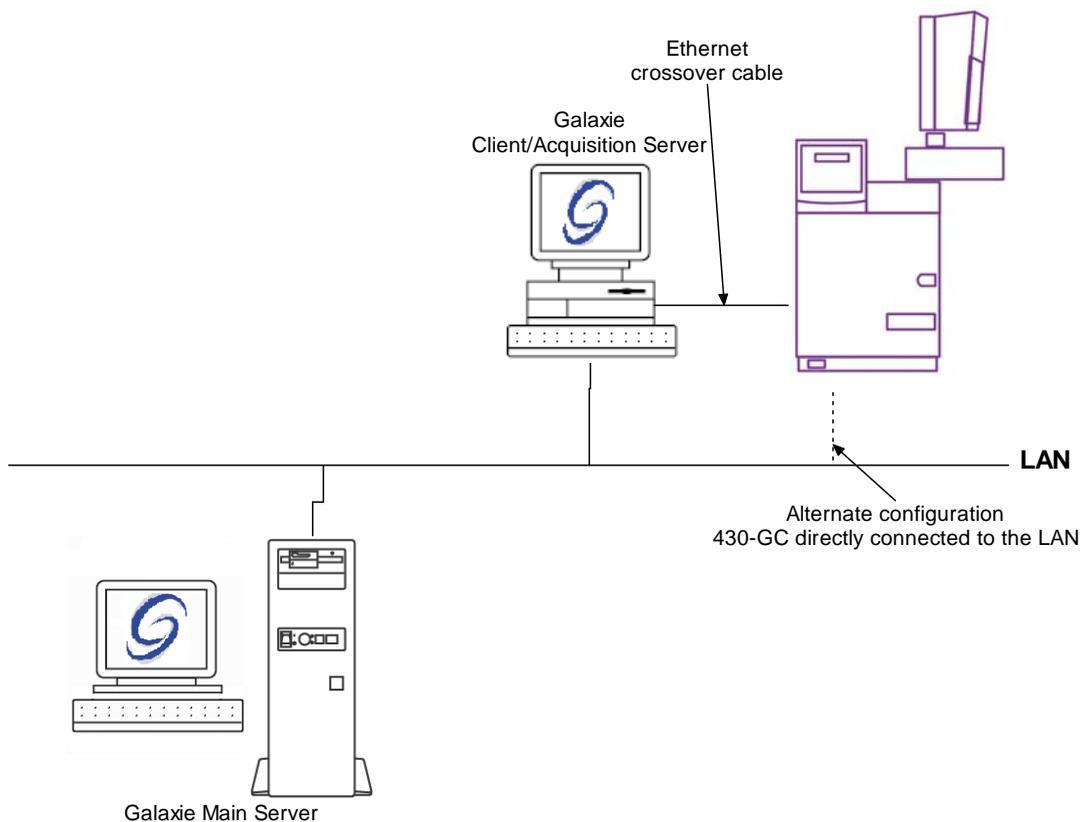
Select one instrument and press **OK**. Then press the *Activate communication* button. If the communication is successful a message "Setup received from instrument" will be displayed at the bottom of the configuration screen (see below).



7. Click on the *OK* button to finish the configuration of the system.
8. Finally stop the system by right clicking on its name in the organization view. Then right click again and press start. It is now possible to configure the Overview by going back in the configuration of the system.



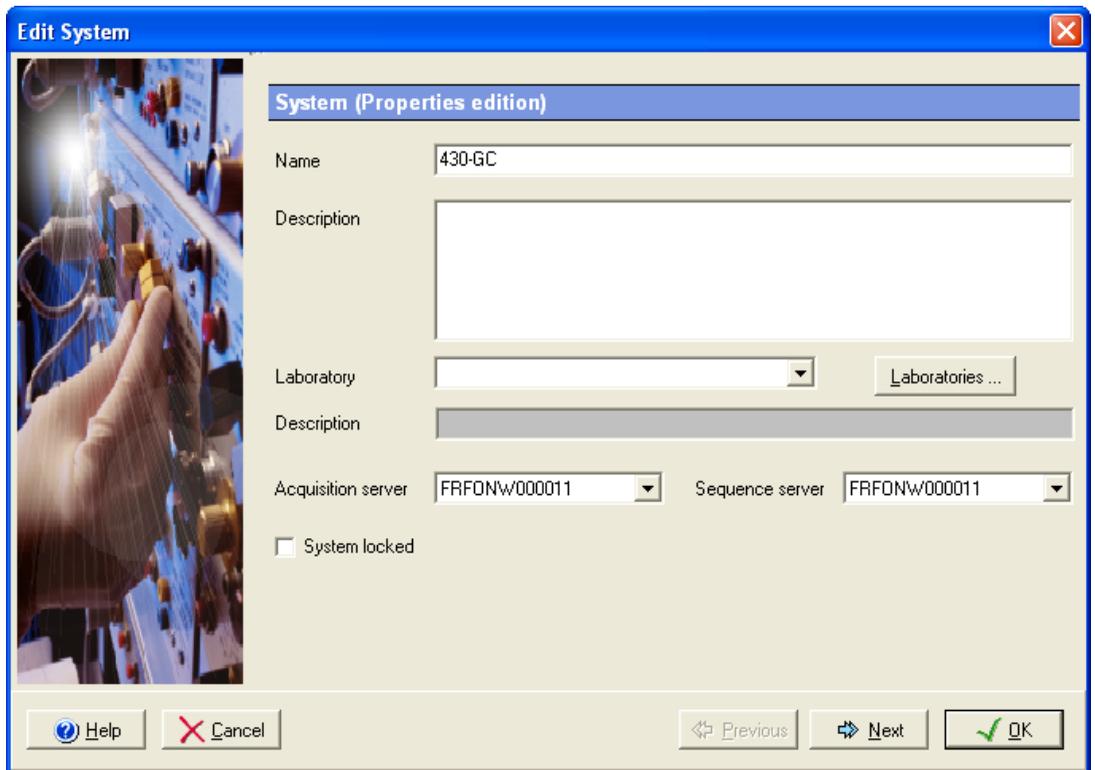
Example 4: 8400 Autosampler, 430-GC



To configure the system shown above, please do the following steps:

1. Setup the BOOTP server to give the 430-GC an IP address (refer to section *BOOTP Configuration* of this manual).
2. In the **Galaxie Configuration Manager**, create a new system.

The following screen will be displayed.

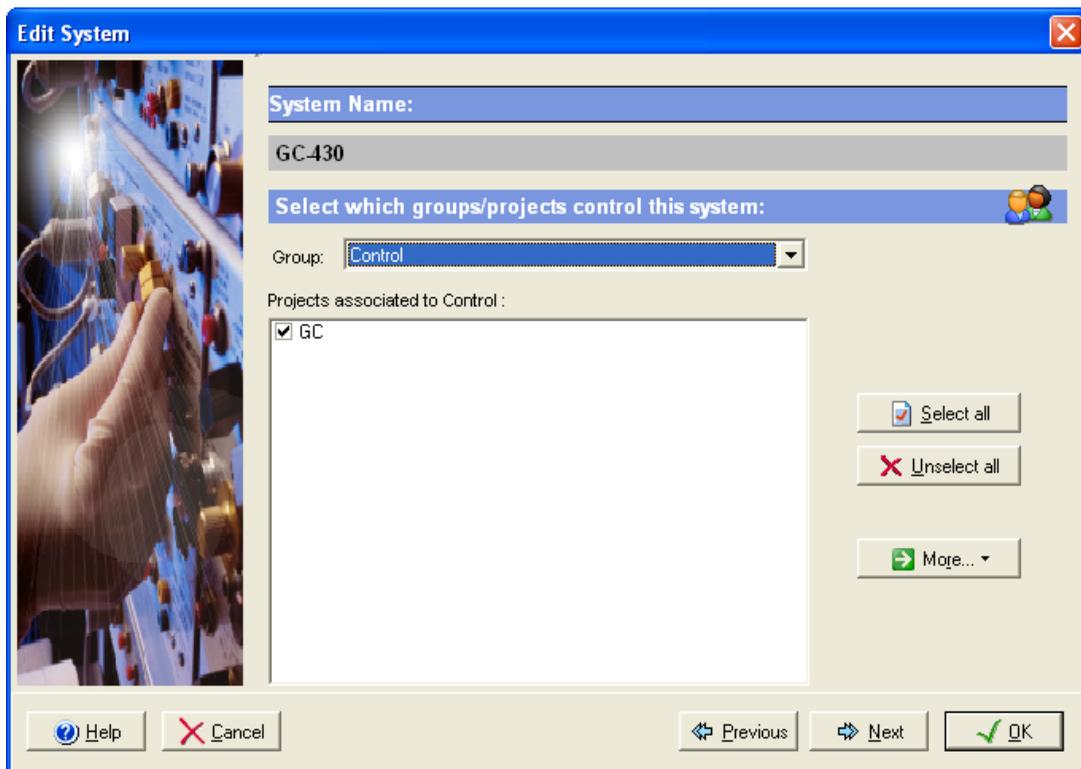


The screenshot shows the 'Edit System' dialog box with the following fields and controls:

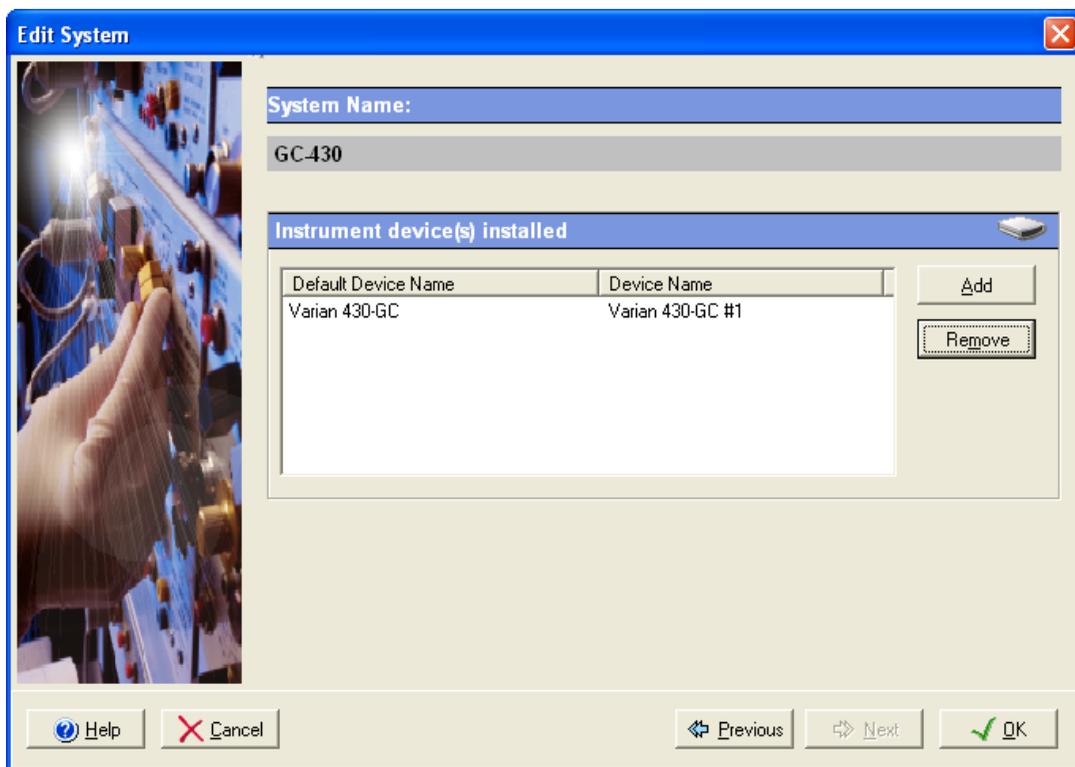
- Name:** 430-GC
- Description:** (Empty text area)
- Laboratory:** (Dropdown menu) and **Laboratories ...** button
- Description:** (Greyed-out text area)
- Acquisition server:** FRFONW000011
- Sequence server:** FRFONW000011
- System locked
- Buttons: Help, Cancel, Previous, Next, OK

Enter the *Name* of the system, select in the *Acquisition server* and *Sequence server* the name of the acquisition server and the name of the sequence server. Then click on *Next*.

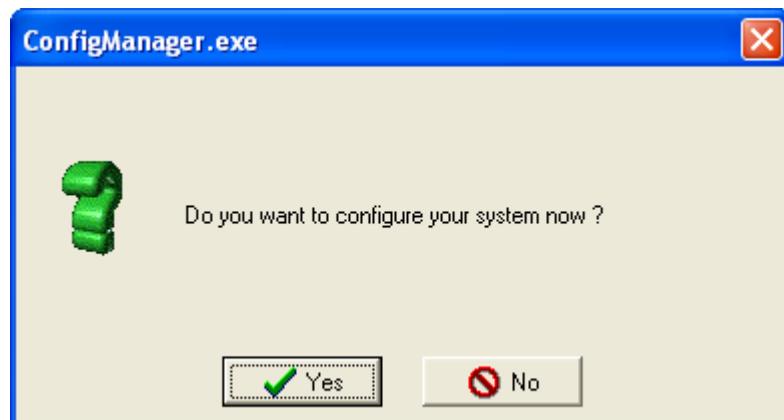
3. In the following screen associate one or more project(s) to the system and click on *Next*. If no groups/projects are defined, click on *Next*.



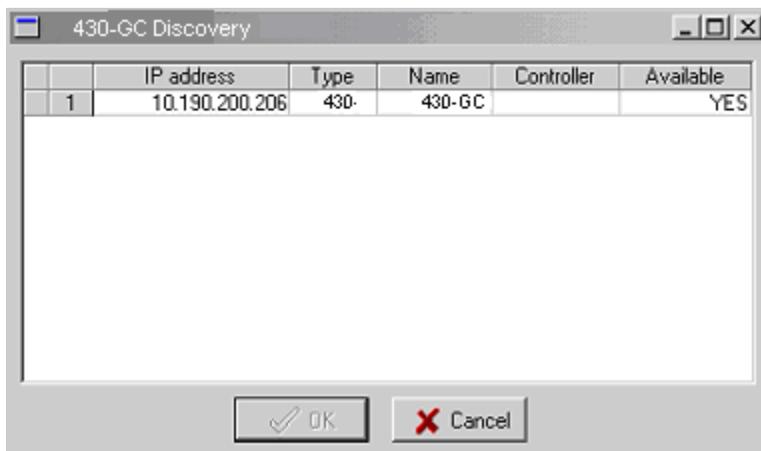
4. To configure that system, it is mandatory to install one device; the 430-GC. Click on the *Add* button, select in the *Device Type* list Varian 3900 Gas Chromatograph and press *OK*. When the device has been added, the screen should be as below.



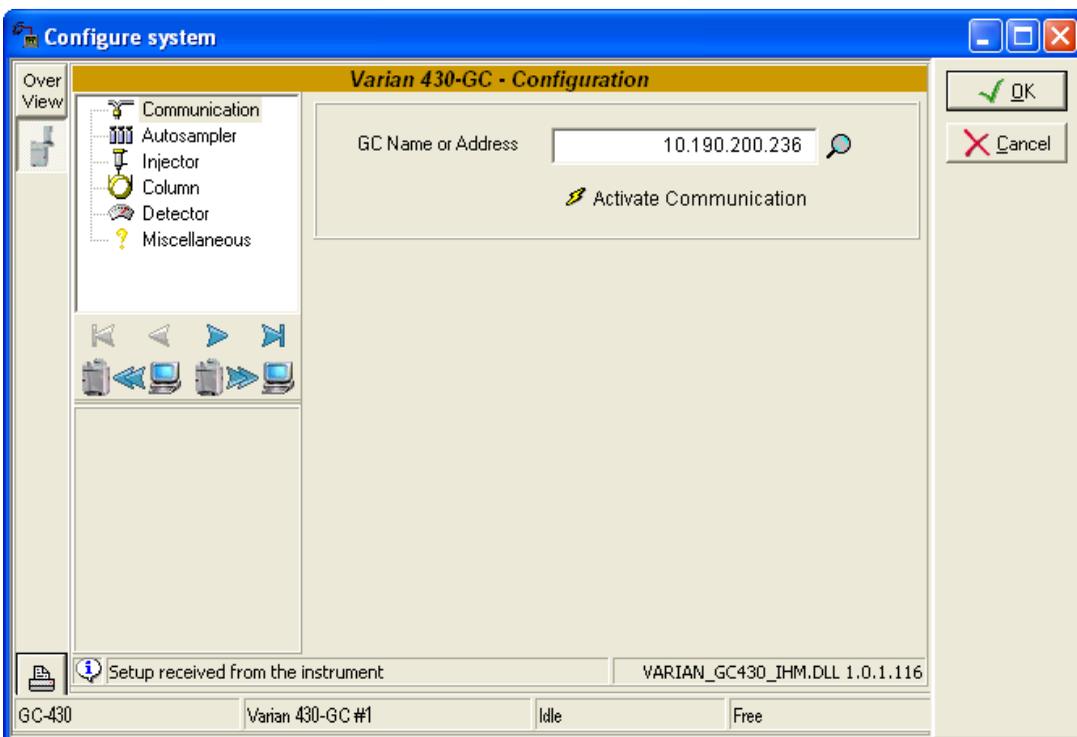
5. Click on the *OK* button and answer *Yes* to the question: "Do you want to configure your system now?"



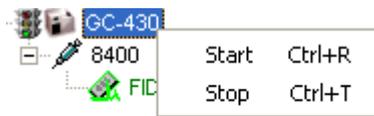
6. In the next screen, press the 430-GC icon and click on the *Communication* tab. To search on the subnet all the connected 430-GC instruments, press the magnifying glass icon. If you know the IP address, enter it directly in the IP address field. If the search icon was pressed, a window will pop up listing all the 430- GCs on the subnet.



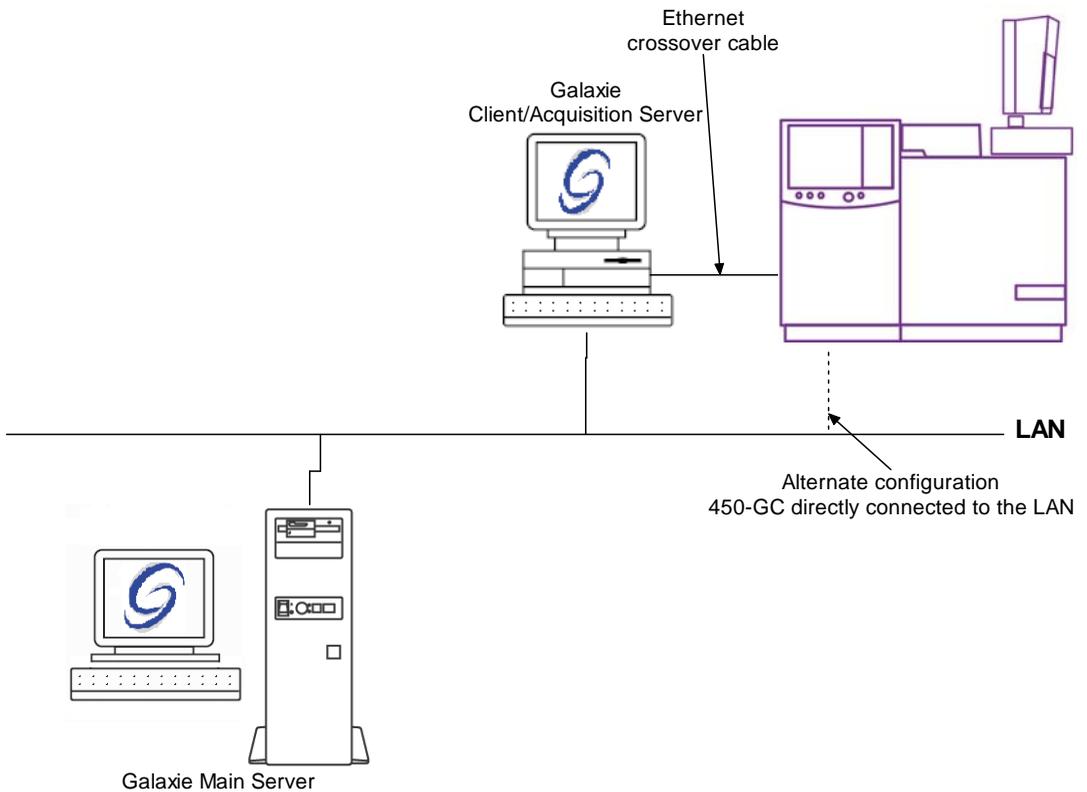
Select one instrument and press *OK*. Then press the *Activate communication* button. If the communication is successful a message "Setup received from instrument" will be displayed at the bottom of the configuration screen (see below).



7. Click on the *OK* button to finish the configuration of the system.
8. Finally stop the system by right clicking on its name in the organization view. Then right click again and press start. It is now possible to configure the Overview by going back in the configuration of the system.

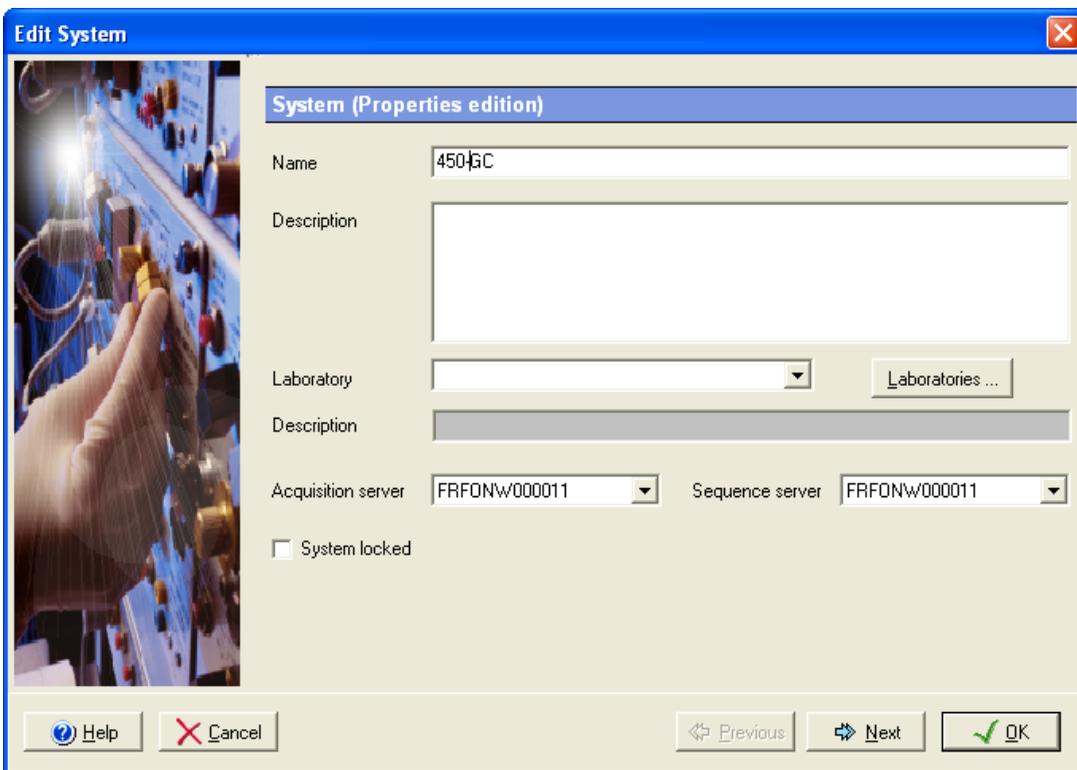


Example 5: 8400 Autosampler, 450-GC



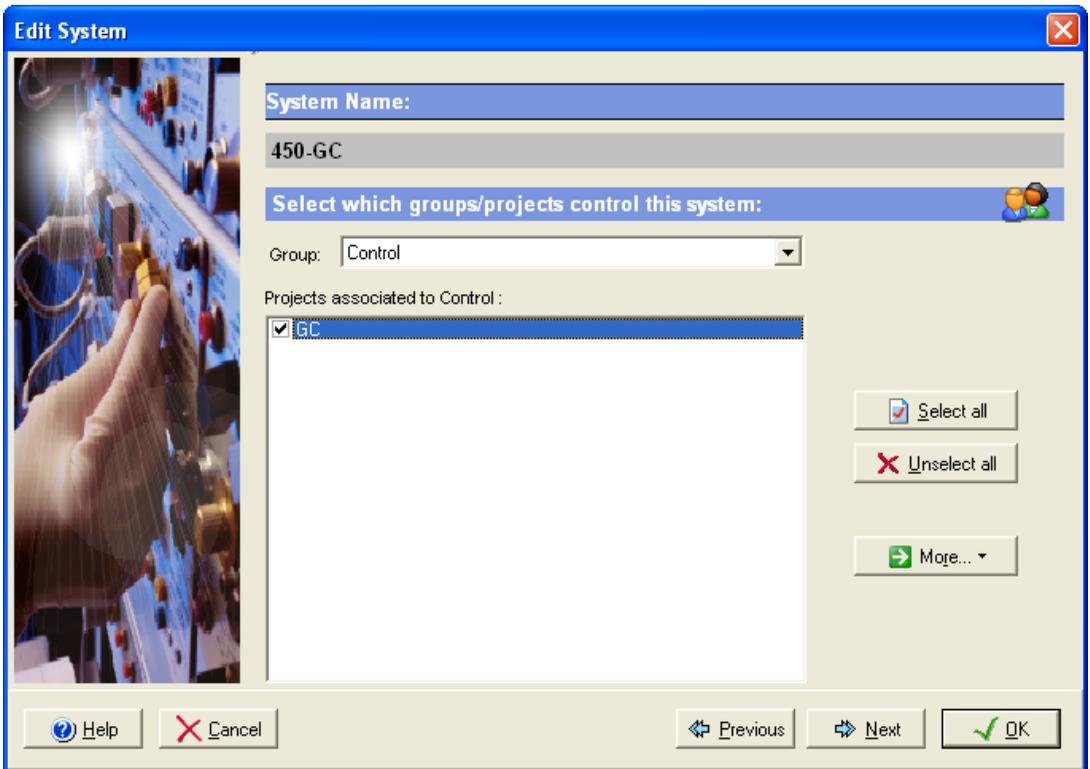
This example describes how to configure the system shown above. Note that the 4x0 setup must be launched on both main server and acquisition server in the case of client/server configuration.

1. In the **Galaxie Configuration Manager**, create a new system. The following screen will be displayed.

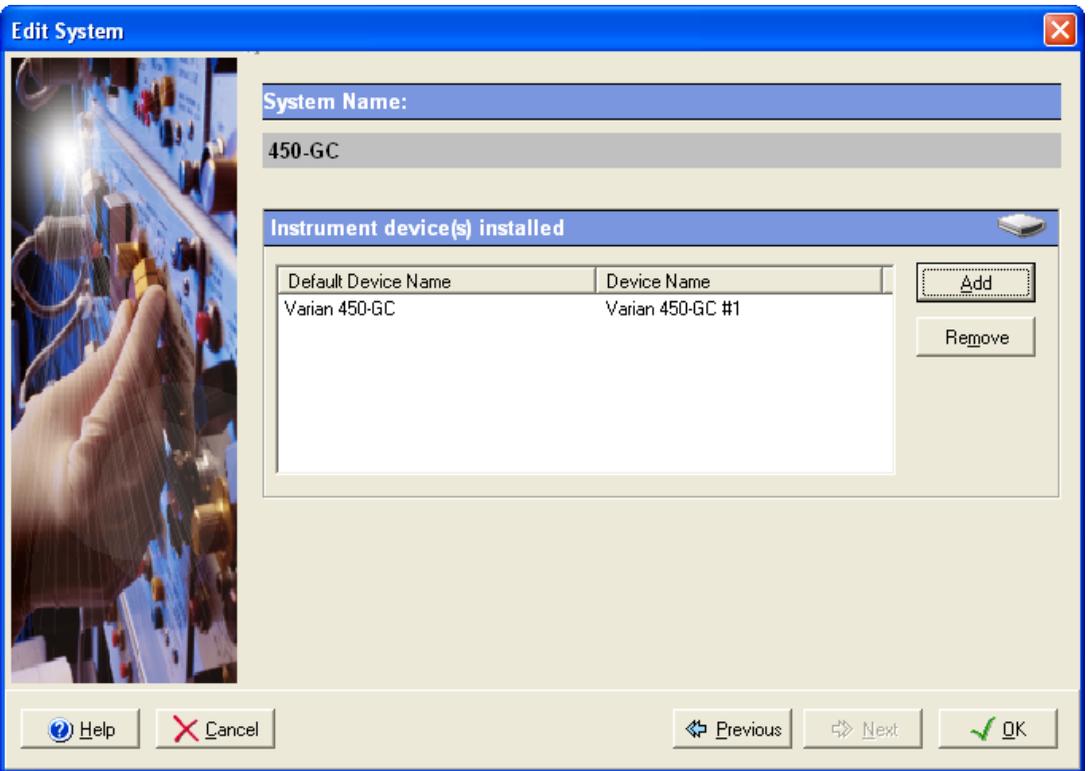


Enter the *Name* of the system, select in the *Acquisition server* and *Sequence server* the name of the acquisition server. Then click on *Next*.

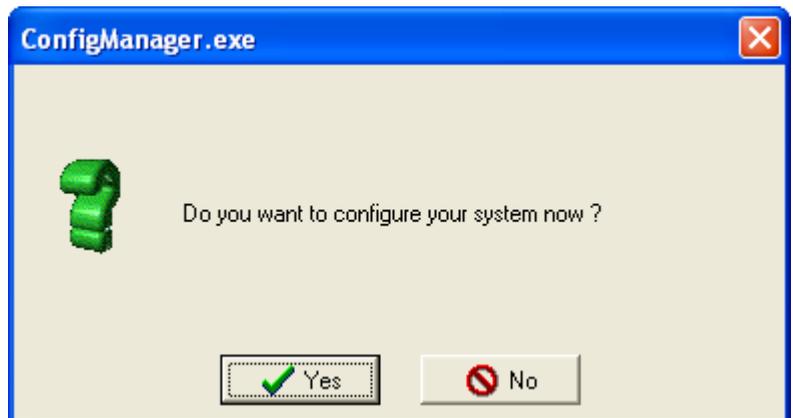
2. In the following screen associate one or more project(s) to the system and click on *Next*. If no groups/projects are defined, click on *Next*.



3. To configure that system, it is mandatory to install one device: the 450-GC. Click on the *Add* button, select it in the *Device Type* list and press *OK*.

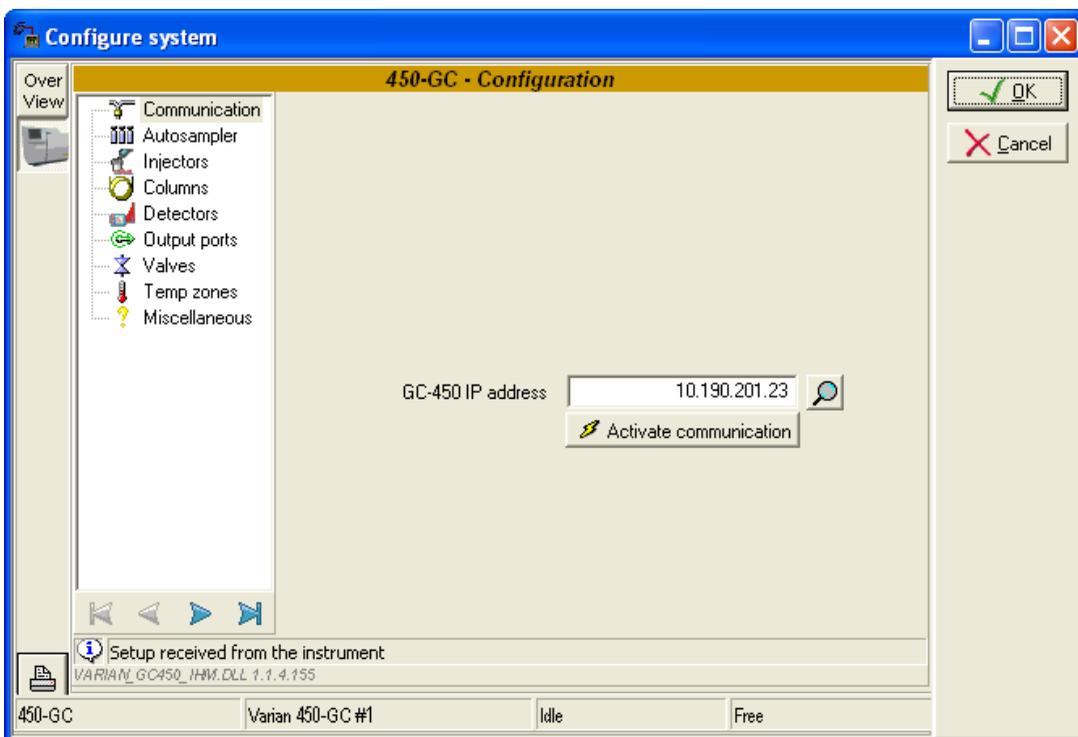


4. Click on the *OK* button and answer *Yes* to the question "Do you want to configure your system now?"



5. In the next screen, press the 450-GC icon and click on the *Communication* tab. Type the GC IP address in the *address* field or click on the magnifying glass to search the 450-GC connected to the network card.

In the *450-GC Discovery* screen, select the correct GC and click on OK. Then press the *Activate communication* button. If the communication is successful a message should appear at the bottom of the configuration screen "Setup received from the instrument" (see below).



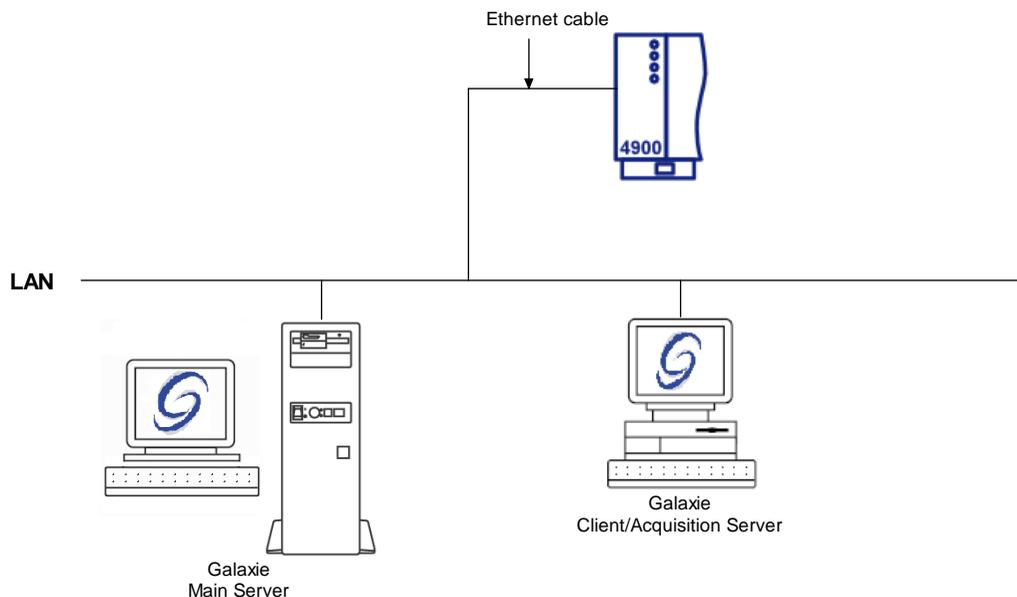
6. Click on the *OK* button to finish the configuration of the system.

7. Finally stop the system by right clicking on its name in the organization view. Then right click again and press start. It is now possible to configure the Overview by going back in the configuration of the system.



Varian Micro-GC Systems

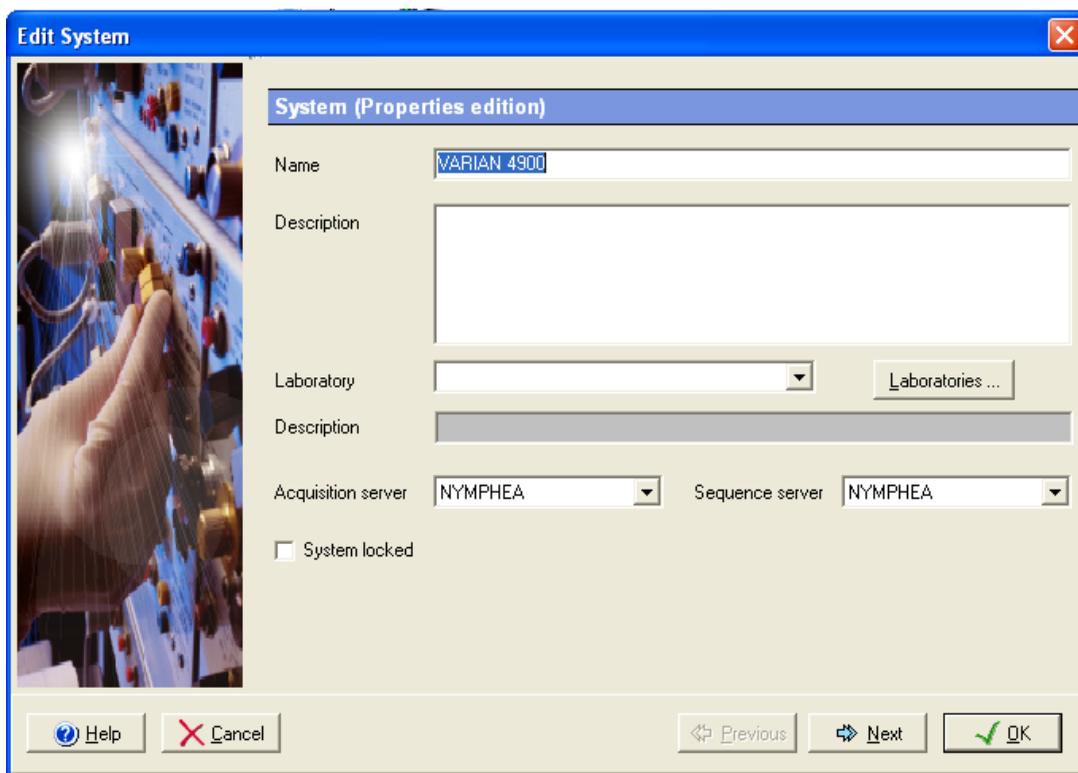
Example 1: Varian CP-4900



To configure the system shown above, please do the following steps

1. Setup the BOOTP server to give the CP-4900 micro GC an IP address (refer to section *BOOTP Configuration* of this manual).
2. In the **Galaxie Configuration Manager**, create a new system.

The following screen will be displayed.



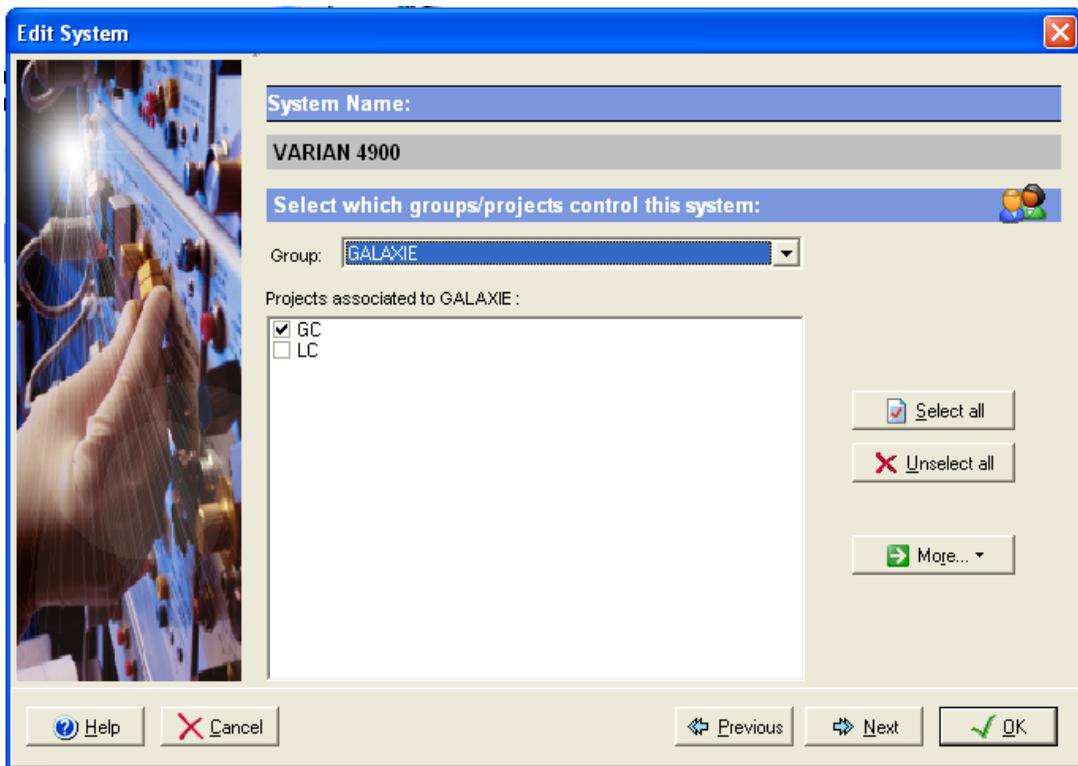
The screenshot shows a window titled "Edit System" with a close button in the top right corner. The window contains a "System (Properties edition)" section with the following fields and controls:

- Name:** A text box containing "VARIAN 4900".
- Description:** A large empty text area.
- Laboratory:** A dropdown menu and a "Laboratories ..." button.
- Description:** A greyed-out text area.
- Acquisition server:** A dropdown menu containing "NYPHEA".
- Sequence server:** A dropdown menu containing "NYPHEA".
- System locked

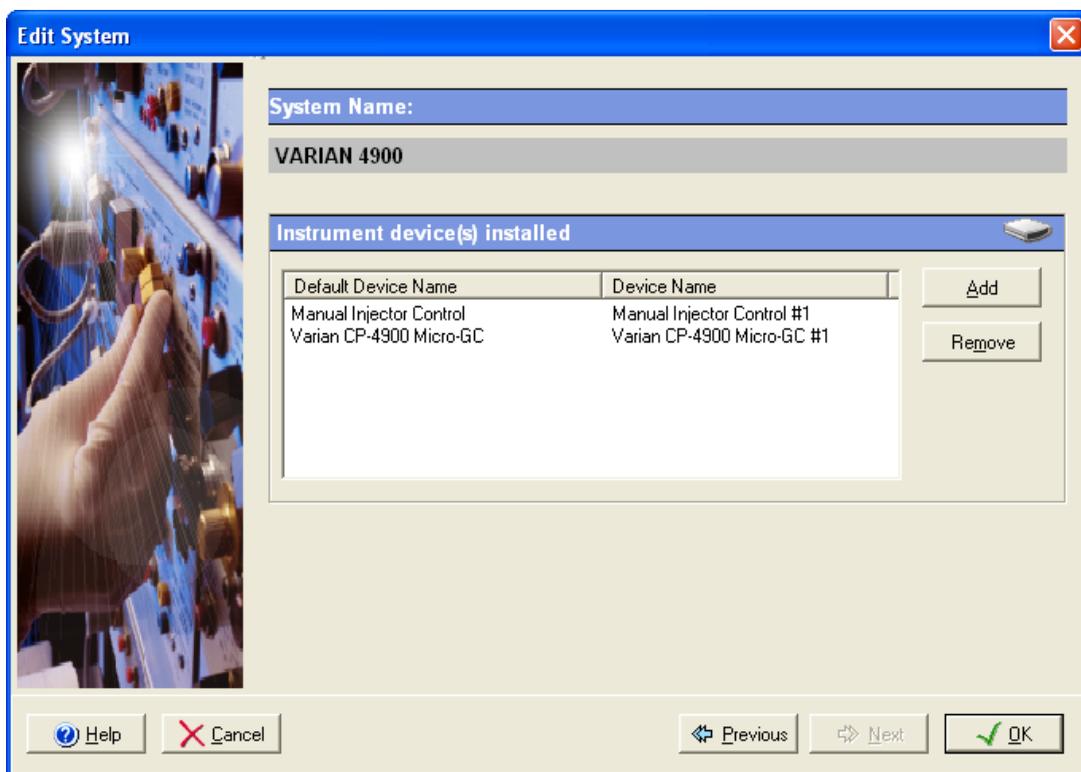
At the bottom of the window, there are five buttons: "Help" (with a question mark icon), "Cancel" (with a red X icon), "Previous" (with a left arrow icon), "Next" (with a right arrow icon), and "OK" (with a green checkmark icon).

Enter the *Name* of the system, select in the *Acquisition server* and *Sequence server* the name of the acquisition server and the name of the sequence server. Then click on *Next*.

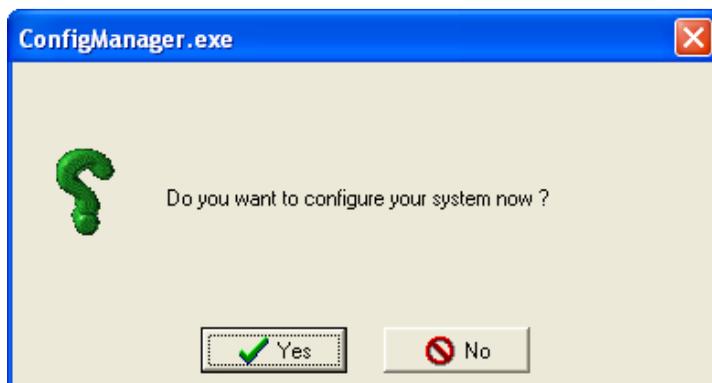
3. In the following screen associate one or more project(s) to the system and click on *Next*. If no groups/projects are defined, click on *Next*.



4. To configure that system, it is mandatory to install two devices; the manual injector and the 4900 GC. Click on the *Add* button, select in the *Device Type* list Manual Injector Control and Varian CP 4900 Micro-GC and press *OK*. When the devices have been added, the screen should be as below.

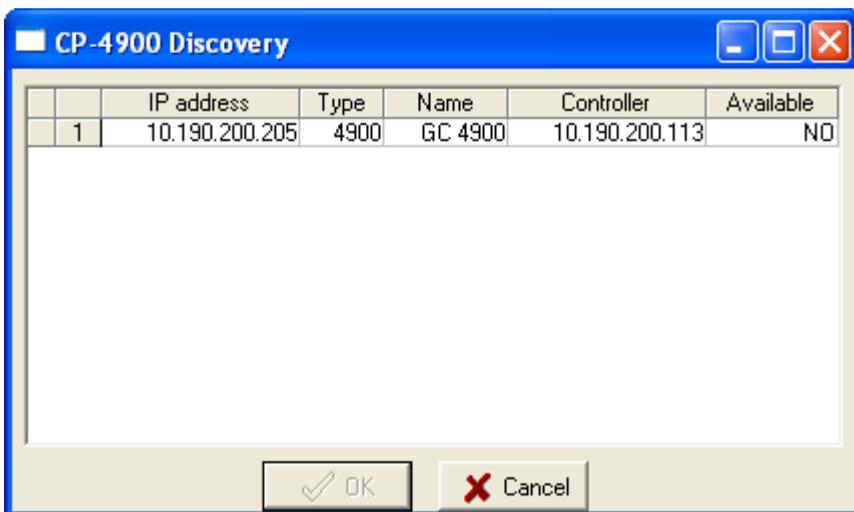


- Click on the **OK** button and answer **Yes** to the question: "Do you want to configure your system now?"

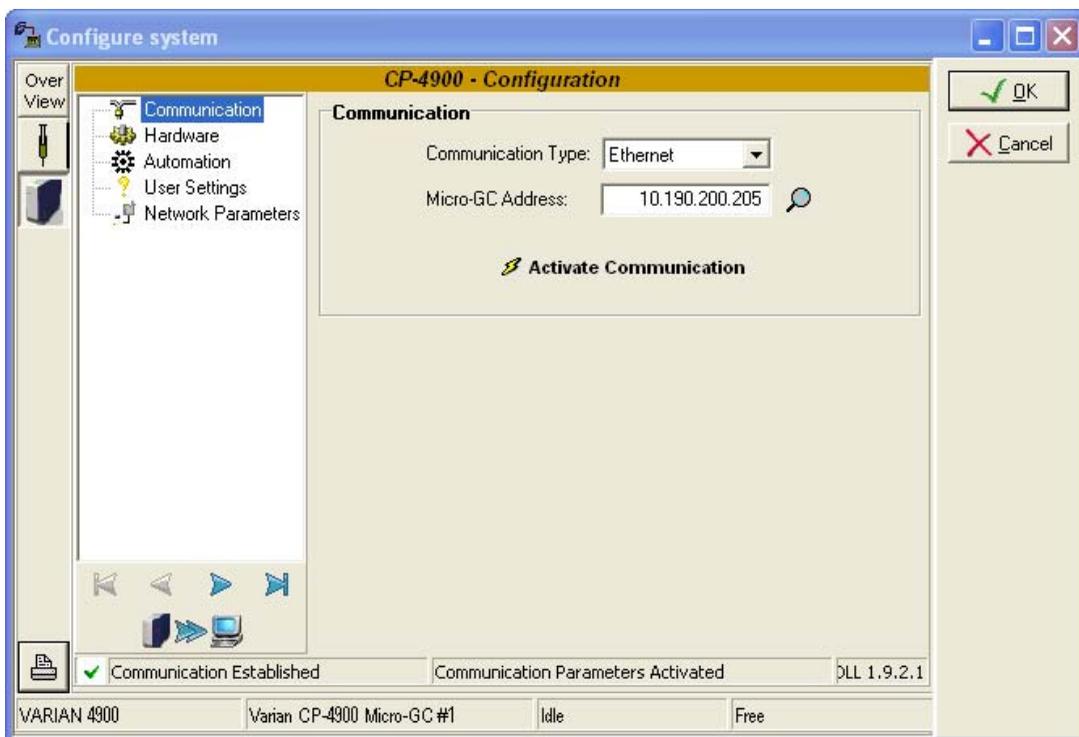


- In the next screen, press the 4900 GC icon and click on the *Communication* tab. To search on the subnet all the connected 4900 GC instruments, press the magnifying glass icon. If you know the IP address, enter it directly in the IP address field. If

the search icon was pressed, a window will pop up listing all the 4900 GCs on the subnet.



Select one instrument and press *OK*. Then press the *Activate communication* button. If the communication is successful a message will be displayed at the bottom of the configuration screen (see below).

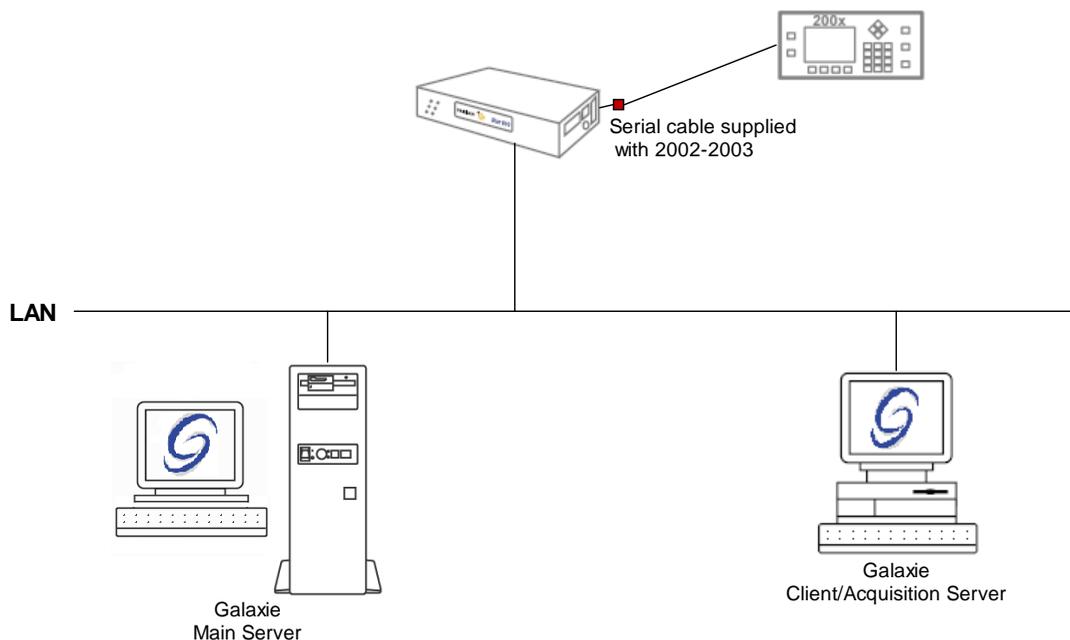


NOTE: It is advised to use fix IP address for the instrument.

7. Click on the *OK* button to finish the configuration of the system.
8. Finally stop the system by right clicking on its name in the organization view. Then right click again and press start. It is now possible to configure the Overview by going back in the configuration of the system.



Example 2: Varian CP-2002-2003



To configure the system shown above, please do the following steps:

1. Configure the MIB Interface on the acquisition server (refer to section *MIB Interface Configuration* of this manual).
2. In the **Galaxie Configuration Manager**, create a new system.

The following screen will be displayed.

Edit System

System (Properties edition)

Name: VARIAN 2002-2003

Description:

Laboratory: [Dropdown] Laboratories ...

Description:

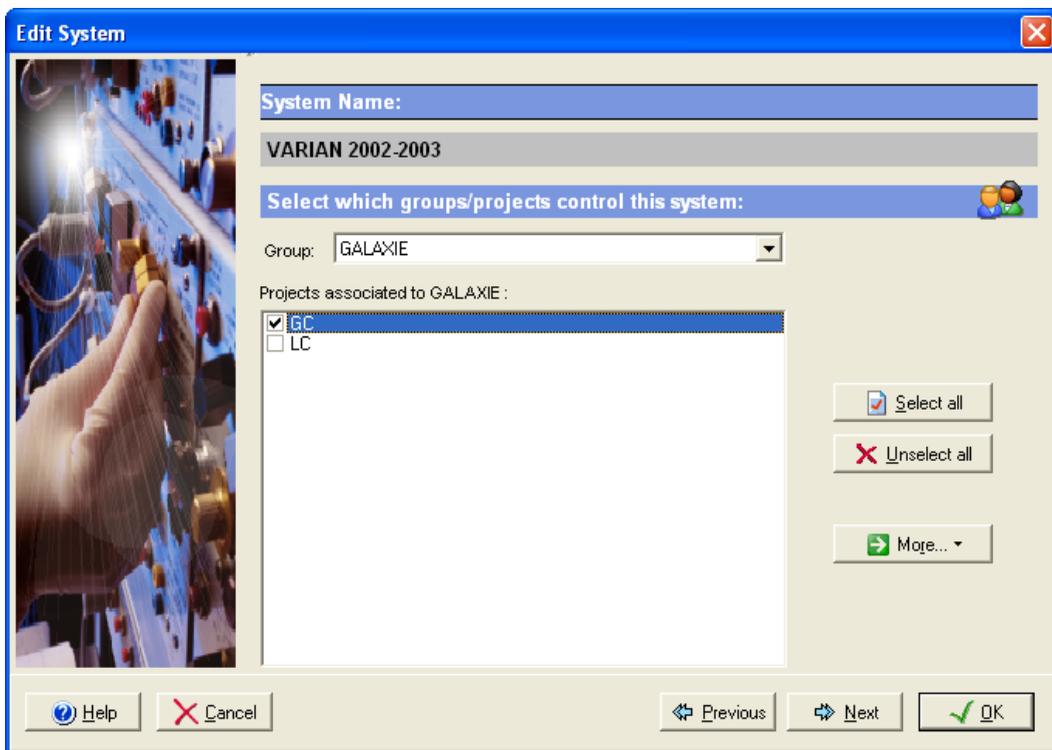
Acquisition server: NYPHEA Sequence server: NYPHEA

System locked

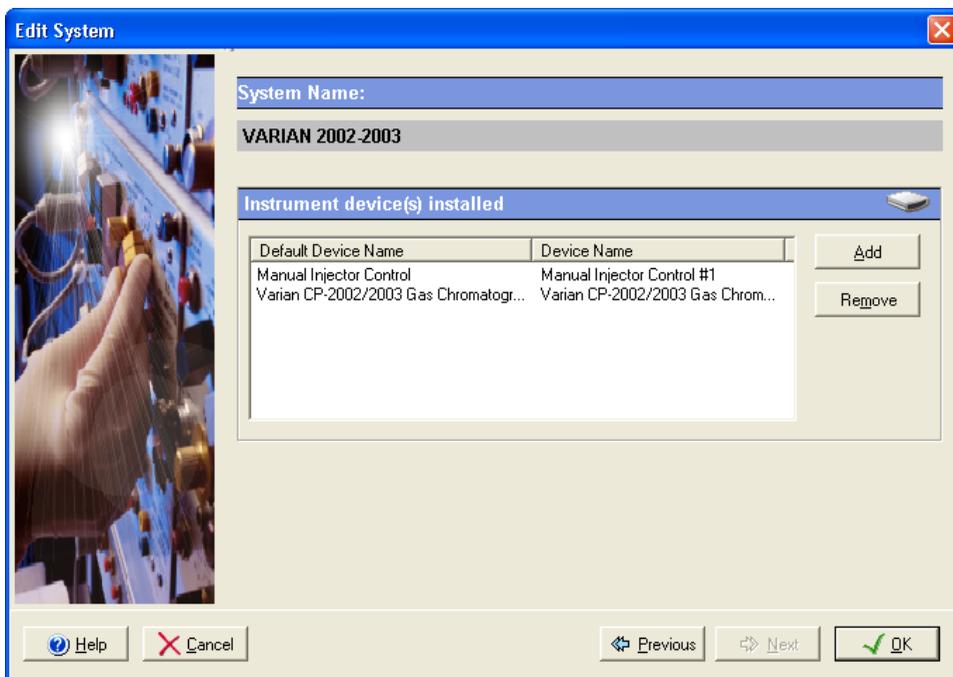
Help Cancel Previous Next OK

Enter the *Name* of the system, select in the *Acquisition server* and *Sequence server* the name of the acquisition server and the name of the sequence server. Then click on *Next*.

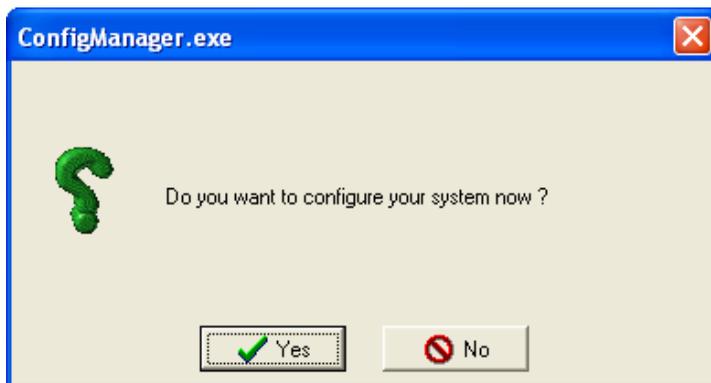
3. In the following screen associate one or more project(s) to the system and click on *Next*. If no groups/projects are defined, click on *Next*.



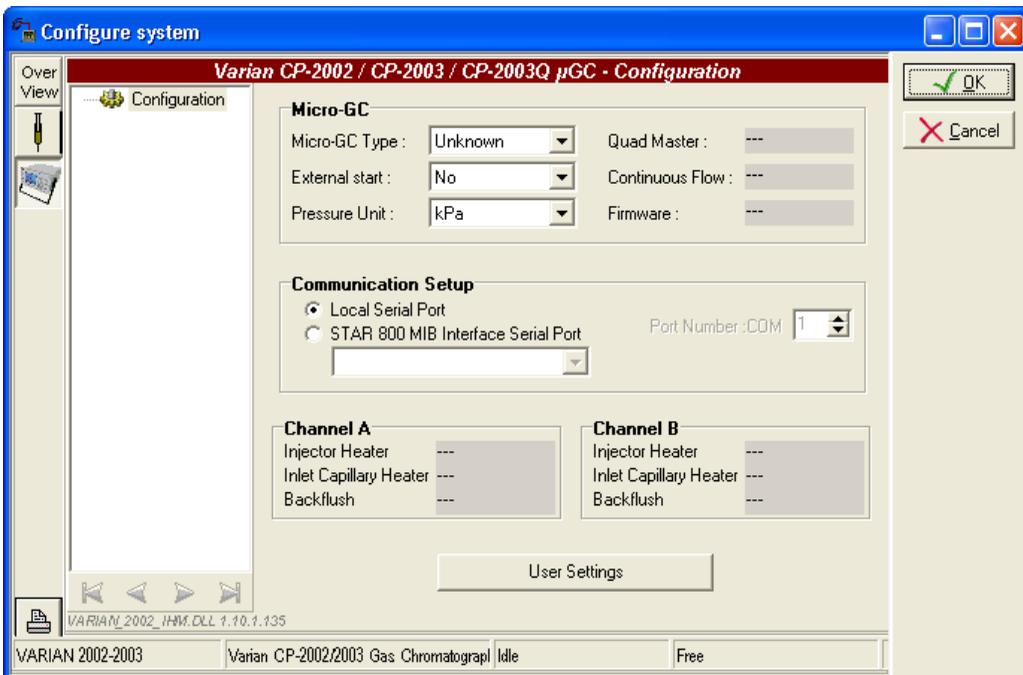
4. To configure that system, it is mandatory to install two devices; the manual injector and the 2002-2003 GC. Click on the *Add* button, select in the *Device Type* list Manual Injector Control and Varian CP 2002/2003 Gas chromatograph and press *OK*. When the devices have been added, the screen should be as below.



5. Click on the *OK* button and answer *Yes* to the question: "Do you want to configure your system now?"



6. In the next screen, press the 2002/2003 GC icon and click on the *Configuration* tab.



In the *Communication Setup* section, select the *STAR 800 MIB Interface Serial port* option, and select the name of the interface where the gas chromatograph is linked to, in the scrolling list.

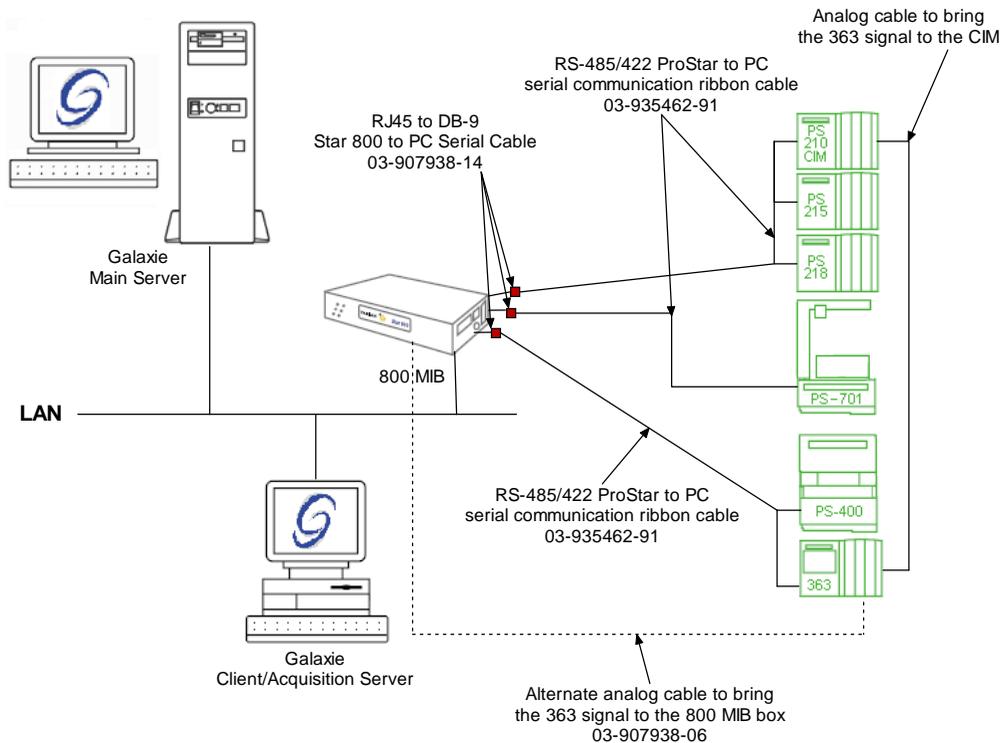
7. Click on the *OK* button to finish the configuration of the system.

8. Finally stop the system by right clicking on its name in the organization view. Then right click again and press start. It is now possible to configure the Overview by going back in the configuration of the system.



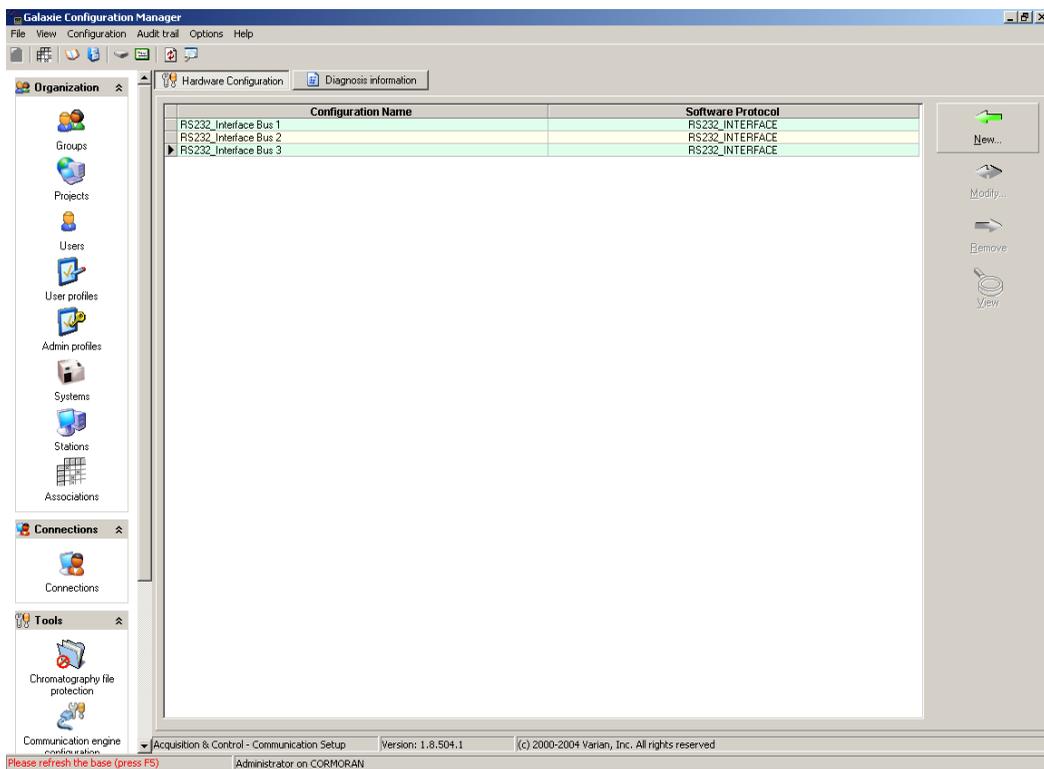
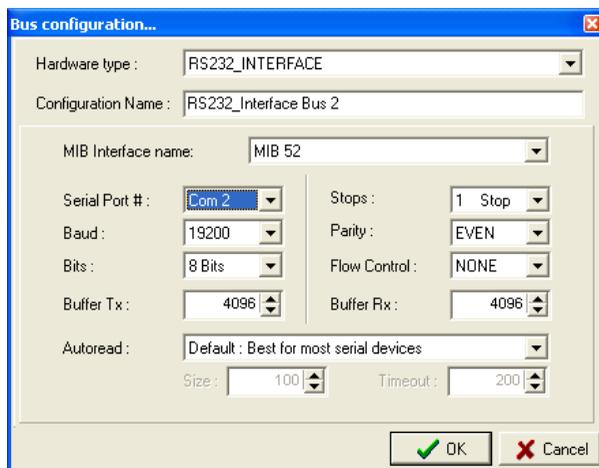
Varian LC Systems

Example 1: ProStar 400-210-215-218-363-701-CIM



To configure the system shown above, please do the following steps:

1. Configure the MIB Interface on the acquisition server (refer to section *MIB Interface Configuration* of this manual).
2. Create three **RS232_Interface** communication buses on the acquisition server (refer to section *Communication engine configuration* of this manual). Those three communication buses are mandatory to control the ProStar modules. The RS232_Interface bus 1 will control the pumps and the CIM, the RS232_Interface bus 2 will control the FC-701 and the ProStar 400 and the ProStar 363 modules.



- In the **Galaxie Configuration Manager** create a new system. The following screen will be displayed.

Edit System

System (Creating a new item)

Name:

Description:

Laboratory:

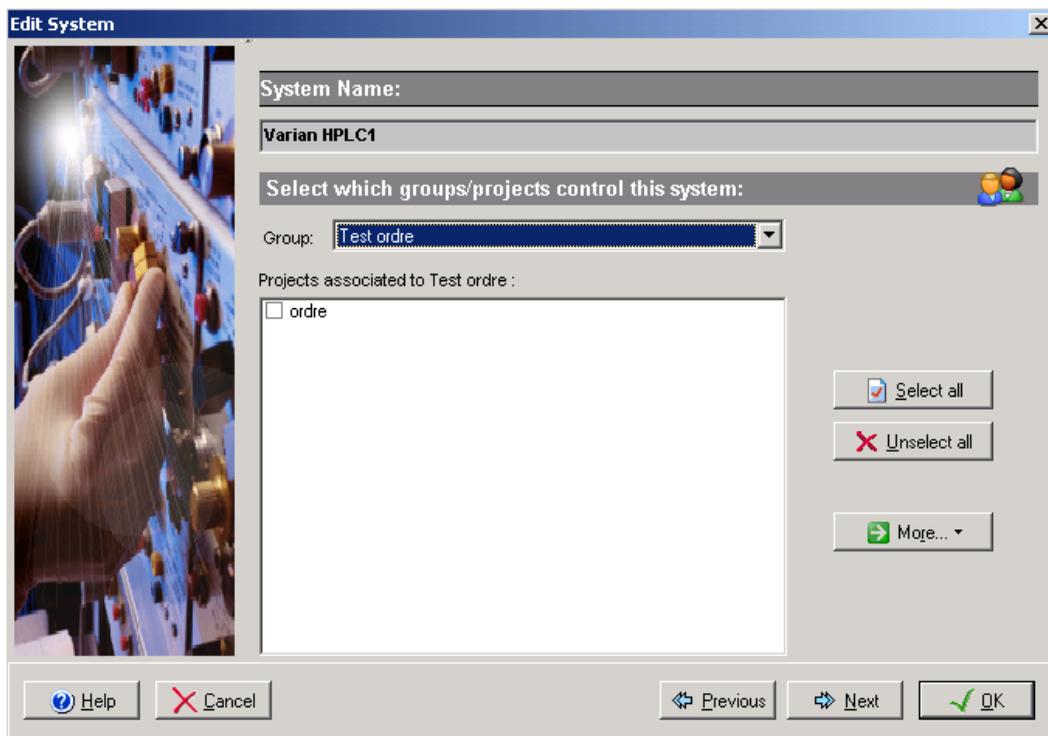
Description:

Acquisition server: Sequence server:

System locked

Enter the *Name* of the system, select in the *Acquisition server* and *Sequence server* the name of the acquisition server and the name of the sequence server. Then click on *Next*.

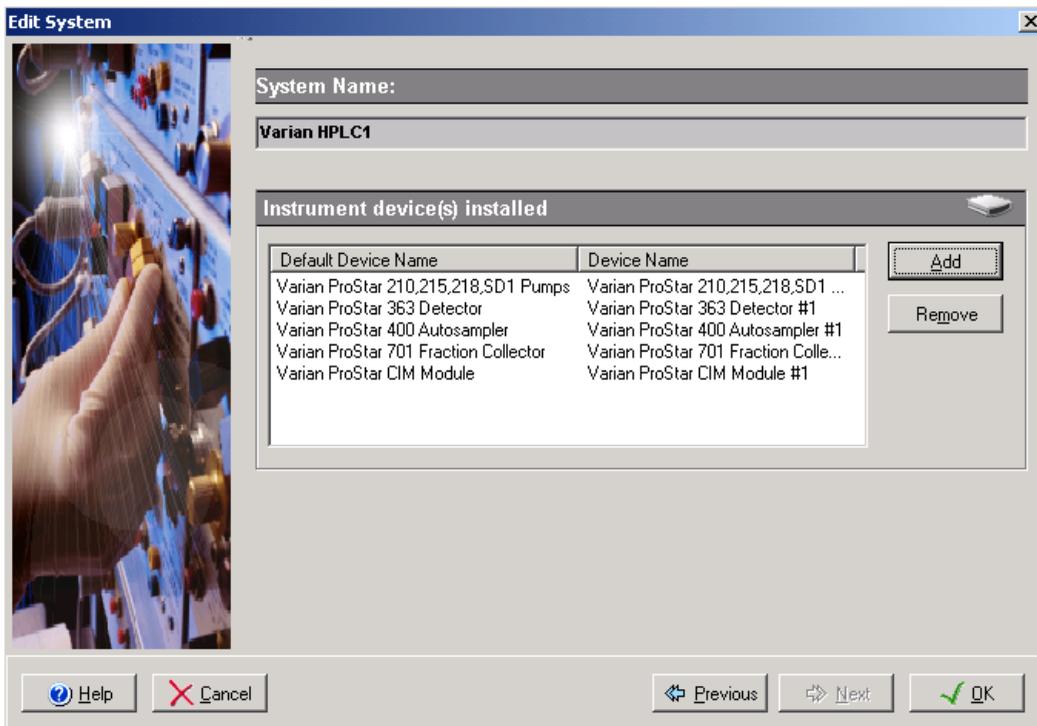
4. In the following screen associate one or more project(s) to the system and click on *Next*. If no groups/projects are defined, click on *Next*.



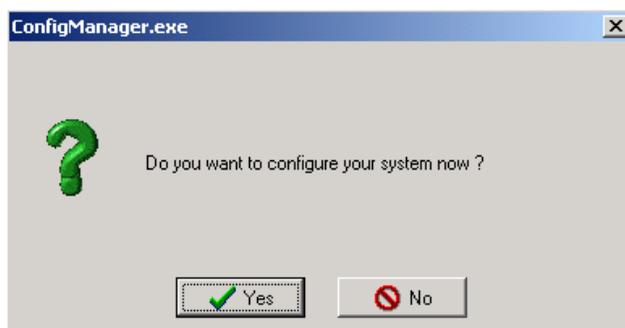
5. To configure that system, it is mandatory to install five devices:

1. Varian ProStar 400
2. Varian ProStar 210/215/218/SD-1
3. Varian ProStar 363
4. Varian ProStar CIM
5. Varian ProStar 701

Click on the *Add* button, select in the *Device Type* list Varian ProStar 400 and press *OK*. Repeat the same operation for the rest of the required devices. When the five devices have been added the screen should be as below.

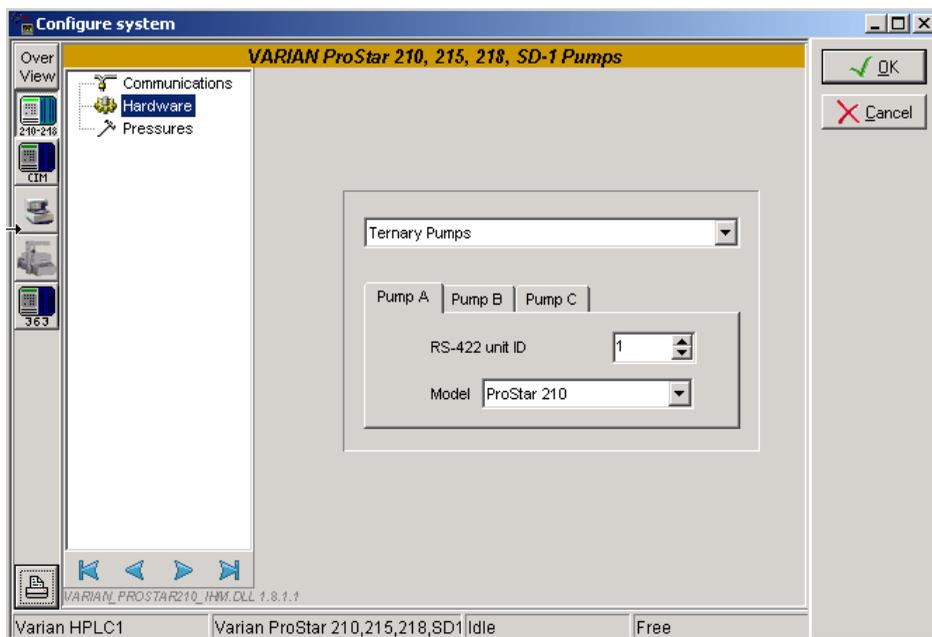


- Click on the *OK* button and answer Yes to the question: "Do you want to configure your system now?"



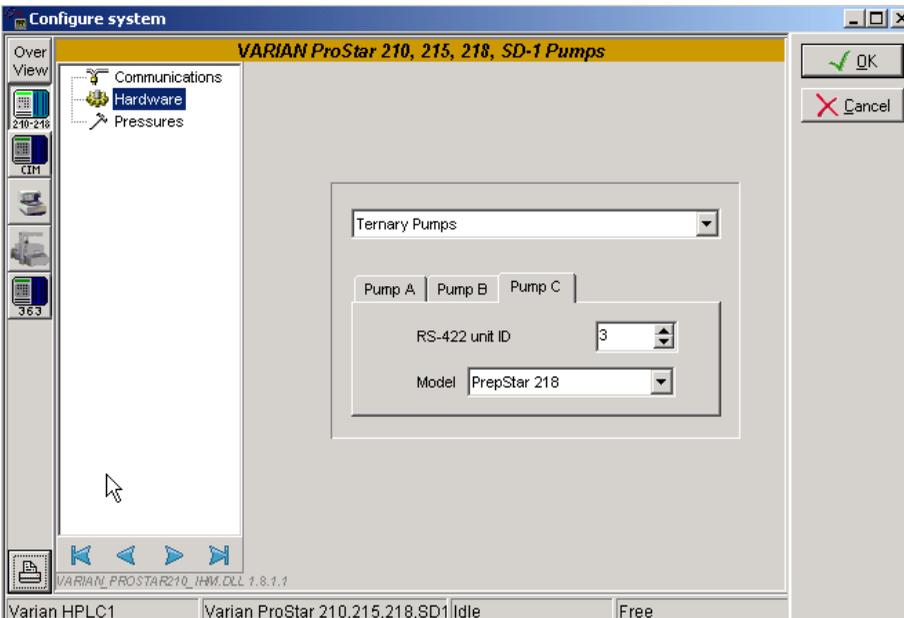
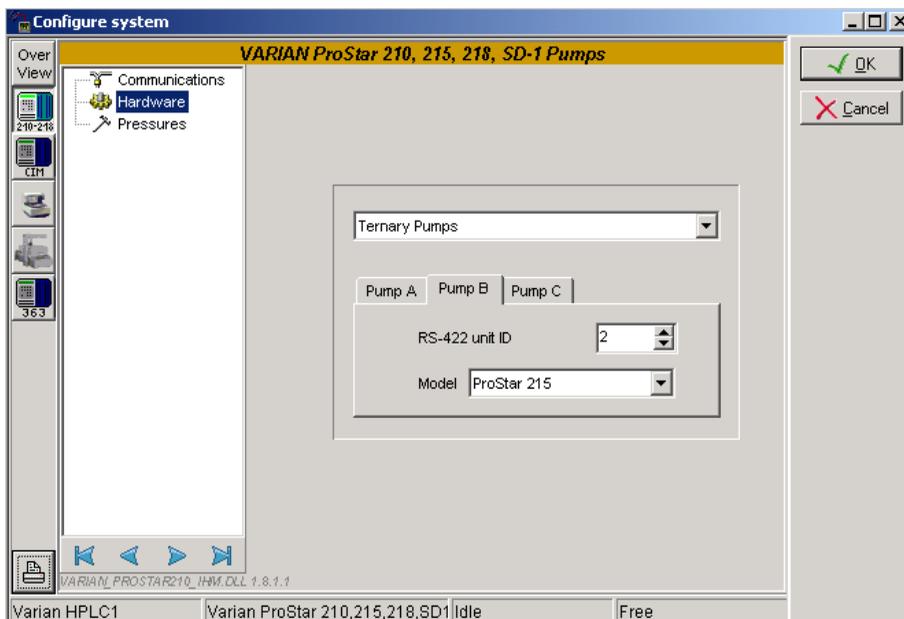
- In the next screen, click on the *Overview* button and arrange the modules as required.
- Press the 210-218 icon and click on the *Communication* tab. Select in the *RS422 bus field* the name of the RS232_Interface Bus previously configured on which the pumps are connected

(RS232_Interface Bus 1). Then click on the *Hardware* tab, select ternary as three pumps are present in this system.



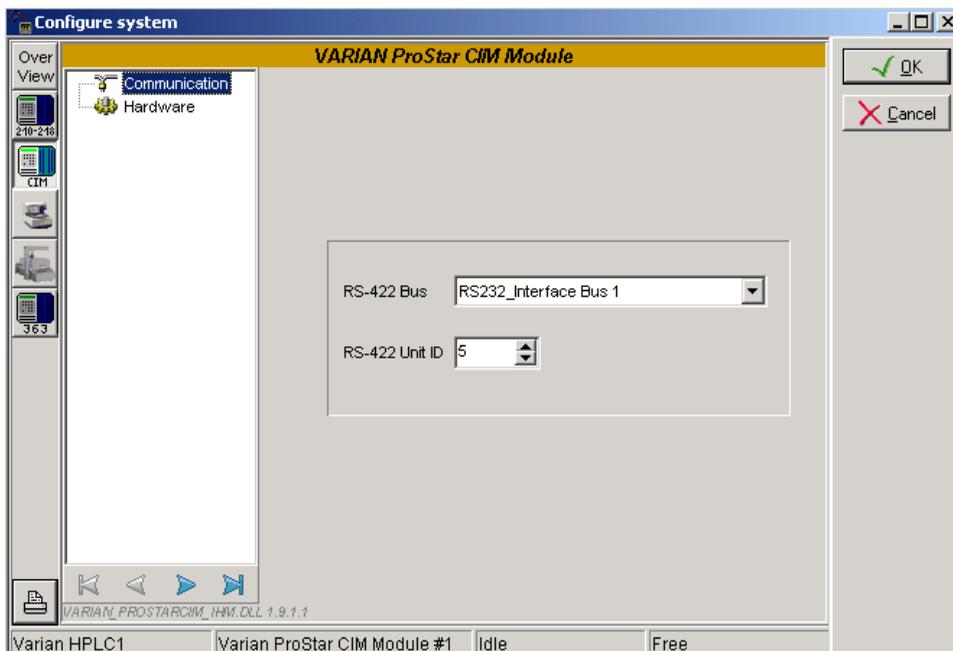
For each pump A, B and C configure the *RS-422 unit ID* number of the pump and the *Model* of the pump (210, 215, 218 or SD-1).

The RS-422 unit ID must be unique to each module connected to the RS232_Interface bus and must match the one configured in the pumps (refer to the Pump manual to configure the RS-422 unit ID number).

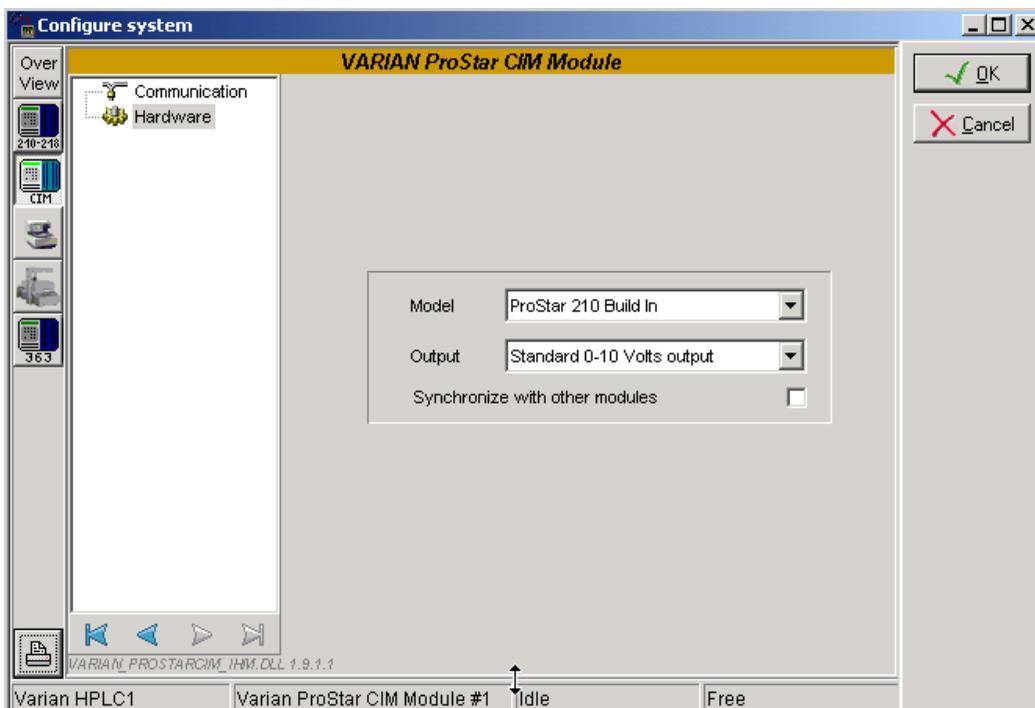


9. Press the CIM icon and click on the *Communication* tab. Select in the *RS422 bus* field the name of the *RS232_Interface Bus* previously configured on which the CIM is connected

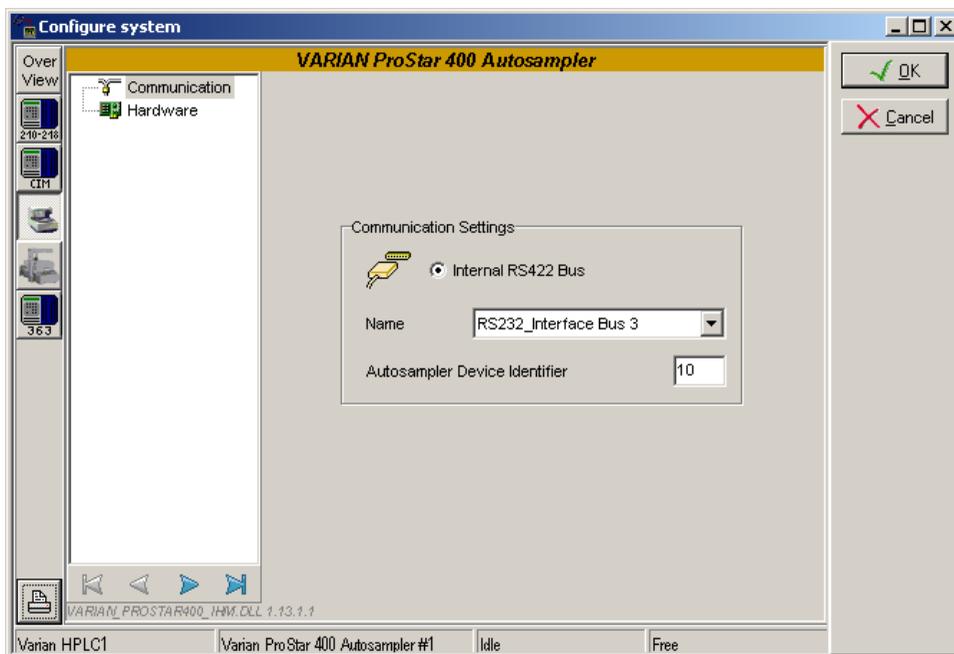
(RS232_Interface Bus 1). Configure the *RS-422 unit ID* number of the CIM module. The RS-422 unit ID must be unique to each module connected to the RS232_Interface bus and must match the one configured in the module (refer to the CIM manual to configure the RS-422 unit ID number).



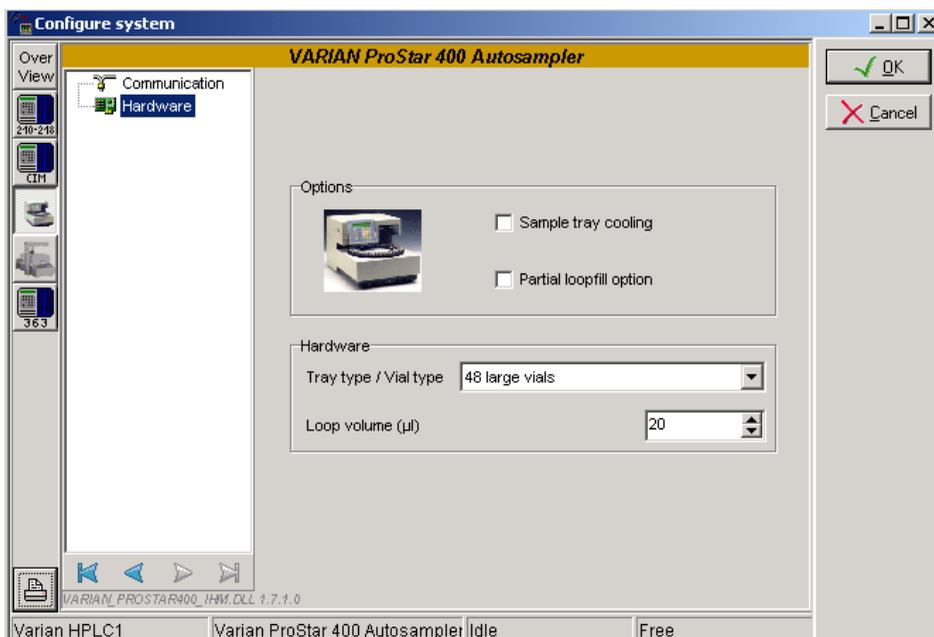
Click on the *Hardware* tab. Select in the dropdown list the *Model* of the CIM and the *Output* type.



10. Press the 400 autosampler icon and click on the *Communication* tab. Select in the *Name* field the name of the RS232_Interface Bus previously configured to which the autosampler is connected (RS232_Interface Bus 3). Configure the *Autosampler device identifier* number of the 400 module. This RS-422 unit ID must be unique to each module connected to the RS232_Interface bus and must match the one configured in the module (refer to the 400 manual to configure the RS-422 unit ID number). The autosampler must also be in serial mode to communicate with Galaxie. To do so press F then 4 on the autosampler when it is ready.

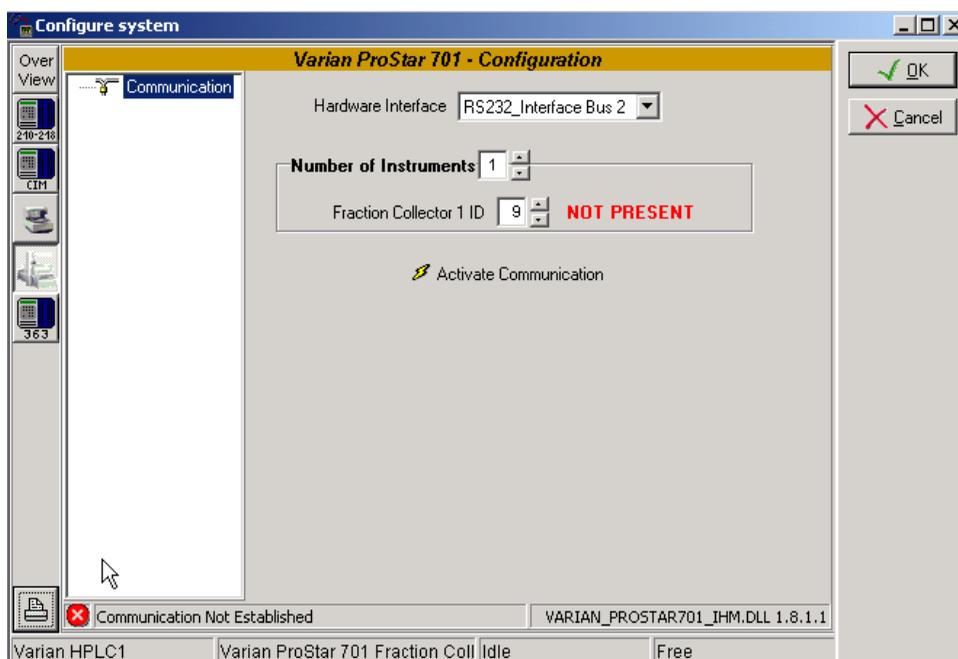


Click on the *Hardware* tab and configure the driver according to the options present in the autosampler.

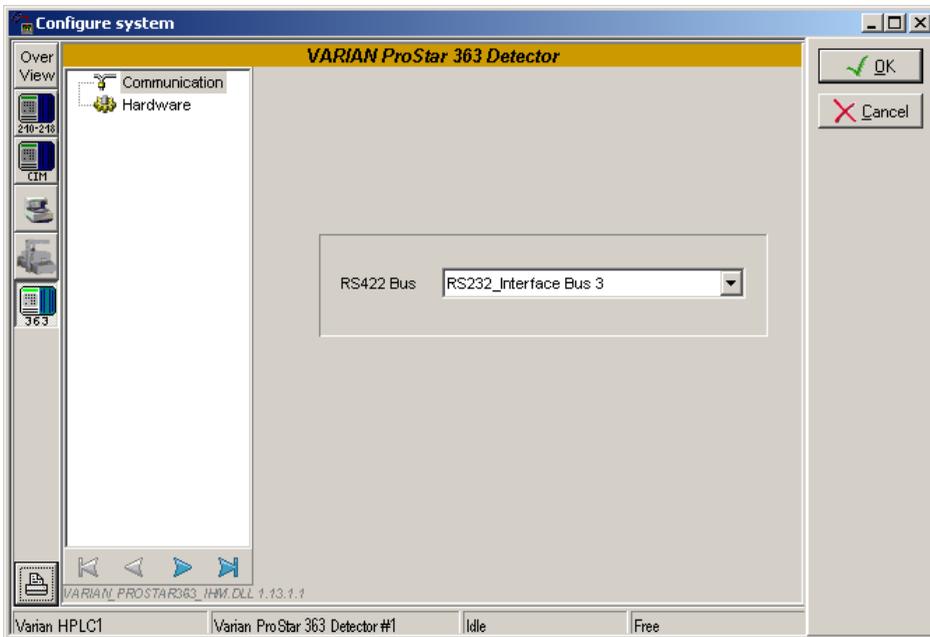


11. Press the 701 icon and click on the *Communication* tab. Select in the *Hardware interface* field the name of the RS232_Interface Bus previously configured to which the 701 is connected (RS232_Interface Bus 2). Configure the number of fraction collectors present and the *Fraction Collector ID* number of the 701 module. This RS-422 unit ID must be unique to each module connected to the RS232_Interface bus and must match the one configured in the module (refer to the 701 manual to configure the RS-422 unit ID number).

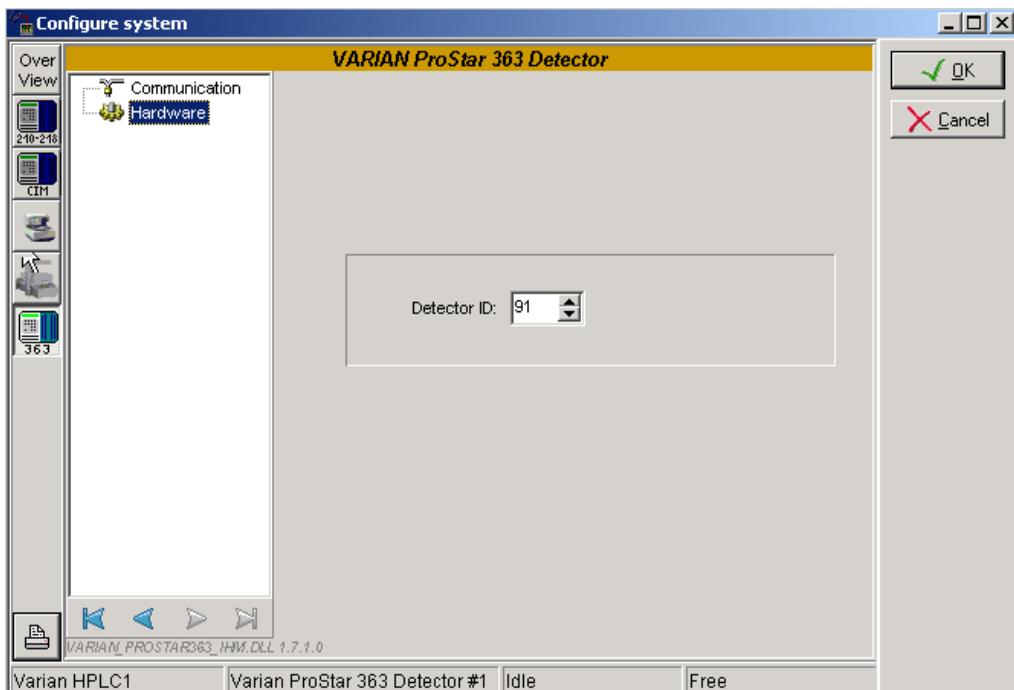
Finally press the *Activate Communication* button. If the communication is successful, the *Fraction Collector* should be displayed as present.



12. Press the 363 icon and click on the *Communication* tab. Select in the *RS422 Bus* field the name of the RS232_Interface Bus previously configured to which the 363 is connected (RS232_Interface Bus 3).



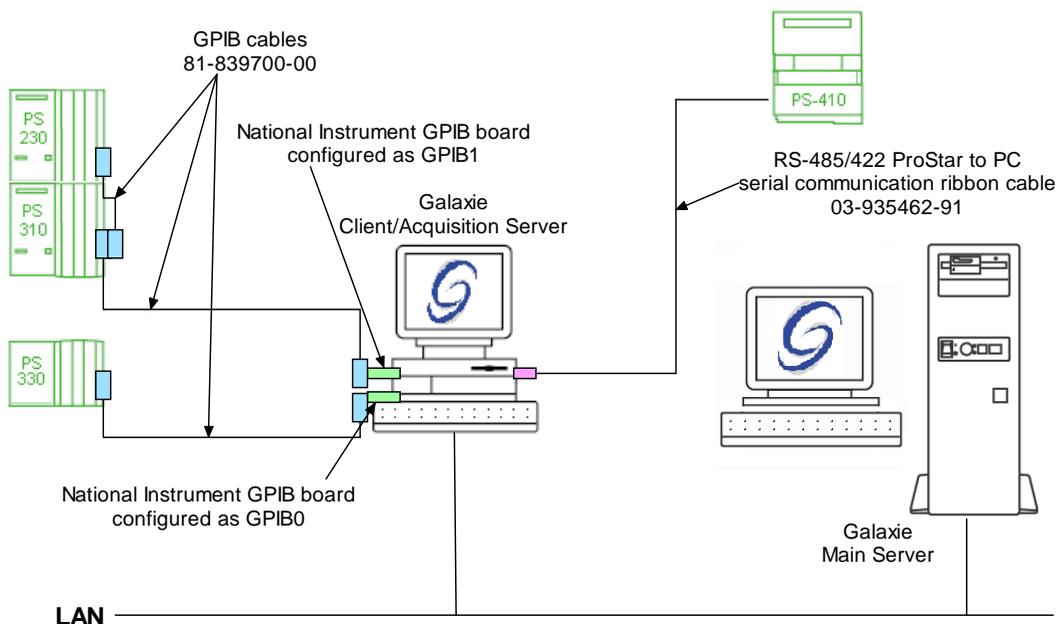
Click on the *Hardware* tab and configure the *Detector ID* number of the ProStar 363 module. This RS-422 unit ID must be unique to each module connected to the RS232_Interface bus and must match the one configured in the module (refer to the ProStar 363 manual to configure the RS-422 unit ID number).



13. Click on the *OK* button to finish the configuration of the system.
14. Finally stop the system by right clicking on its name in the organization view. Then right click again and press start.

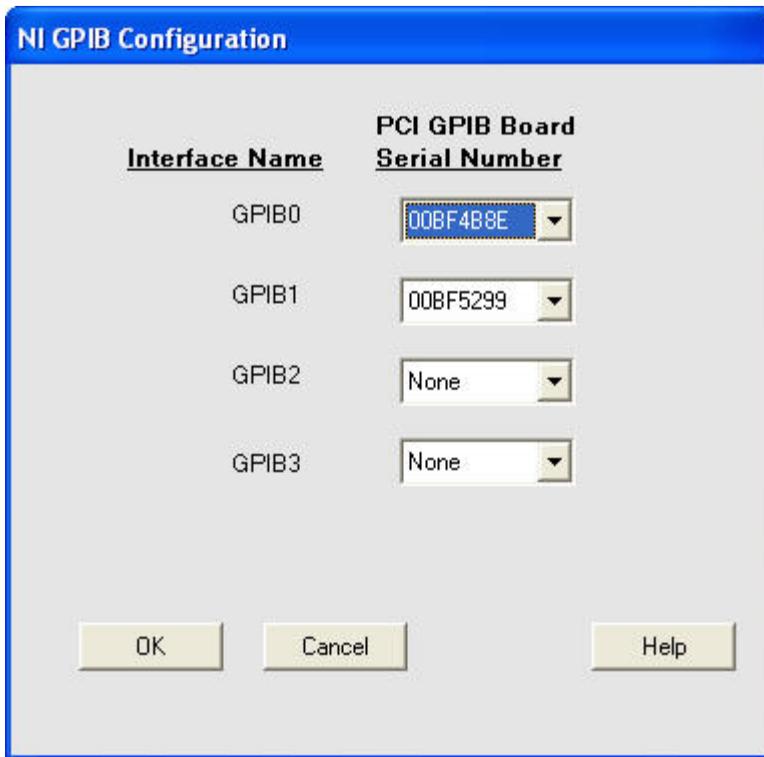


Example 2: ProStar 410-230-310-330

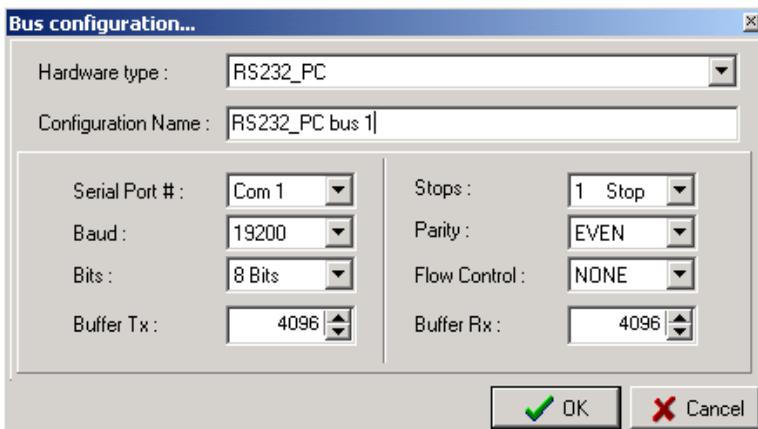


To configure the system shown above, please do the following steps:

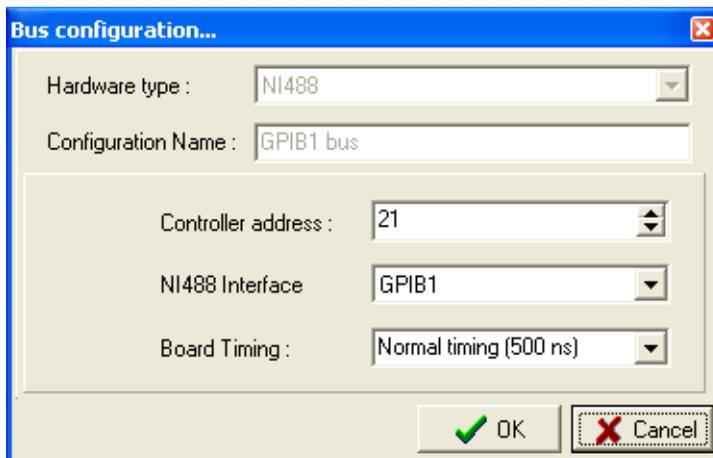
1. Install the two National Instrument GPIB boards in the acquisition server (refer to section *National Instrument GPIB Board Installation* of this manual). Once the two boards are installed, configure them so that one is the GPIB0 and the second is GPIB1.

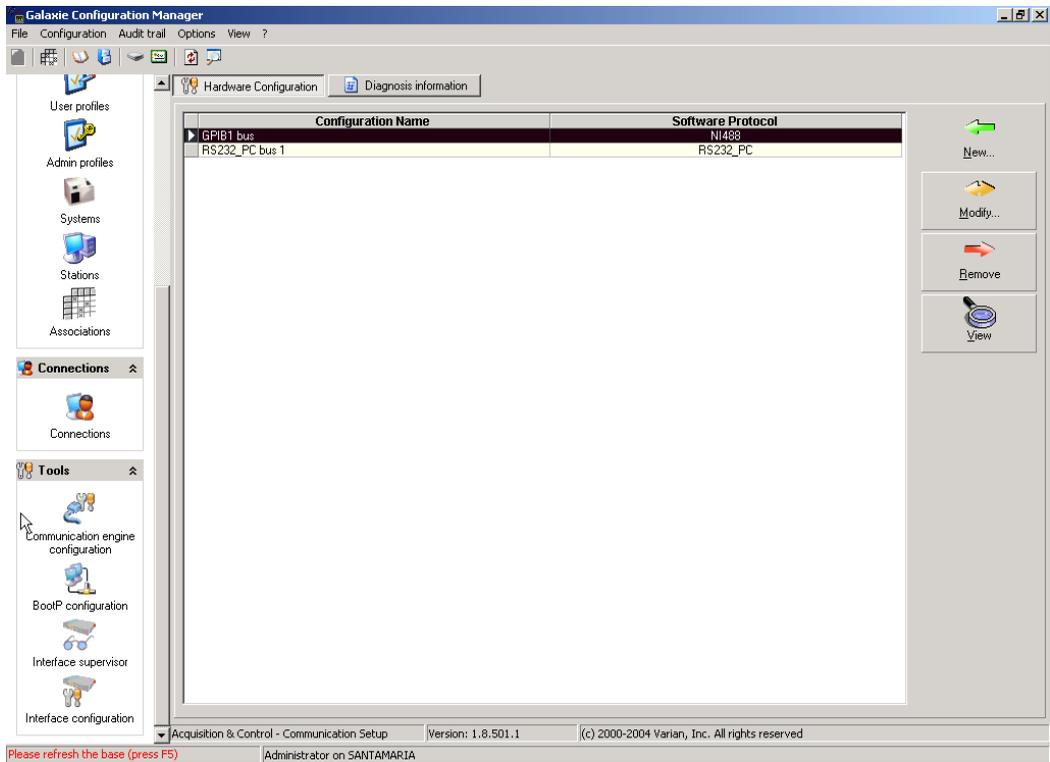


2. Create one **RS232_PC** communication bus on the acquisition server (refer to section Communication engine configuration of this manual). This communication bus is mandatory to control the ProStar 410 AutoSampler module. It will be called RS232_PC bus 1.

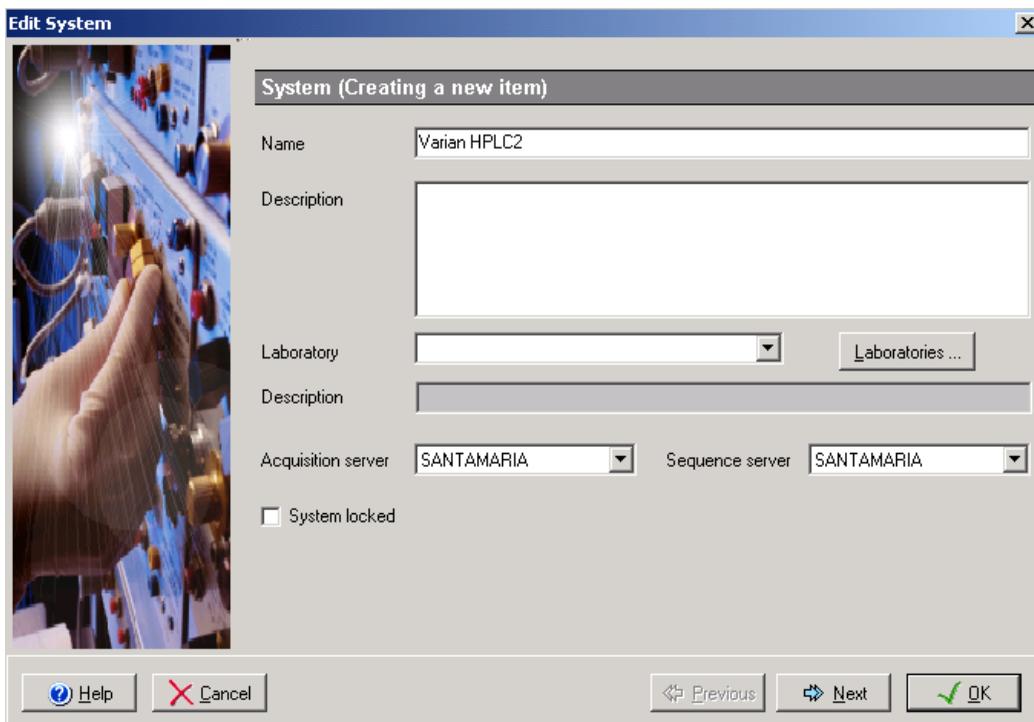


3. Create one **NI488** communication bus on the acquisition server (refer to section *Communication Engine Configuration* of this manual). This communication bus is mandatory to control the 230 and 310 modules. It will be called GPIB1 bus. Do not create a NI488 bus on GPIB0.



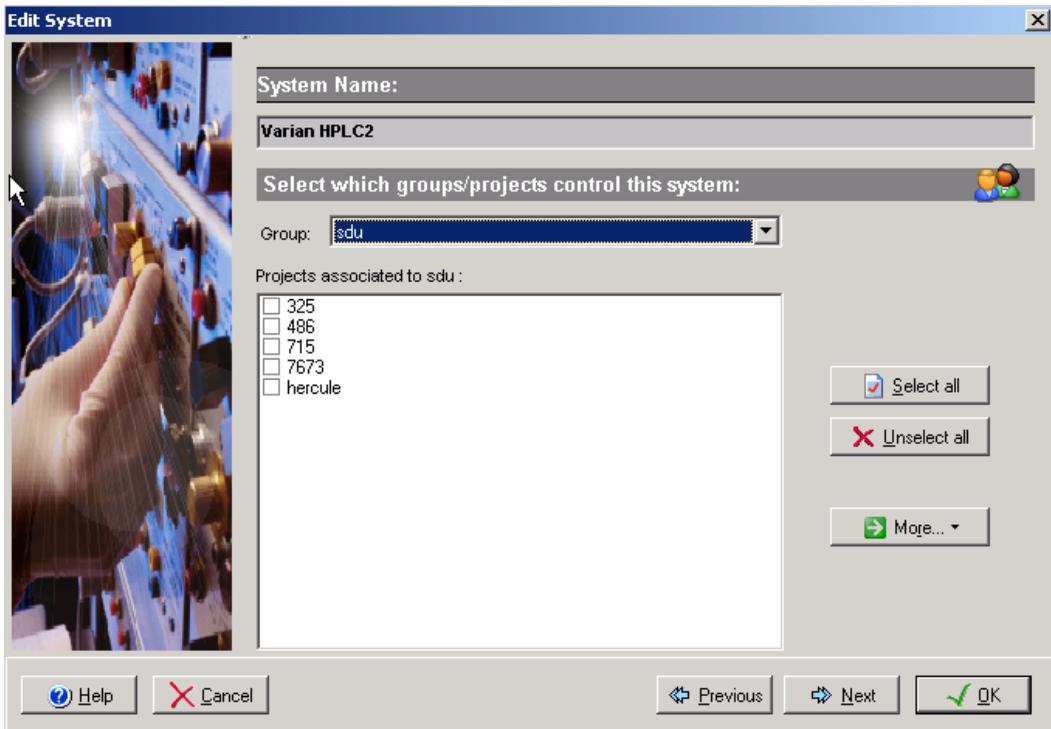


4. In the **Galaxie Configuration Manager**, create a new system. The following screen will be displayed.



Enter the *Name* of the system, select in the *Acquisition server* and *Sequence server* the name of the acquisition server and the name of the sequence server. Then click on *Next*.

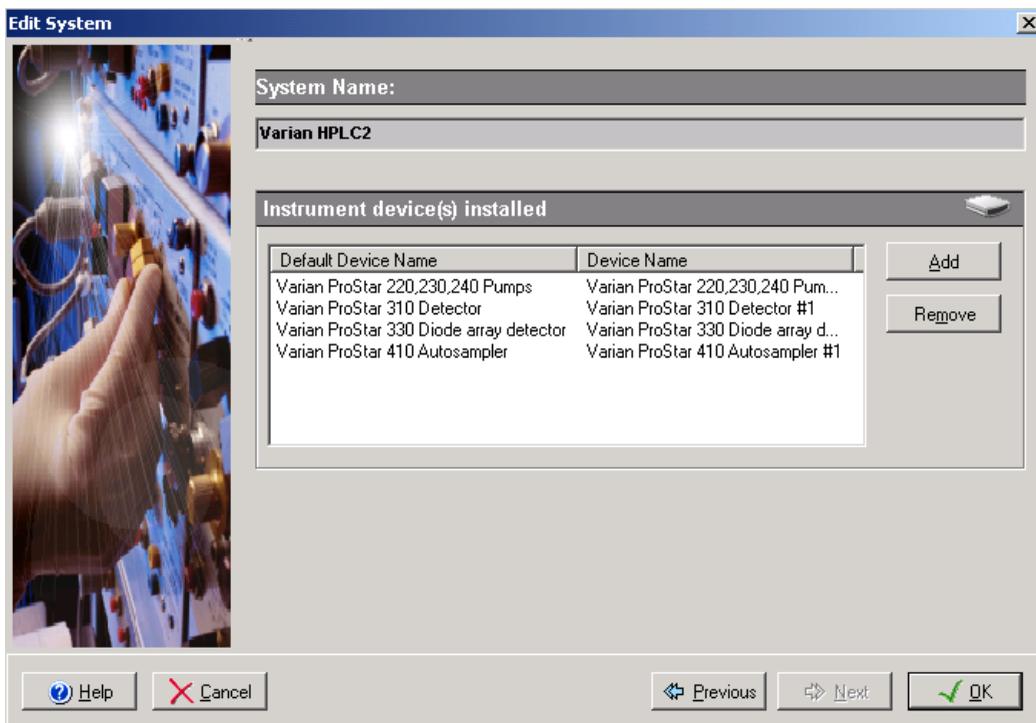
5. In the following screen associate one or more project(s) to the system and click on *Next*. If no groups/projects are defined, click on *Next*.



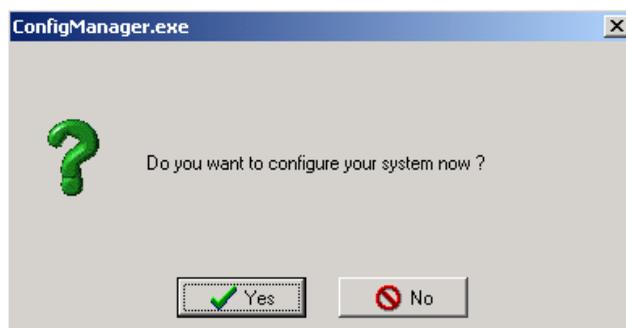
6. To configure that system, it is mandatory to install four devices:

1. Varian ProStar 410
2. Varian ProStar 220/230/240
3. Varian ProStar 310
4. Varian ProStar 330

Click on the *Add* button, select in the *Device Type* list Varian ProStar 410 and press *OK*. Repeat the same operation for the rest of the required devices. When the four devices have been added, the screen should be as below.

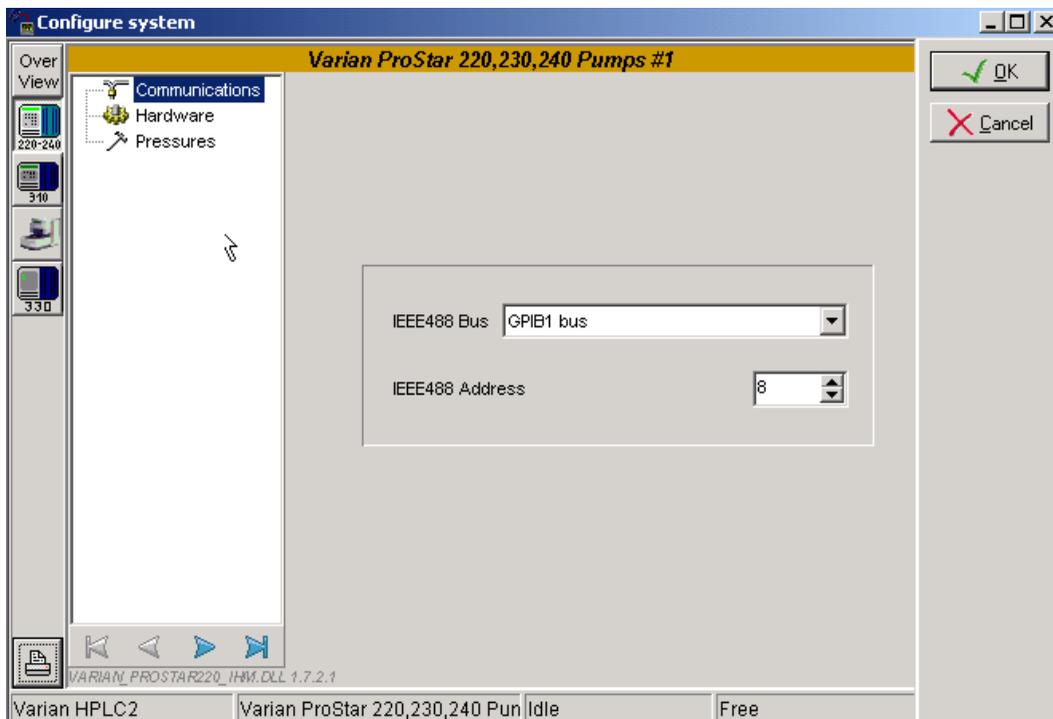


- Click on the *OK* button and answer *Yes* to the question: "Do you want to configure your system now?"

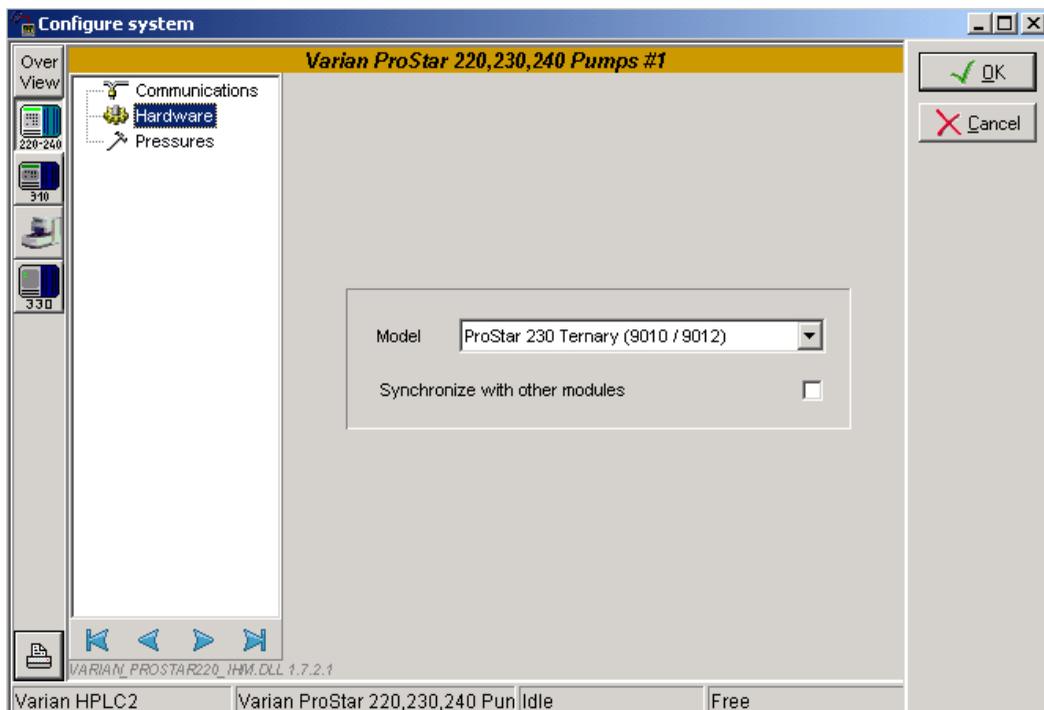


- In the next screen, click on the *Overview* button and arrange the modules as required.
- Press the *ProStar 220-240* icon and click on the *Communications* tab. Select in the *IEEE 488 bus* field the name of the NI488 Bus previously configured on which the pump is connected (*GP1B1 bus*). Configure the *IEEE488*

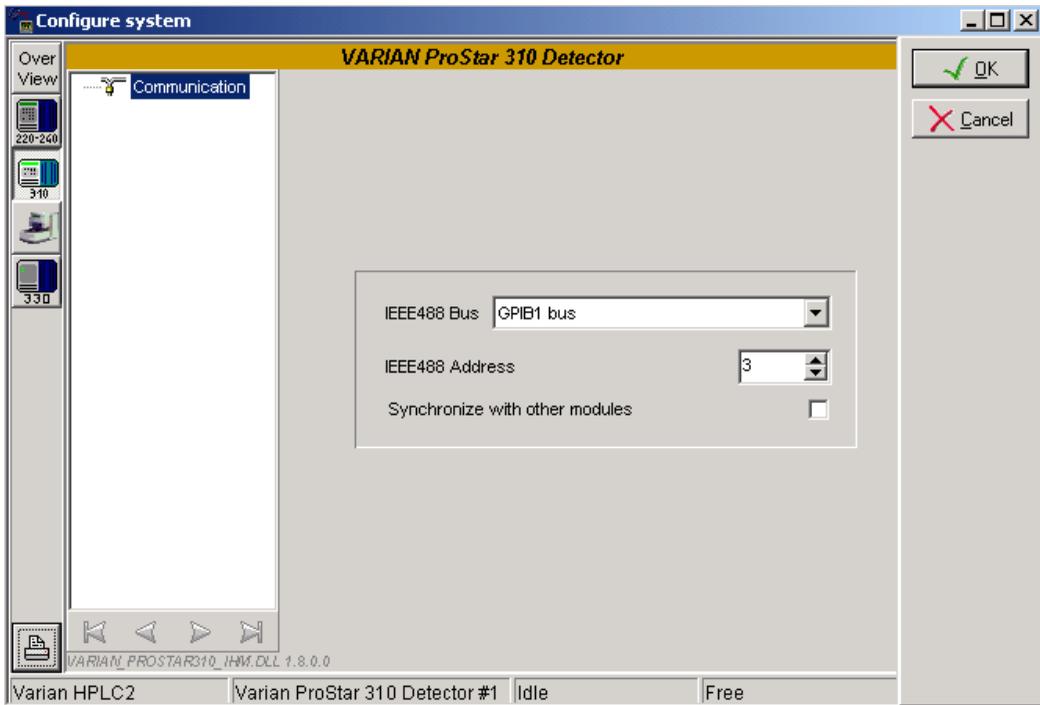
address number of the 230 module. This GPIB unit ID must be unique to each module connected to the NI488 bus and must match the one configured in the module (refer to the 220-230-240 manual to configure the GPIB unit ID number). The GPIB unit must also be different from the GPIB unit ID of the GPIB communication bus.



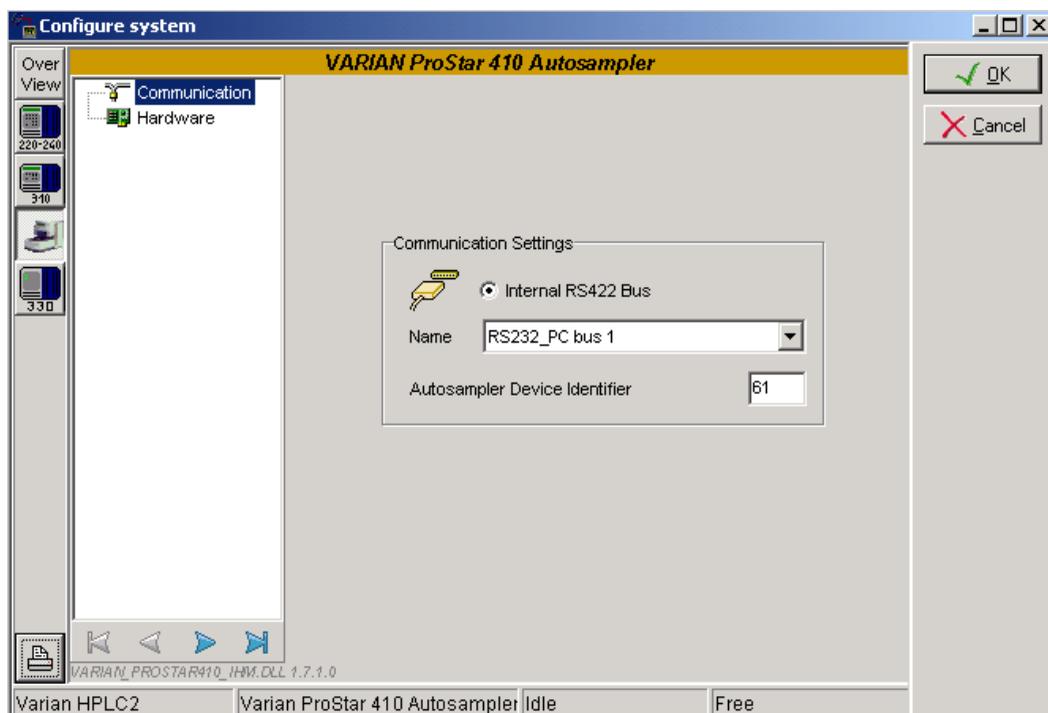
Click on the *Hardware* tab. Select in the dropdown list the *Model* of the pump.



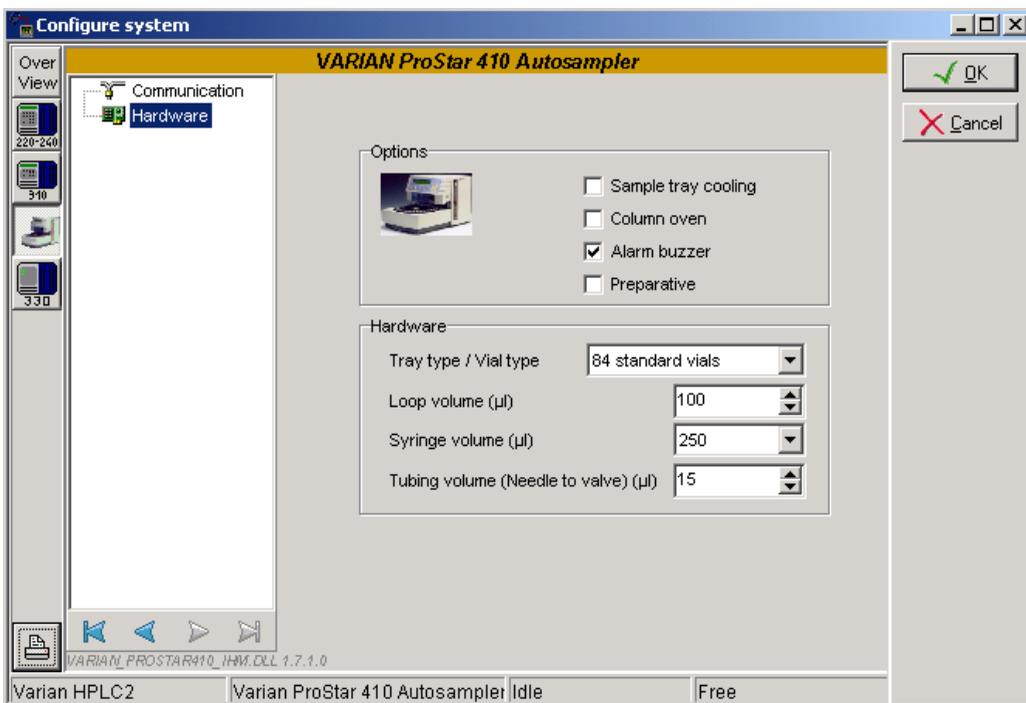
10. Press the 310 icon and click on the *Communications* tab. Select in the *IEEE 488 bus* field the name of the NI488 Bus previously configured to which the detector is connected (GPIB1 bus). Configure the *IEEE488 address* number of the 310 module. This GPIB unit ID must be unique to each module connected to the NI488 bus and must match the one configured in the module (refer to the 310 manual to configure the GPIB unit ID number). The GPIB unit must also be different from the GPIB unit ID controller.



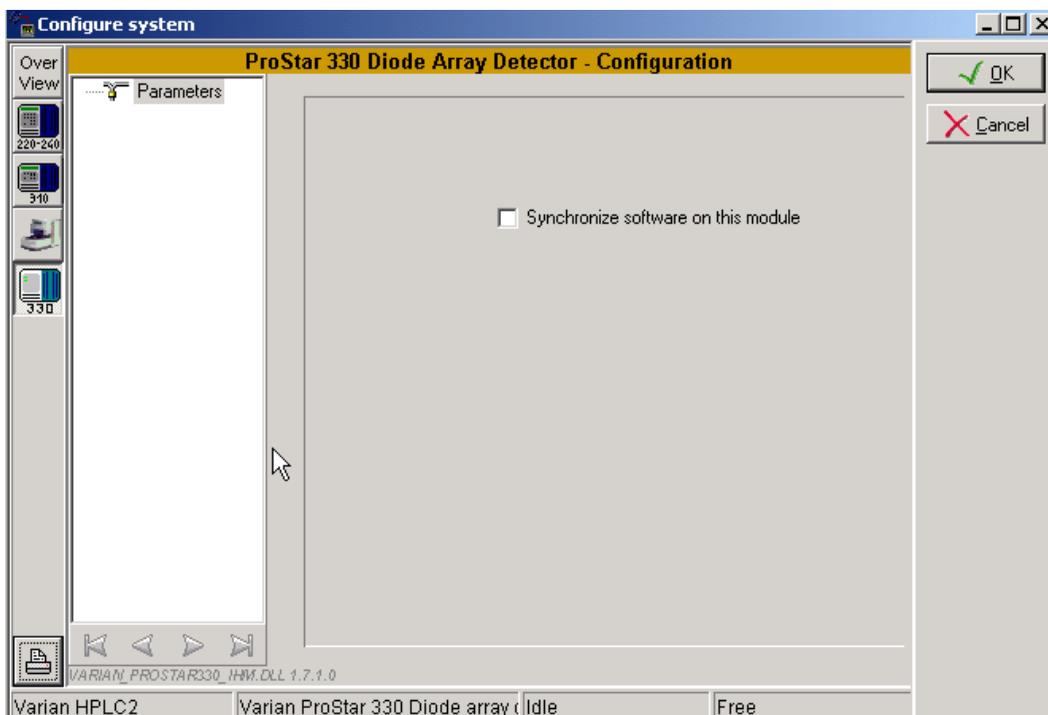
11. Press the ProStar 410 autosampler icon and click on the *Communication* tab. Select in the *Name* field the name of the RS232_Interface Bus previously configured to which the autosampler is connected (RS232_Interface Bus 1). Configure the *Autosampler Device Identifier* number of the ProStar 410 module. This RS-422 unit ID must be unique to each module connected to the RS232_Interface bus and must match the one configured in the module (refer to the ProStar 410 manual to configure the RS-422 unit ID number). The autosampler must also be in serial mode to communicate with Galaxie (in the ready menu of the autosampler select serial).



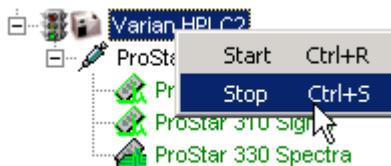
Click on the *Hardware* tab and configure the driver according to the options present in the autosampler.



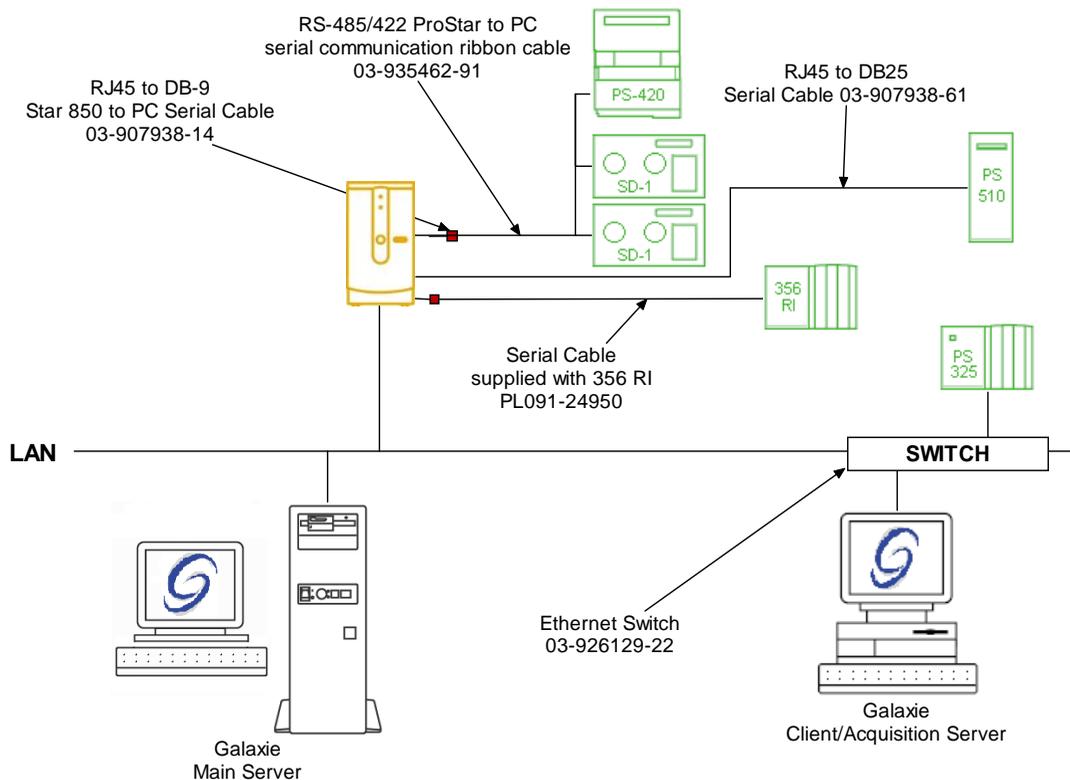
12. Press the ProStar 330 icon and click on the *Parameters* tab. Nothing has to be done in this screen. Please note that no GPIB bus needs to be configured on the GPIB0 for the 330 to work.



13. Click on the *OK* button to finish the configuration of the system.
14. Finally stop the system by right clicking on its name in the organization view. Then right click again and press start.



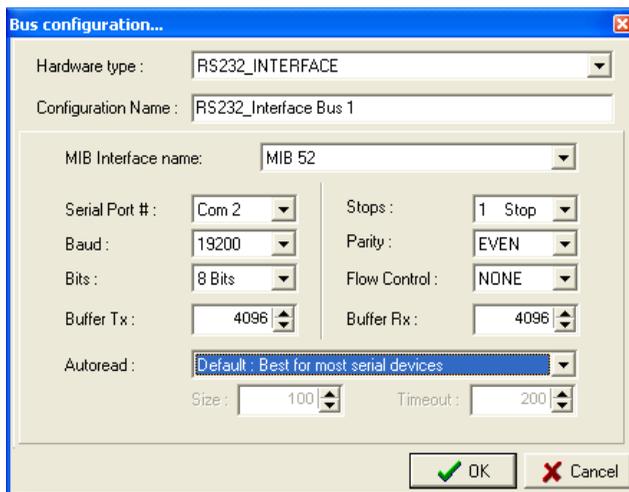
Example 3: ProStar 420-SD1-510-325-356



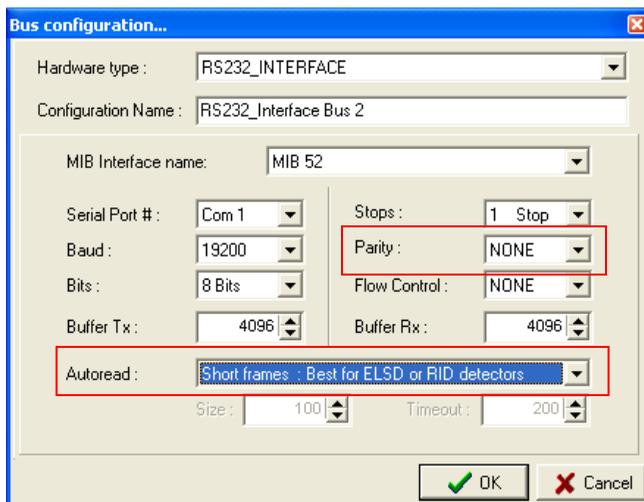
To configure the system shown above, please do the following steps:

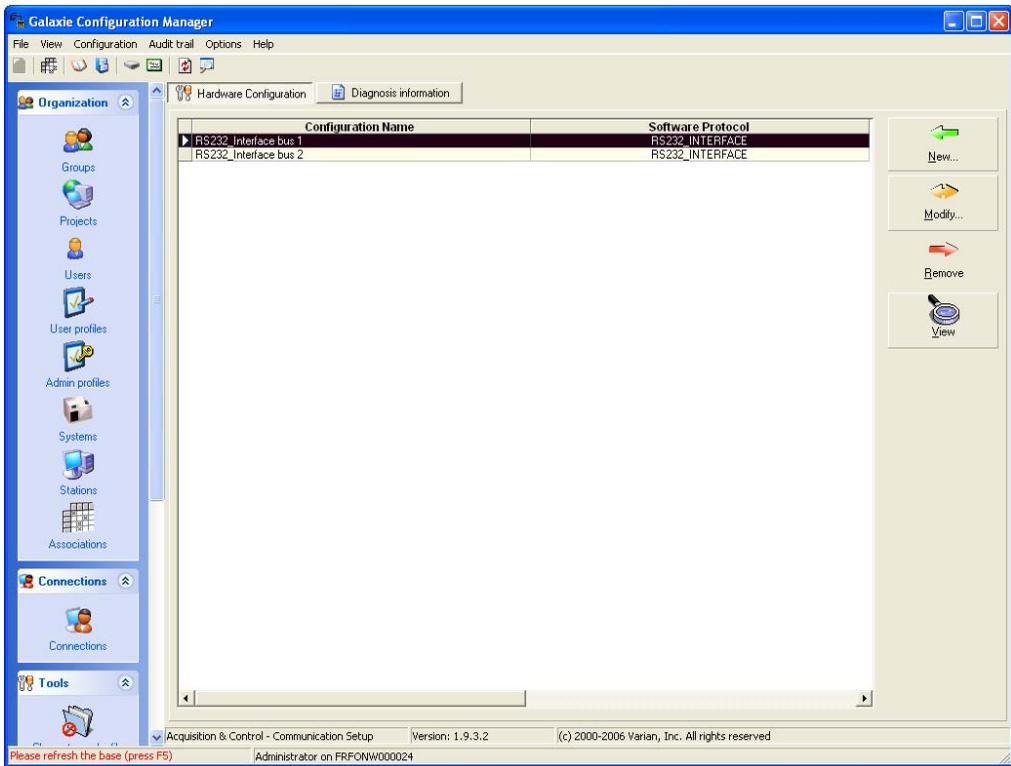
1. Configure the MIB Interface on the acquisition server (refer to section *MIB Interface Configuration* of this manual).
2. Setup the BOOTP server if the ProStar 325 does not have a fixed IP address (refer to section *BOOTP Configuration* of this manual).
3. Create two **RS232_Interface** communication buses on the acquisition server (refer to section *Communication engine configuration* of this manual). Those two communication buses are mandatory to control the ProStar modules and the RI detector. The RS232_Interface bus 1 will control the pumps

and the autosampler, the RS232_Interface bus 2 will control the detector 356 RI:

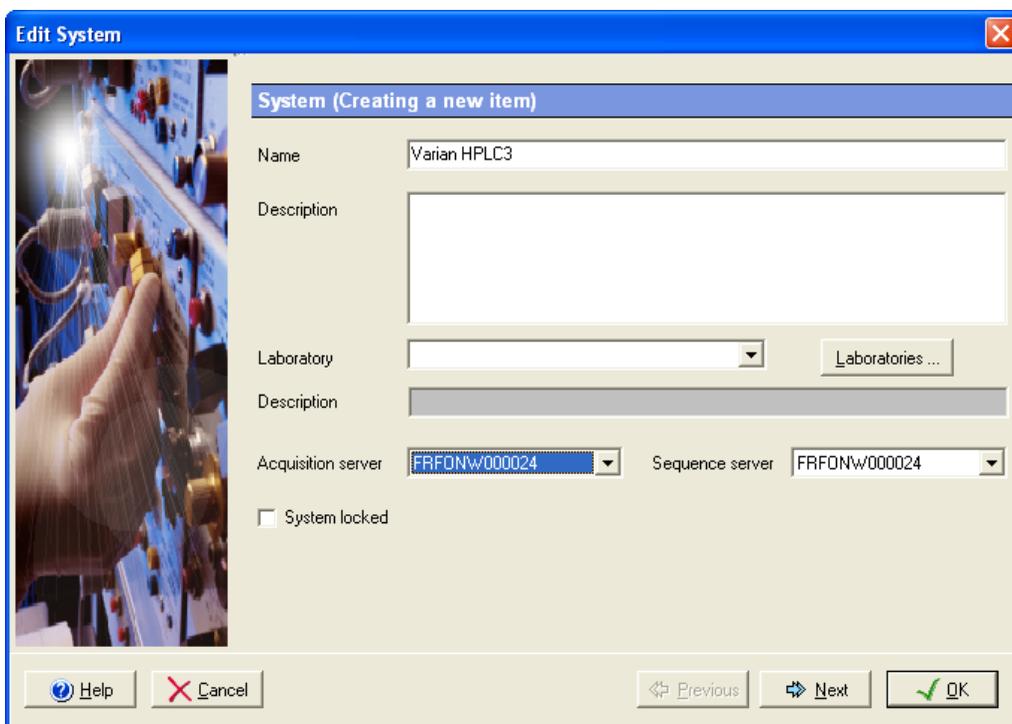


For the detector 356 RI, set No Parity, and set the Autoread to Short Frames:



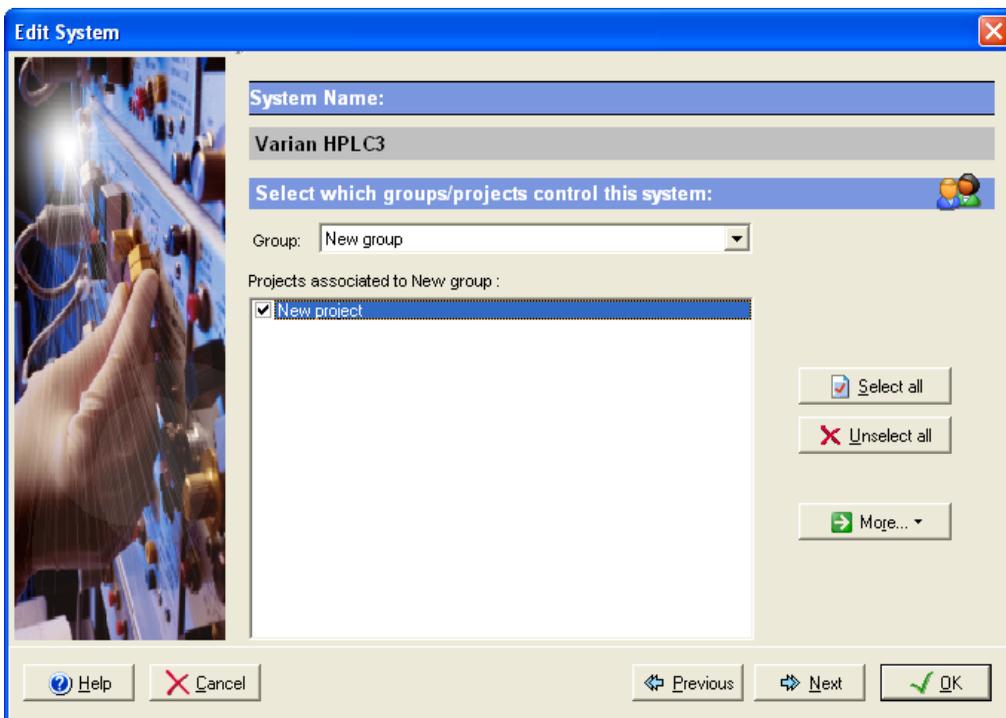


4. In the **Galaxie Configuration Manager**, create a new system. The following screen will be displayed.



Enter the *Name* of the system, select in the *Acquisition server* and *Sequence server* the name of the acquisition server and the name of the sequence server. Then click on *Next*.

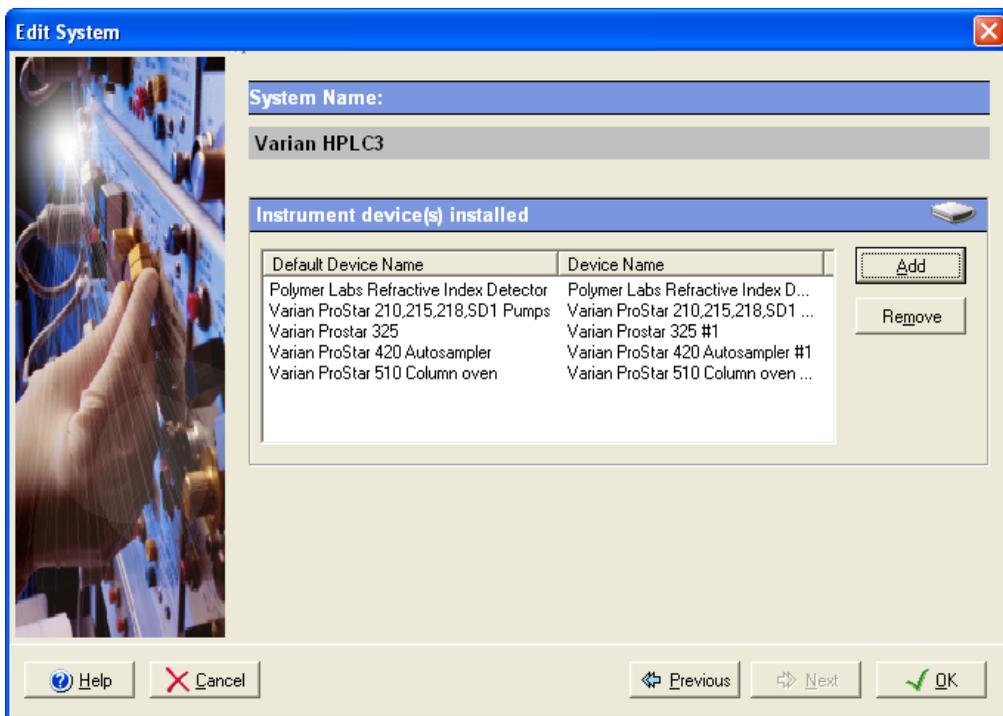
5. In the following screen associate one or more project(s) to the system and click on *Next*. If no groups/projects are defined, click on *Next*.



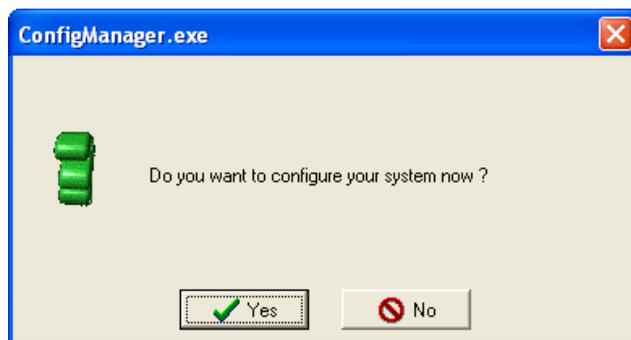
6. To configure that system, it is mandatory to install five devices:

1. Varian ProStar 420
2. Varian ProStar 210/215/218/SD-1
3. Varian ProStar 325
4. Varian ProStar 510
5. Polymer Labs Refractive Index Detector

Click on the *Add* button, select in the *Device Type* list Varian ProStar 420 and press *OK*. Repeat the same operation for the rest of the required devices. When the four devices have been added, the screen should be as below.

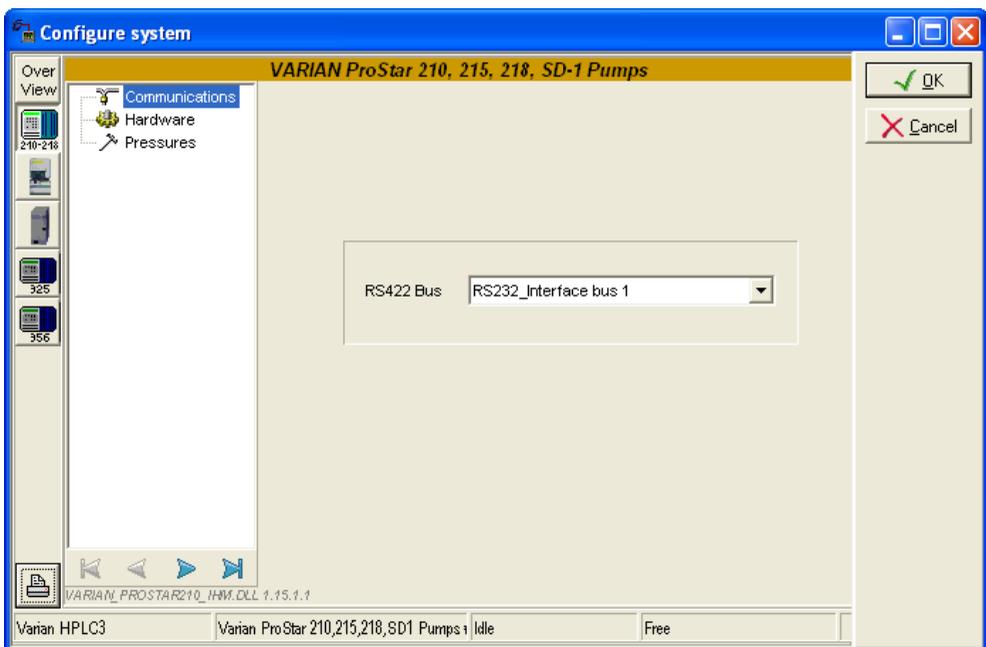


- Click on the *OK* button and answer *Yes* to the question: "Do you want to configure your system now?"



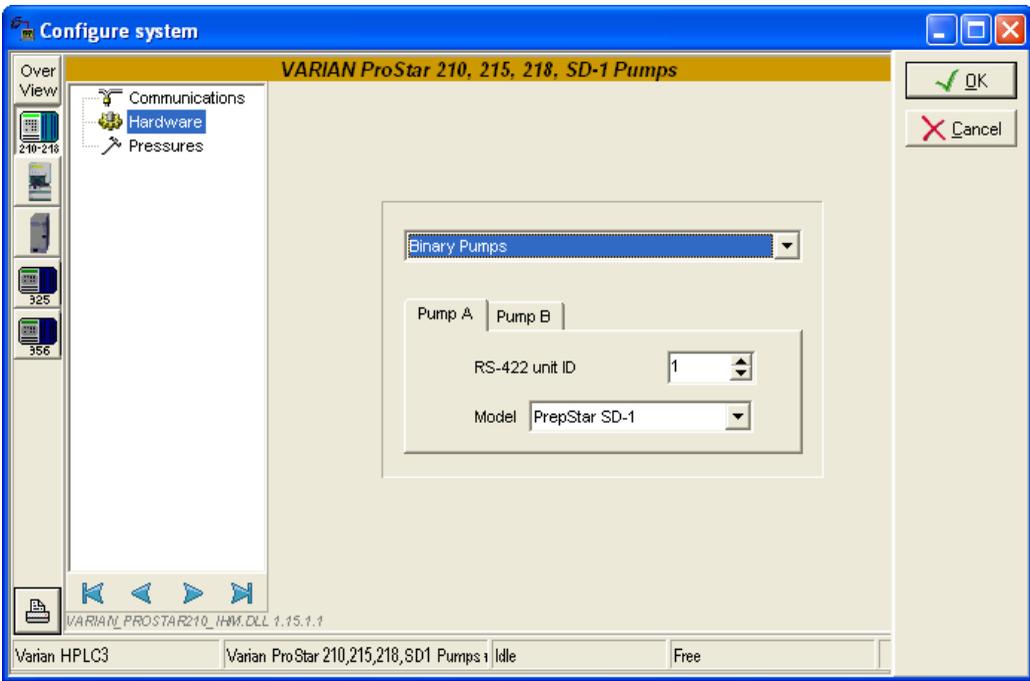
- In the next screen, click on the *Overview* button and arrange the modules as required.
- Press the ProStar 210-218 icon and click on the *Communications* tab. Select in the *RS422 bus field* the name of the RS232_Interface Bus previously configured to which the pumps are connected (RS232_Interface Bus 1). Then click on

the *Hardware* tab, select binary as two pumps are present in this system.

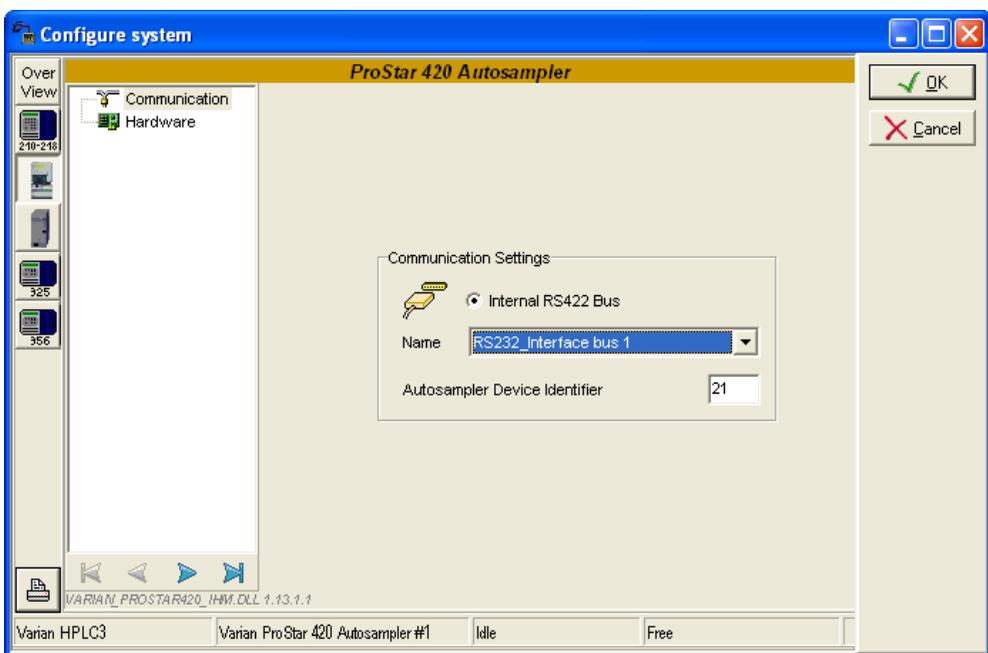


For each pumps A and B configure the *RS-422 unit ID* number of the pump and the *Model* of the pump (210, 215, 218 or SD-1).

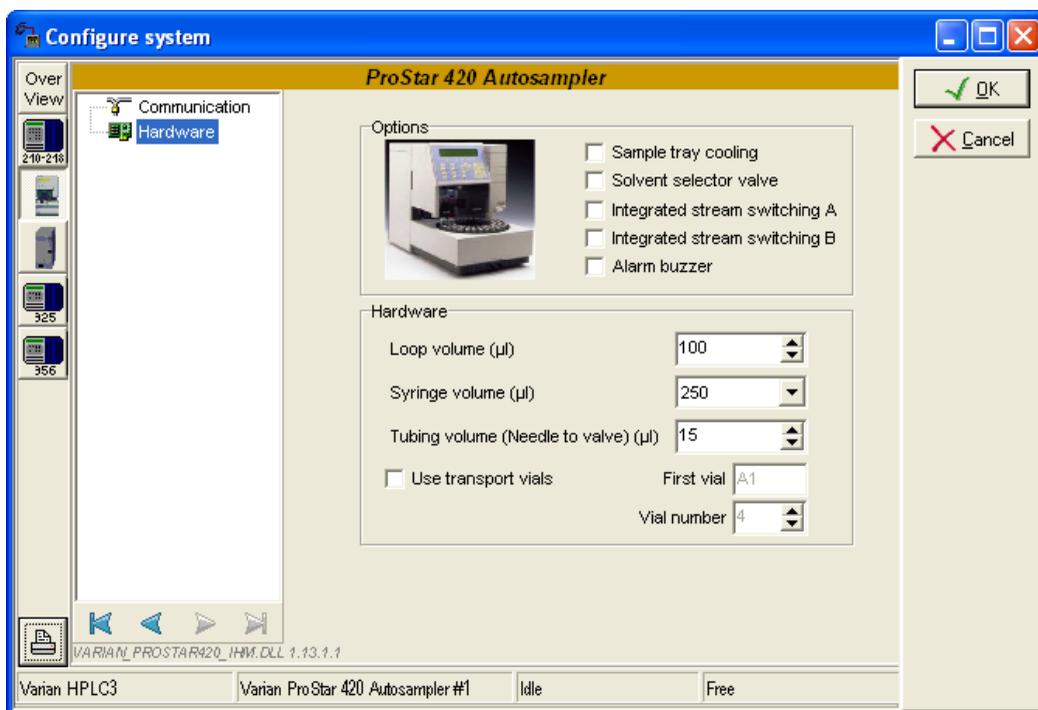
The RS-422 unit ID must be unique to each module connected to the RS232_Interface bus and must match the one configured in the pumps (refer to the pump manual to configure the RS-422 unit ID number).



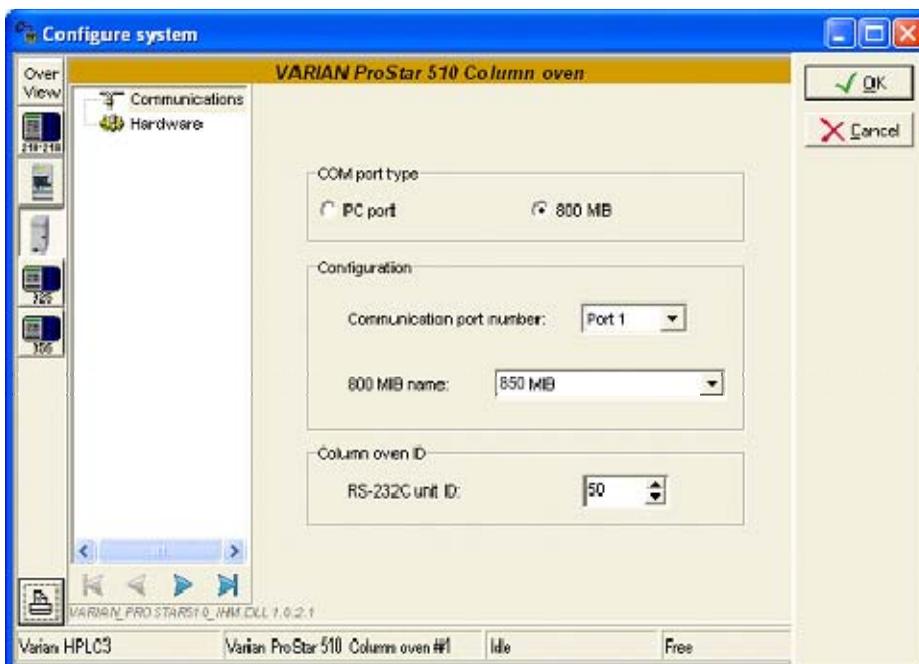
10. Press the 420 autosampler icon and click on the *Communication* tab. Select in the *Name* field the name of the RS232_Interface Bus previously configured to which the autosampler is connected (RS232_Interface Bus 1). Configure the *Autosampler Device Identifier* number of the ProStar 420 module. This RS-422 unit ID must be unique to each module connected to the RS232_Interface bus and must match the one configured in the module (refer to the ProStar 420 manual to configure the RS-422 unit ID number). The autosampler must also be in serial mode to communicate with Galaxie (in the ready menu of the autosampler select serial).



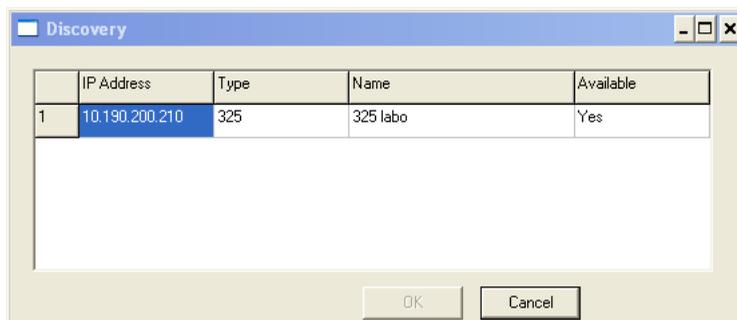
Click on the *Hardware* tab and configure the driver according to the options present in the autosampler.



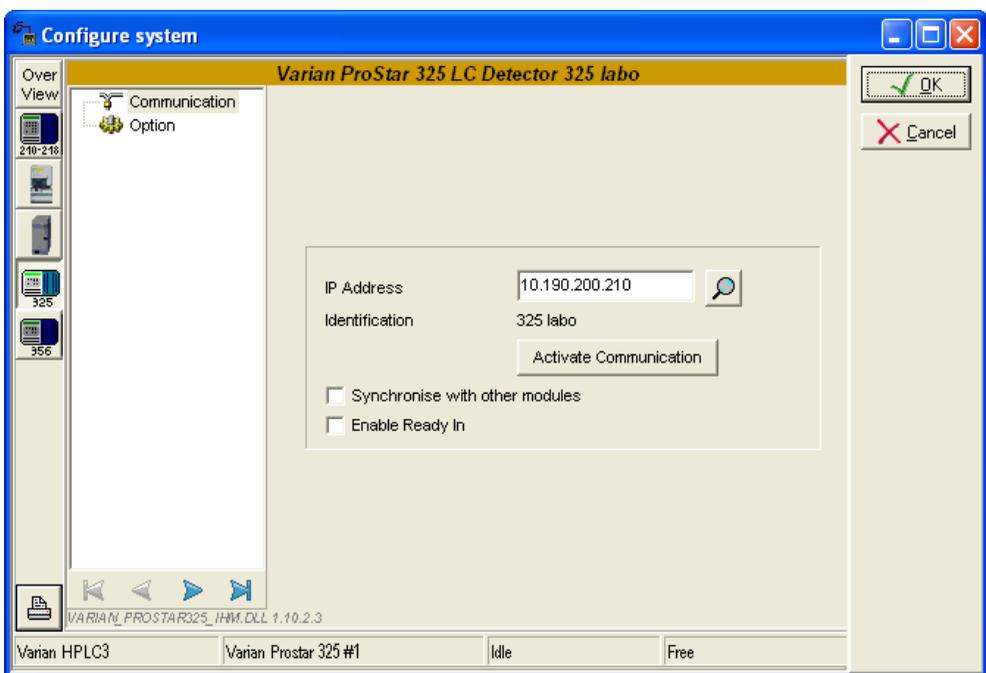
11. Press the 510 column oven icon and click on the *Communications* tab. In the *Com Port Type* group parameter select *Star 800 MIB*. Then in the *Configuration* group parameter select the name of the MIB Interface and Com port to which the 510 is connected. Finally, enter the RS232_C unit ID of the column oven. This unit ID must match the one in the column oven (refer to the ProStar 510 Column Oven manual to configure that number).



12. Press the ProStar 325 icon and click on the *Communication* tab. To search on the subnet all the connected ProStar 325 instruments press the magnifying glass icon, or if you know the IP address, enter it directly in the IP address field. If the search icon is pressed, a window will pop up listing all the 325s on the subnet.

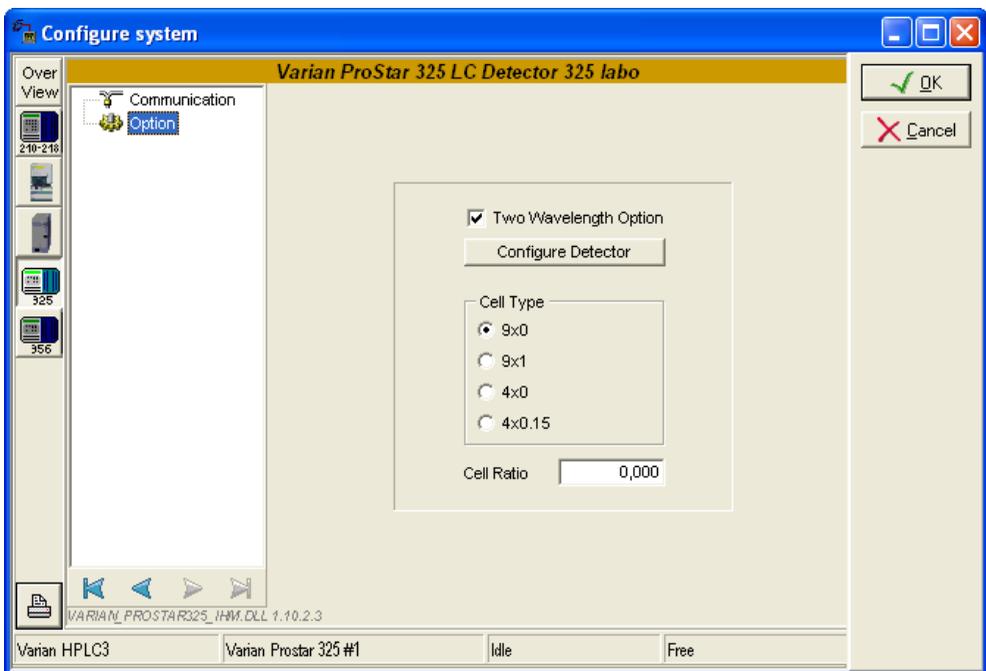


Select one instrument and press **OK**. Then press the *Activate Communication* button.

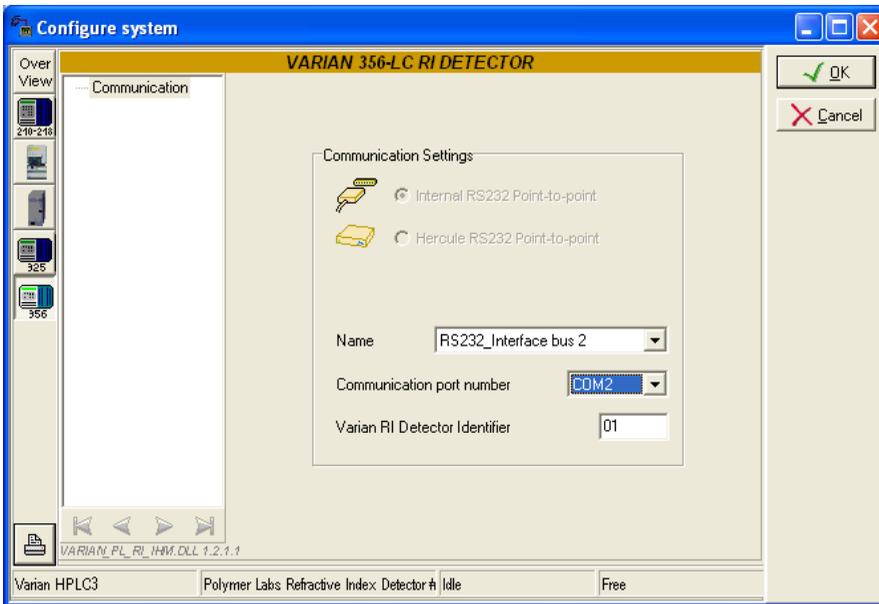


NOTE: It is advised to use fix IP address to communicate with instrument

Click on the *Option* tab and select which flow cell is present in the detector.

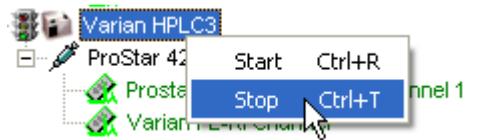


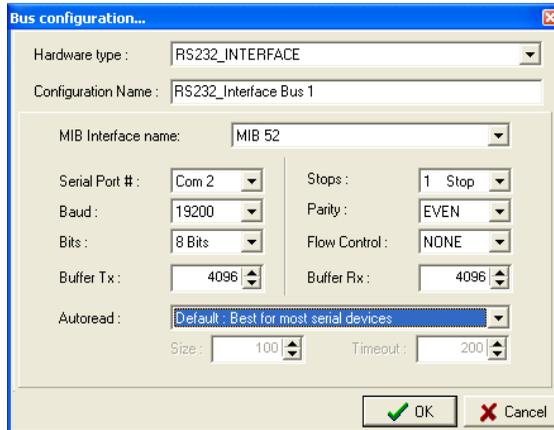
13. Press the *Varian 356-LC RI Detector* icon and click on the *Communication* tab. Select in the *Name* field the name of the RS232_Interface Bus previously configured to which the detector is connected (RS232_Interface Bus 2). Configure the *Communication port number* of the 356-RI module (the Interface port on which the detector is connected). Configure the *Varian RI Detector Identifier* number which must be unique to each module connected to the RS232_Interface bus and must match the one configured in the module.



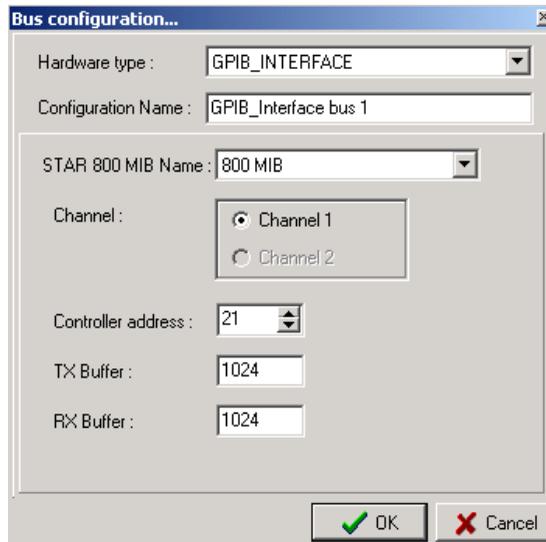
14. Click on the *OK* button to finish the configuration of the system.

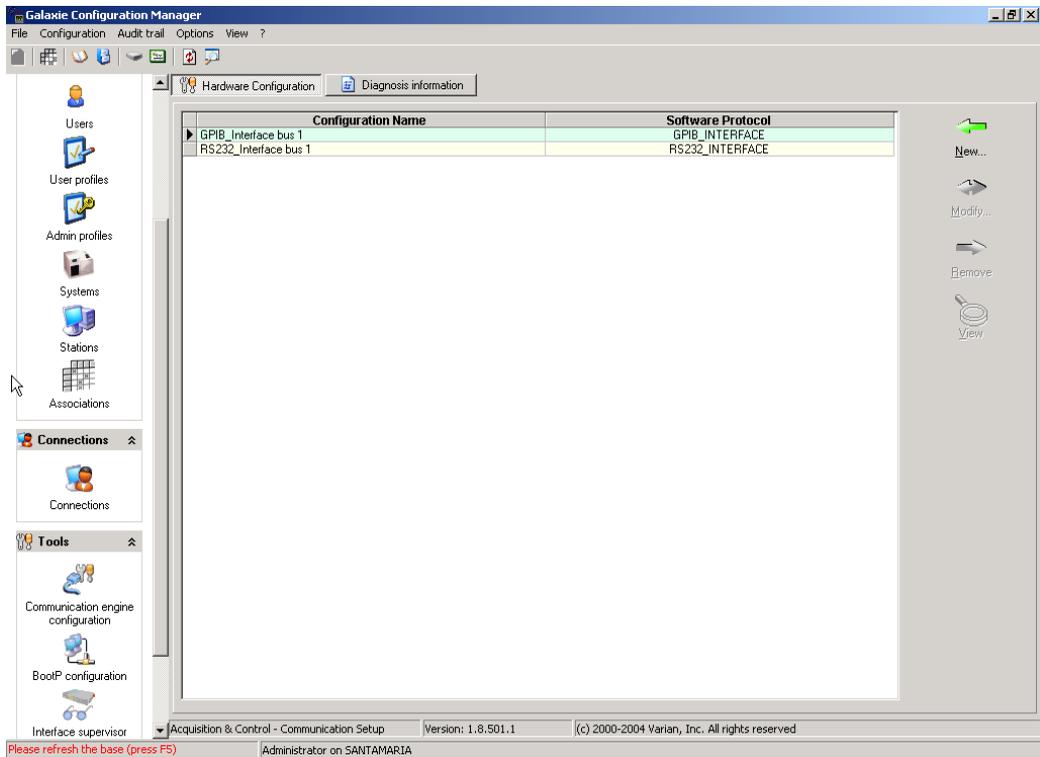
15. Finally stop the system by right clicking on its name in the organization view. Then right click again and press start.



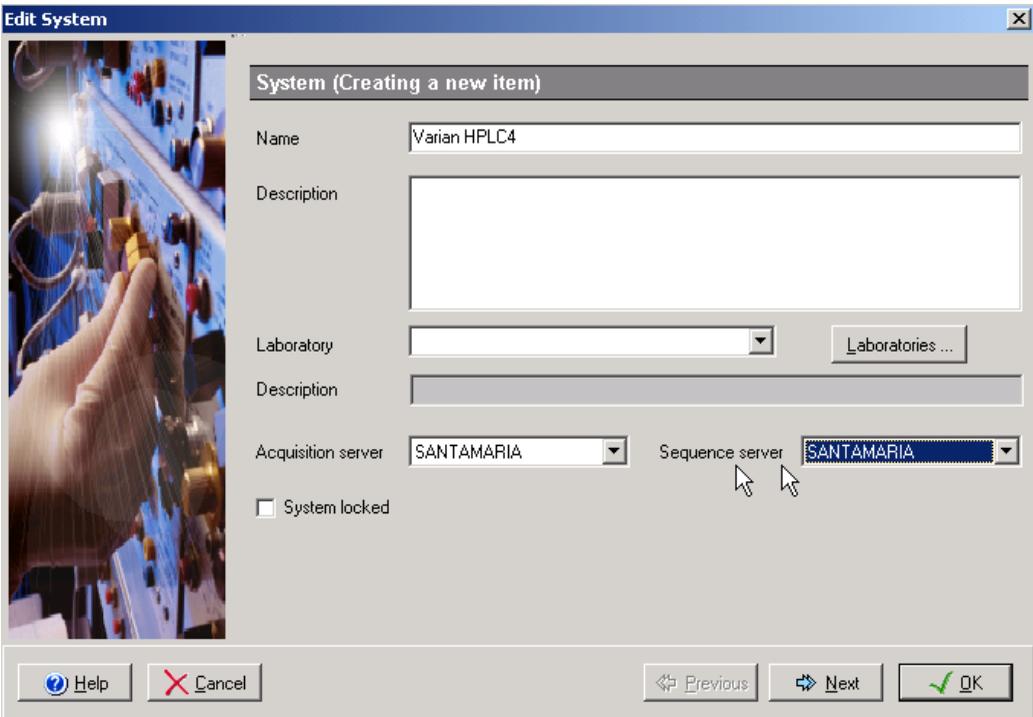


4. Create one **GPIB_Interface** communication bus on the acquisition server (refer to section *Communication Engine Configuration* of this manual). This communication bus is mandatory to control the ProStar 230 pumps. It will be called GPIB_Interface bus 1.



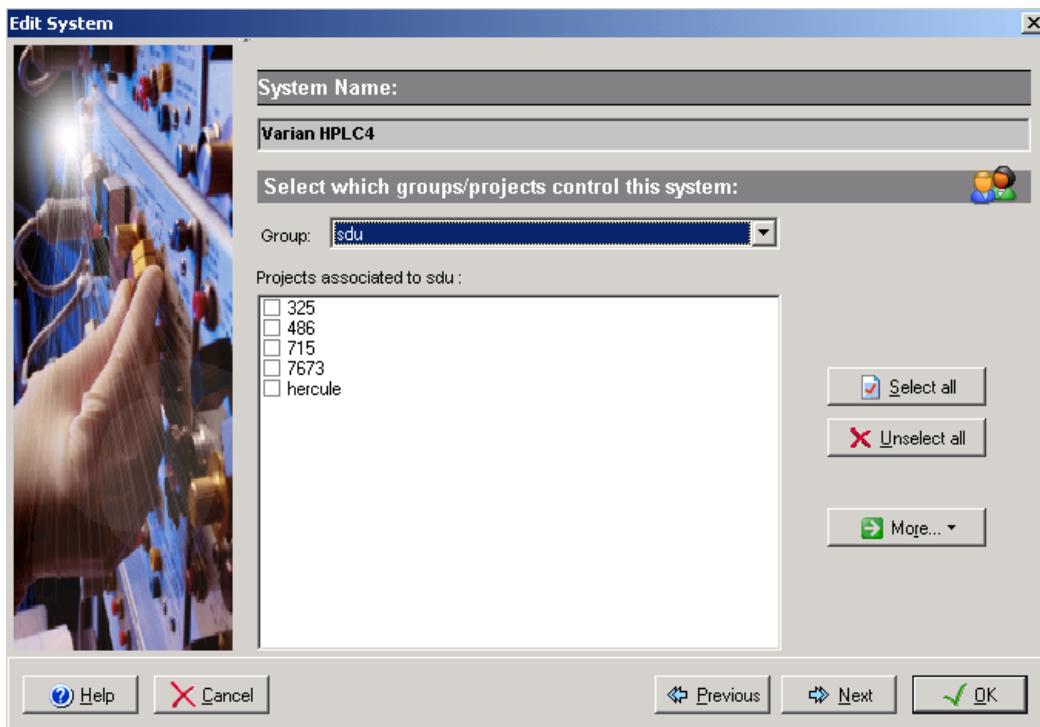


- In the **Galaxie Configuration Manager**, create a new system. The following screen will be displayed.



Enter the *Name* of the system, select in the *Acquisition server* and *Sequence server* the name of the acquisition server and the sequence server. Then click on *Next*.

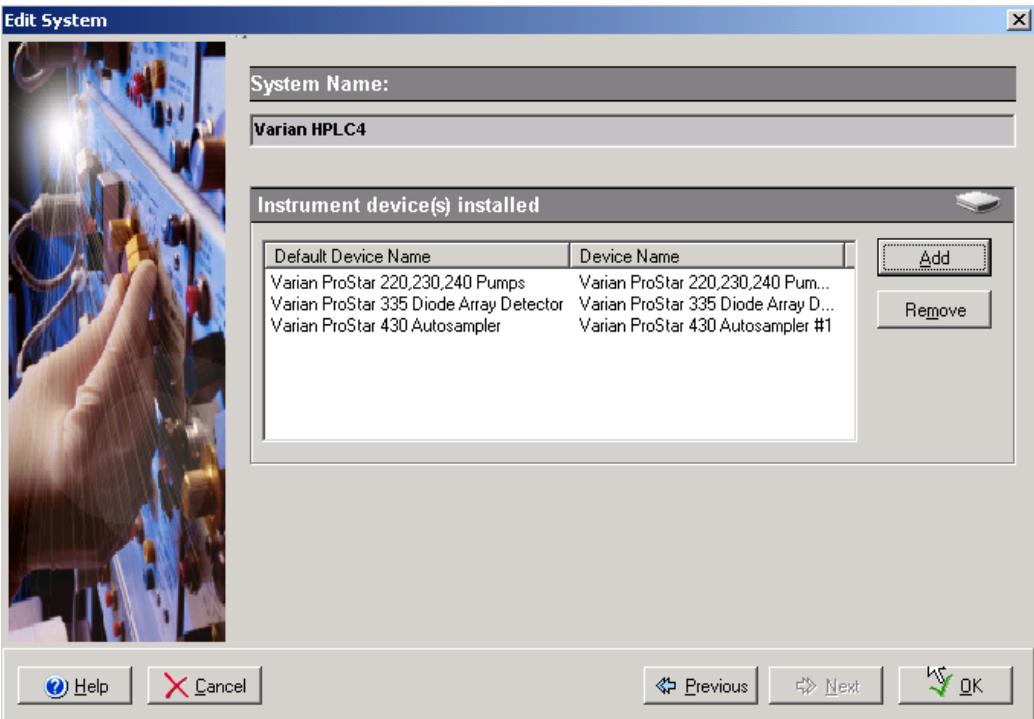
6. In the following screen associate one or more project(s) to the system and click on *Next*. If no groups/projects are defined, click on *Next*.



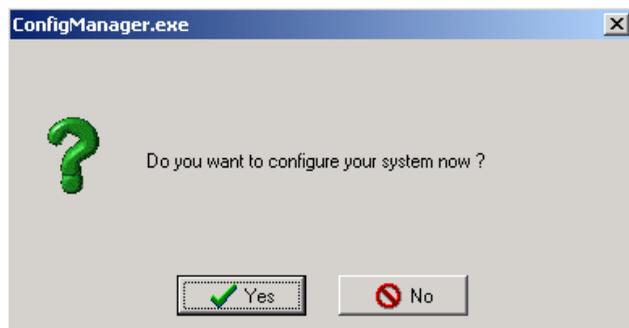
7. To configure that system, it is mandatory to install three devices:

1. Varian ProStar 430
2. Varian ProStar 220,230,240
3. Varian ProStar 335

Click on the *Add* button, select in the *Device Type* list Varian ProStar 430 and press *OK*. Repeat the same operation for the rest of the required devices. When the three devices have been added the screen should be as below.

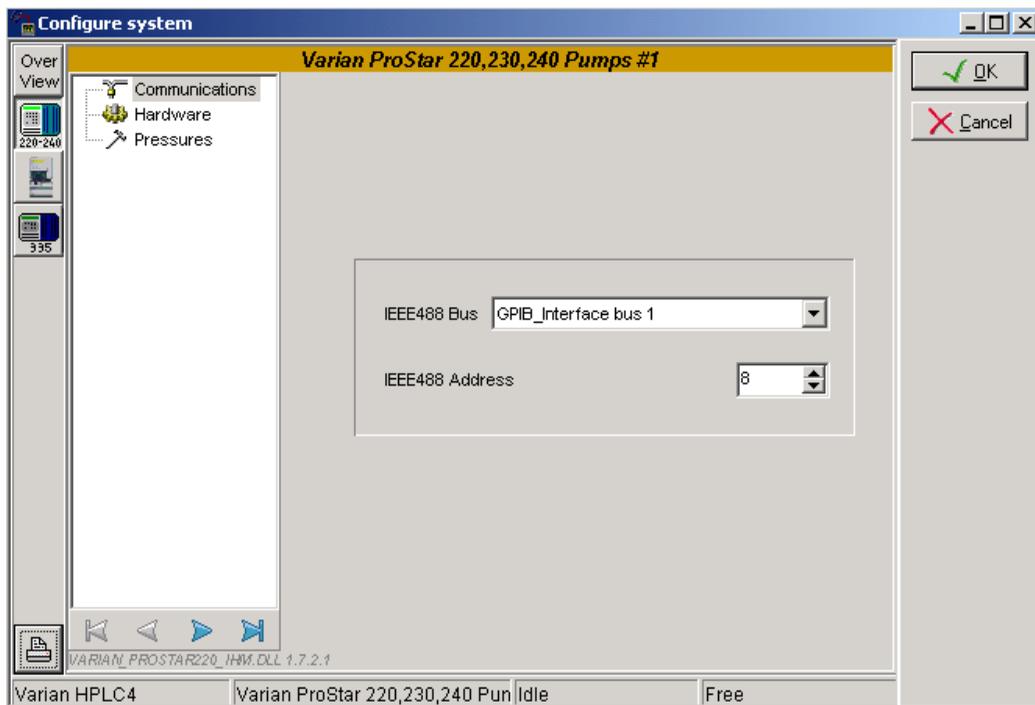


- Click on the *OK* button and answer *Yes* to the question: "Do you want to configure your system now?"

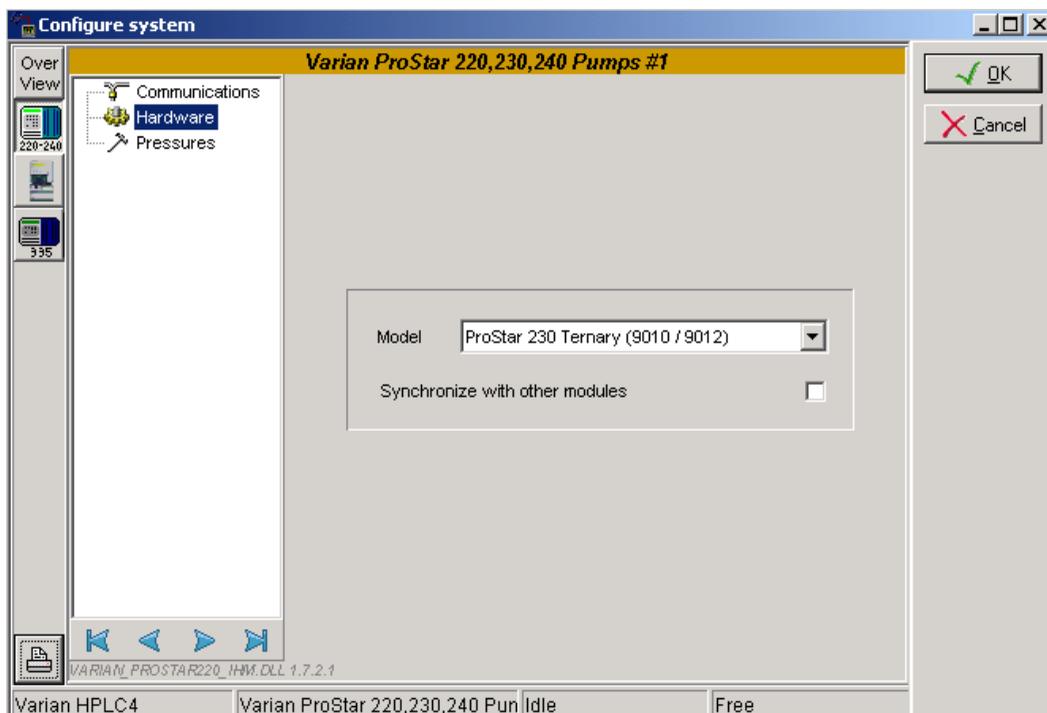


- In the next screen, click on the *Overview* button and arrange the modules as required.
- Press the 220-240 icon and click on the *Communications* tab. Select in the *IEEE 488 bus* field the name of the GPIB Bus previously configured to which the pump is connected (GPIB_Interface bus 1). Configure the *IEEE488 address* number of the ProStar 230 module. This GPIB unit ID must be

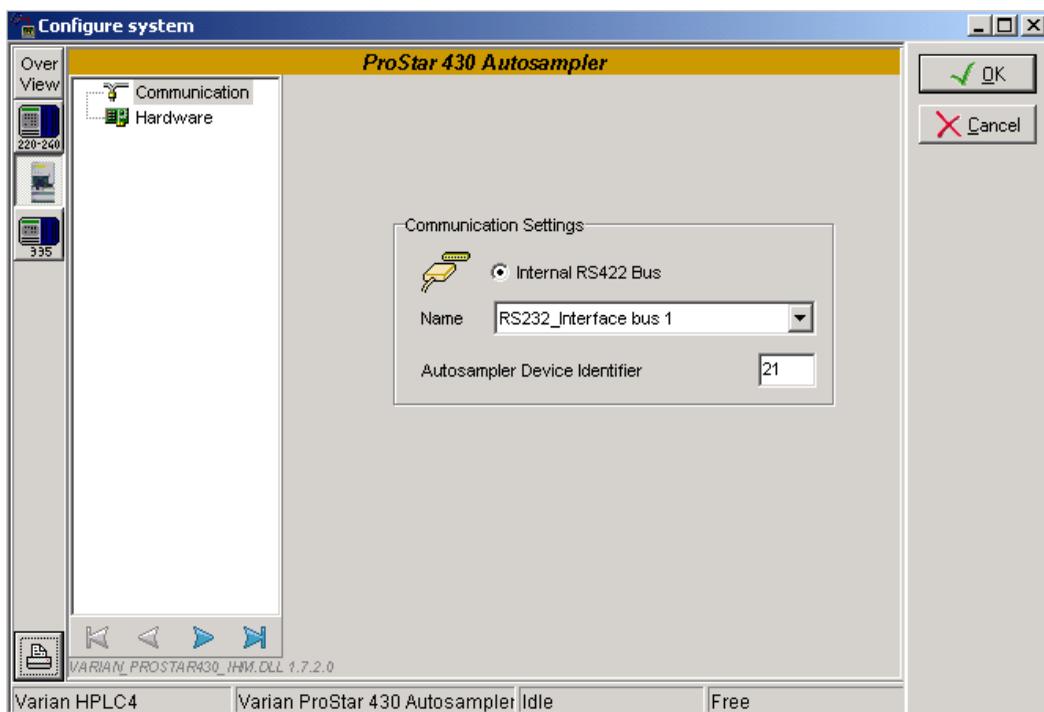
unique to each module connected to the GPIB bus and must match the one configured in the module (refer to the 220-230-240 manual to configure the GPIB unit ID number). The GPIB unit must also be different from the GPIB unit ID controller.



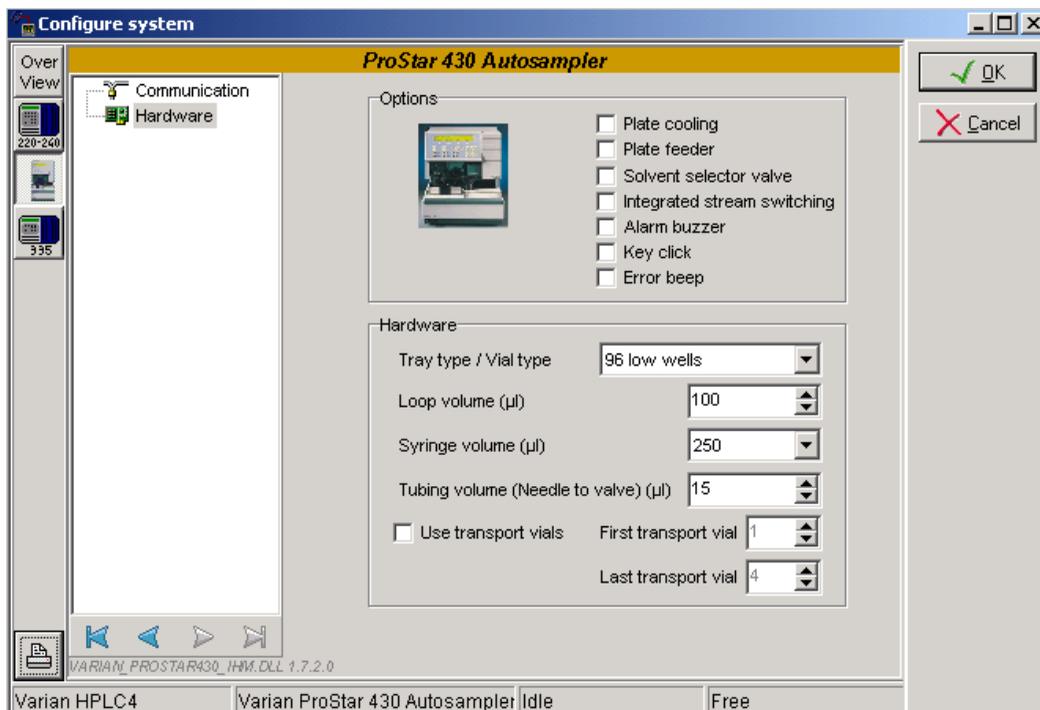
Click on the *Hardware* tab. Select in the dropdown list the *Model* of the pump.



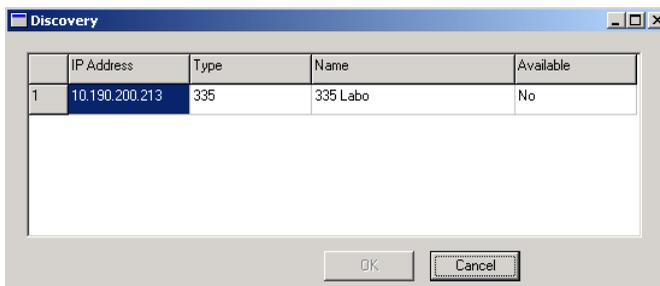
11. Press the ProStar 430 AutoSampler icon and click on the *Communication* tab. Select in the *Name* field the name of the RS232_Interface Bus previously configured to which the autosampler is connected (RS232_Interface Bus 1). Configure the *Autosampler Device Identifier* number of the 430 module. This RS-422 unit ID must be unique to each module connected to the RS232_Interface bus and must match the one configured in the module (refer to the 430 manual to configure the RS-422 unit ID number). The autosampler must also be in serial mode to communicate with Galaxie (in the ready menu of the autosampler select serial).



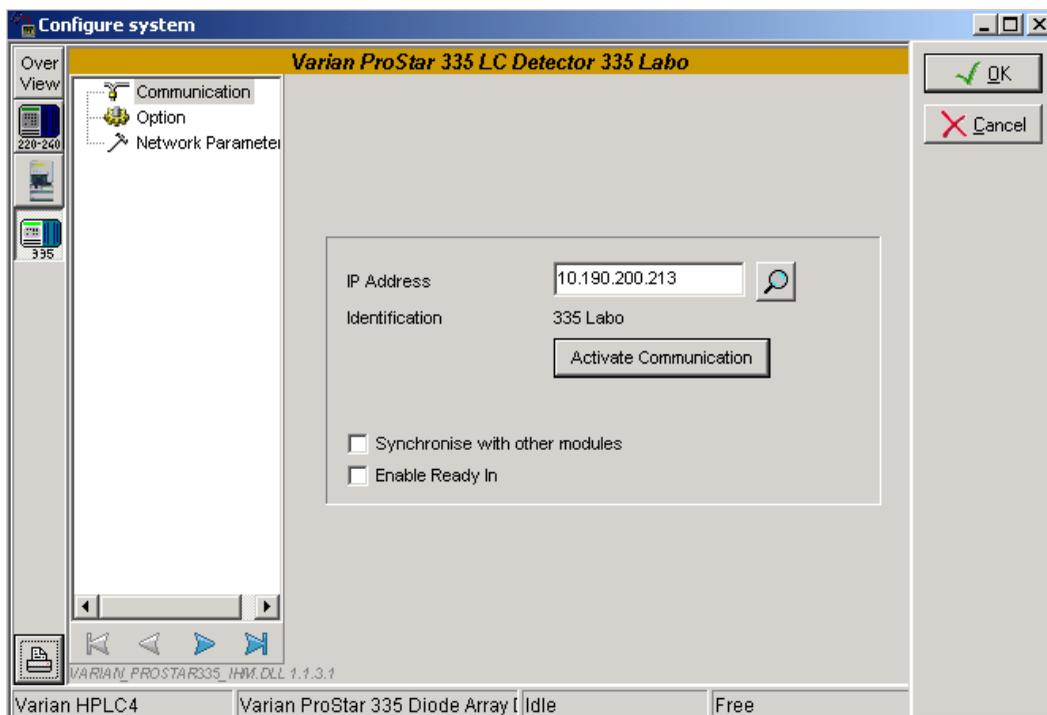
Click on the *Hardware* tab and configure the driver according to the options present in the autosampler.



- Press the ProStar 335 icon and click on the *Communication* tab. To search on the subnet all the connected ProStar 335 instruments press the magnifying glass icon or if you know the IP address enter it directly in the IP address field. If the search icon is pressed, a window will pop up listing all the 335s on the subnet.

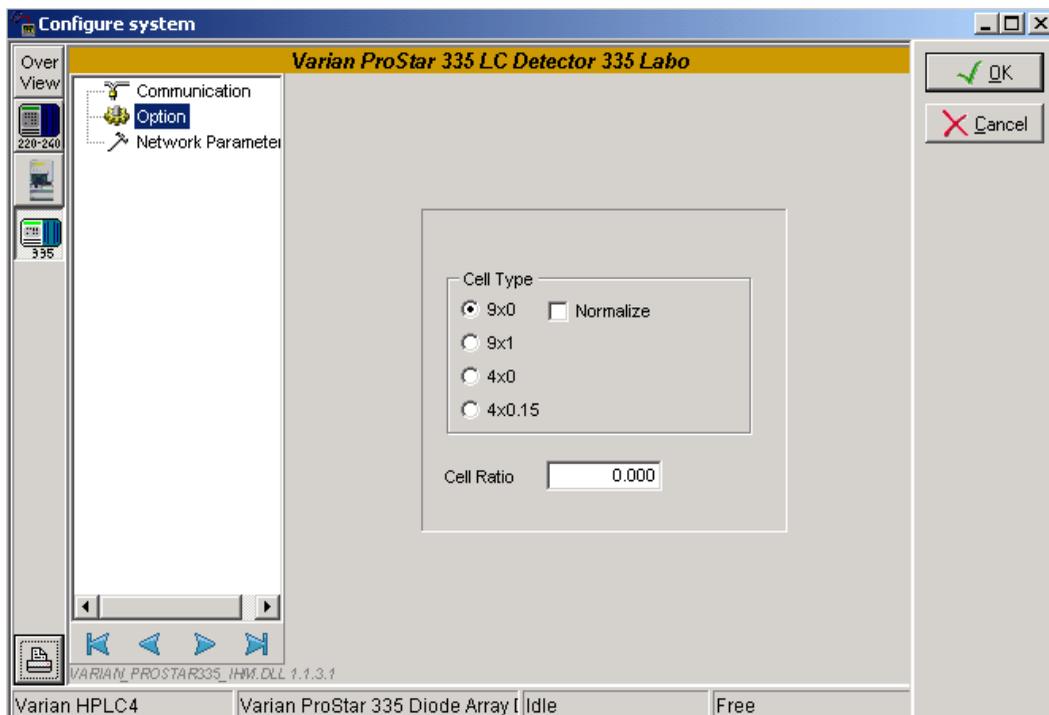


Select one instrument and press OK. Then press the activate communication button.

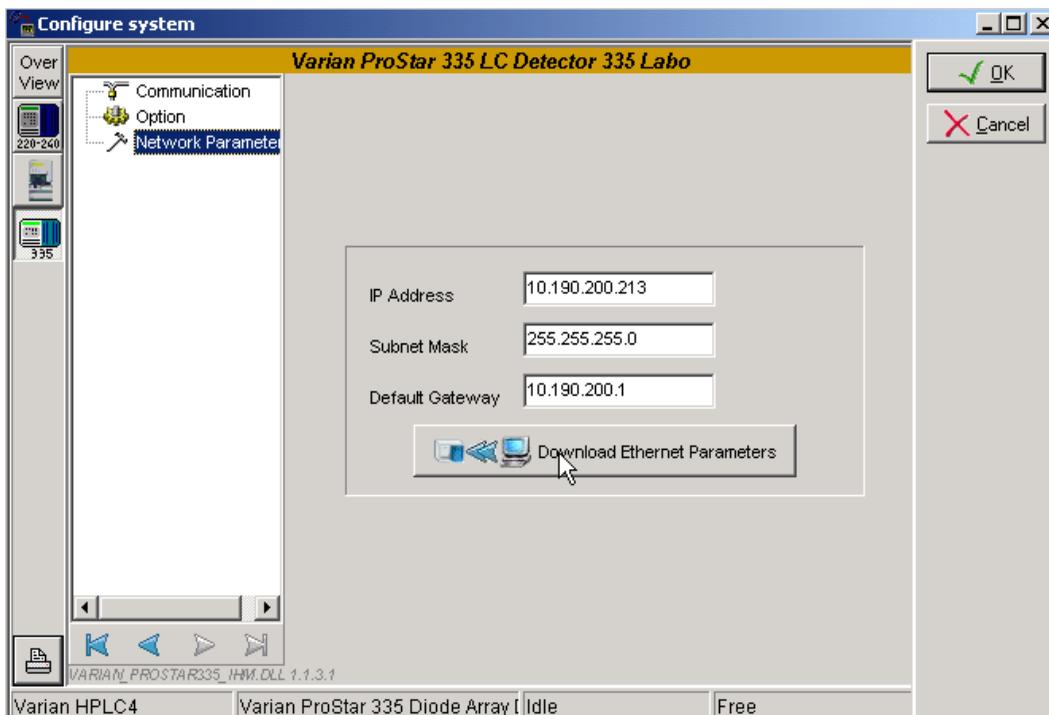


NOTE: It is advised to use fix IP address to communicate with instrument

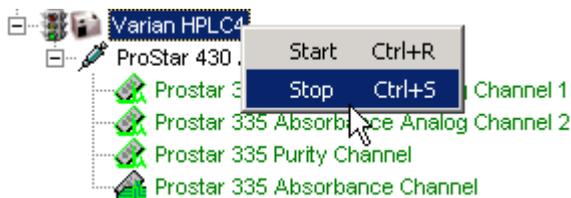
Click on the *Option* tab and select which flow cell is present in the detector.



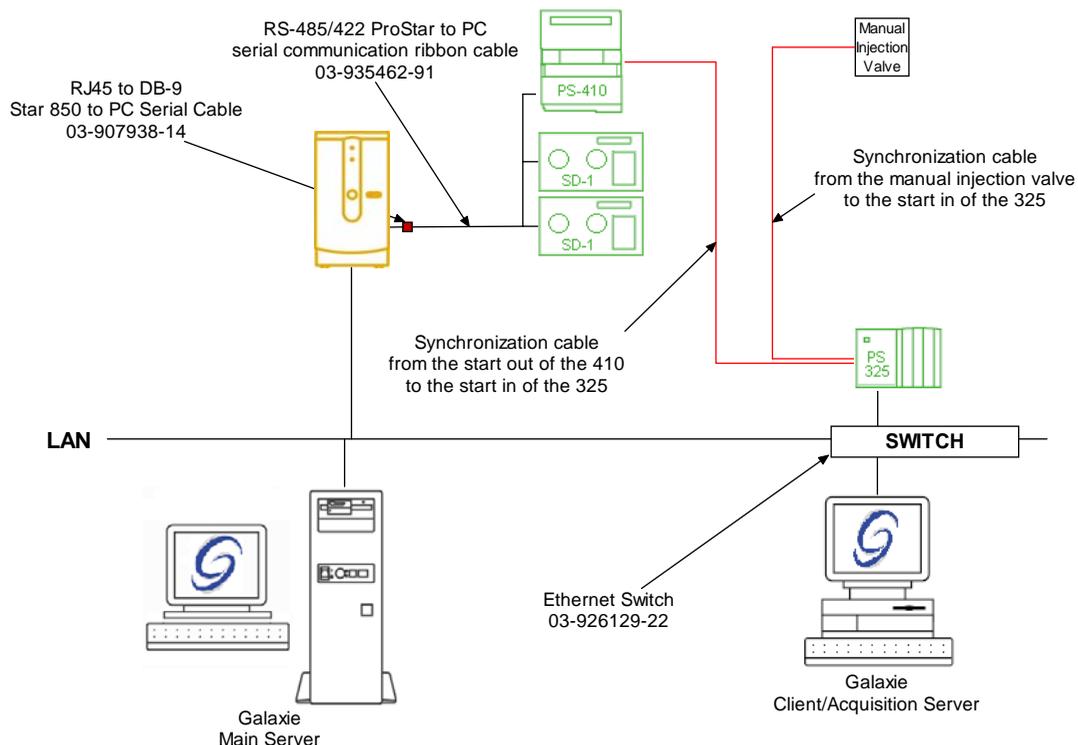
In the Network Parameter tab, it is possible to give the instrument a fixed IP address. To do so, fill the three fields *IP address*, *Subnet Mask* and *Default Gateway* and press the download button.



13. Click on the *OK* button to finish the configuration of the system.
14. Finally stop the system by right clicking on its name in the organization view. Then right click again and press start.

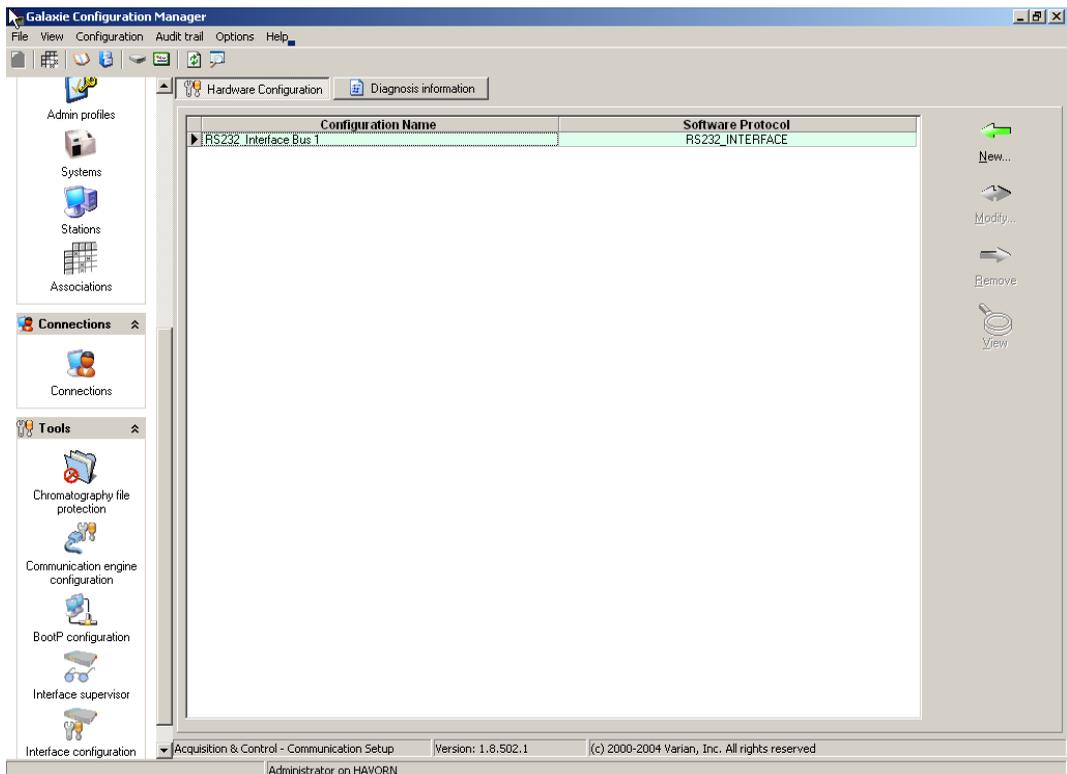
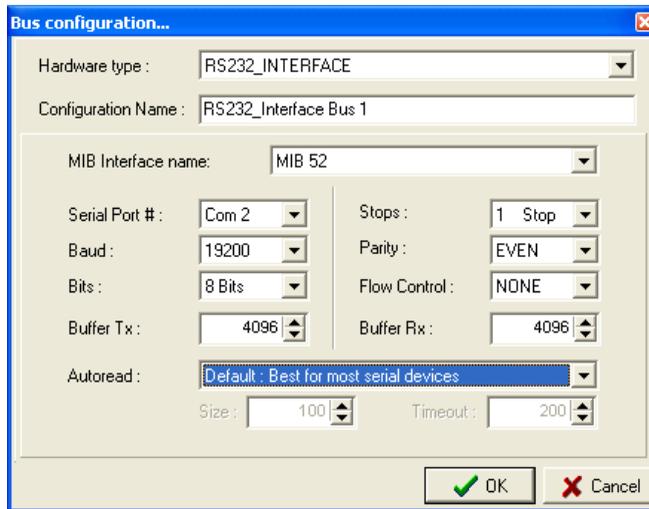


Example 5: ProStar 410 Prep-Manual Injection Valve-SD1-325



To configure the system shown above, please do the following steps:

1. Configure the MIB Interface on the acquisition server (refer to section *MIB Interface Configuration* of this manual).
2. Create one **RS232_Interface** communication buses on the acquisition server (refer to section *Communication engine configuration* of this manual). This communication bus is mandatory to control the ProStar modules. It will be called RS232_Interface bus 1 and will control the pumps and the autosampler.



- In the **Galaxie Configuration Manager** create a new system. The following screen will be displayed.

Edit System

System (Creating a new item)

Name:

Description:

Laboratory:

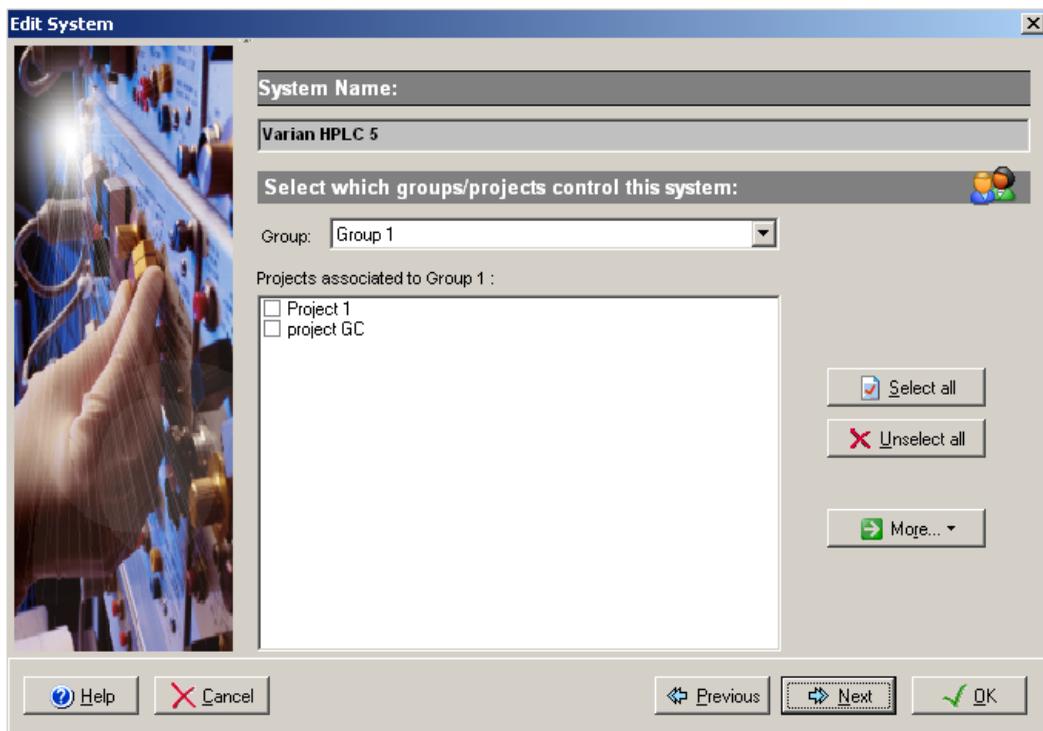
Description:

Acquisition server: Sequence server:

System locked

Enter the *Name* of the system, select in the *Acquisition server* and *Sequence server* the name of the acquisition server and the name of the sequence server. Then click on *Next*.

4. In the following screen associate one or more project(s) to the system and click on *Next*. If no groups/projects are defined, click on *Next*.



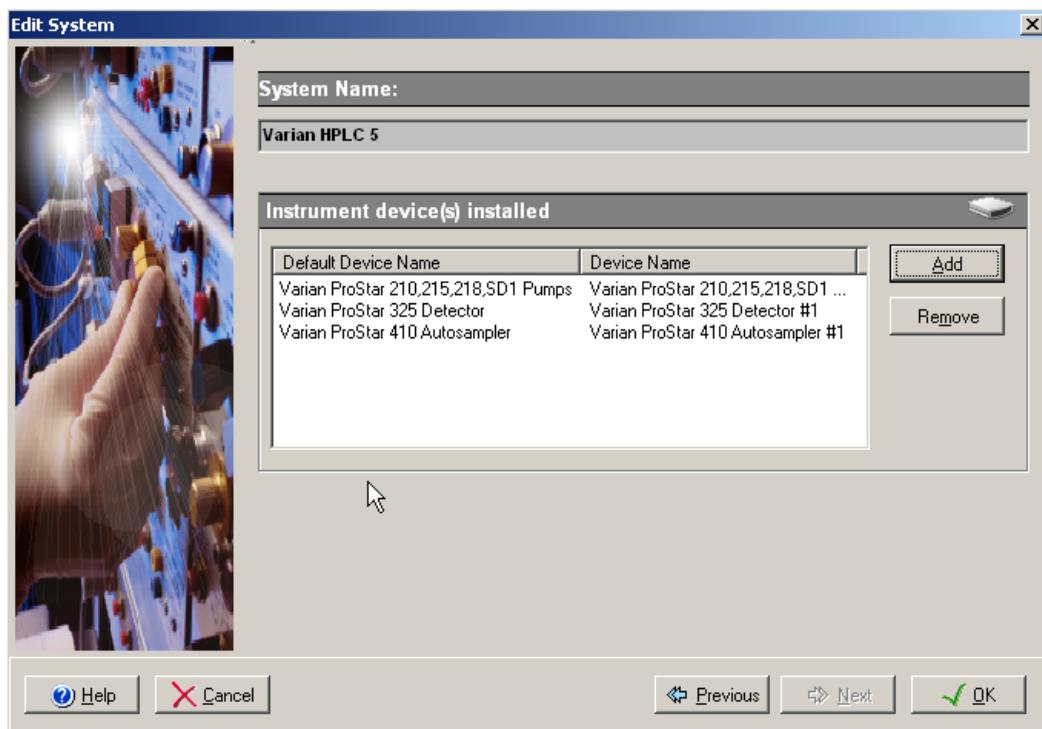
5. To configure that system, it is mandatory to install three devices:

1. Varian ProStar 410
2. Varian ProStar 210/215/218/SD-1
3. Varian ProStar 325

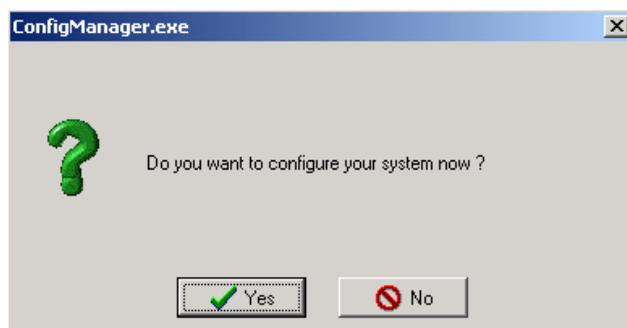
Click on the *Add* button, select in the *Device Type* list Varian ProStar 410 and press *OK*. Repeat the same operation for the rest of the required devices.

Do **NOT** add a manual injector device. This device should be used only when no autosampler is controlled in the system which is not the case here.

When the three devices have been added the screen should be as below.

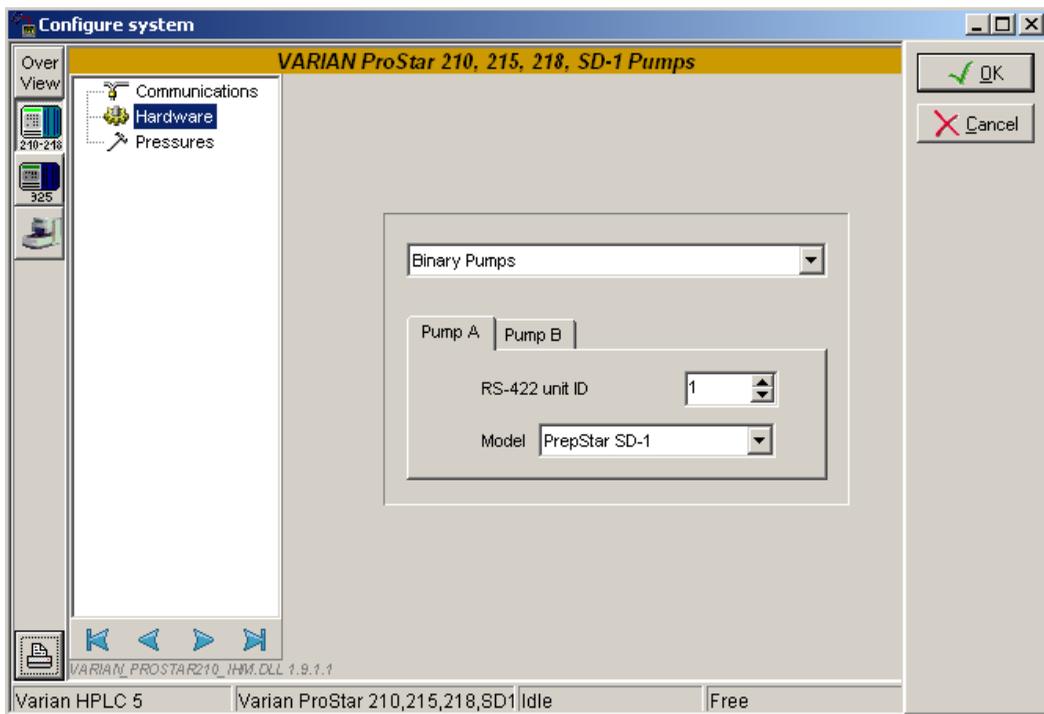


- Click on the *OK* button and answer Yes to the question: "Do you want to configure your system now?"



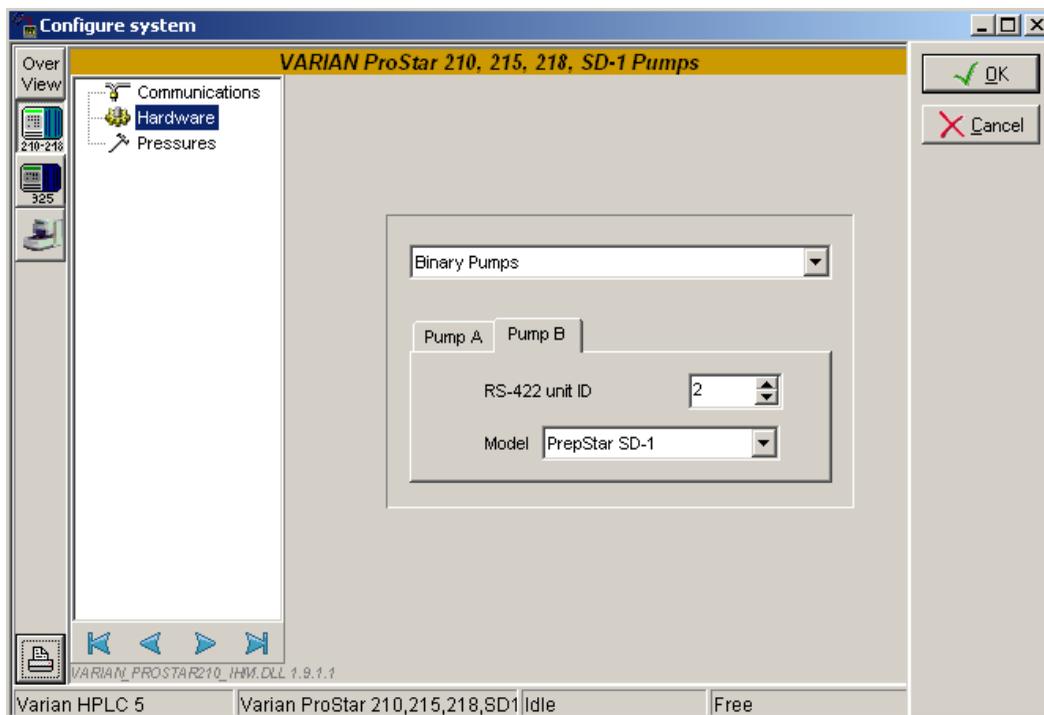
- In the next screen, click on the *Overview* button and arrange the modules as required.
- Press the 210-218 icon and click on the *Communication* tab. Select in the *RS422 bus field* the name of the RS232_Interface Bus previously configured on which the pumps are connected

(RS232_Interface Bus 1). Then click on the *Hardware* tab, select binary as two pumps are present in this system.

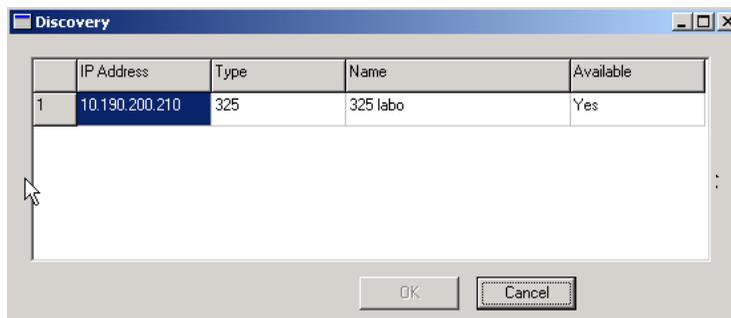


For each pump A and B configure the *RS-422 unit ID* number of the pump and the *Model* of the pump (SD-1).

The RS-422 unit ID must be unique to each module connected to the RS232_Interface bus and must match the one configured in the pumps (refer to the Pump manual to configure the RS-422 unit ID number).

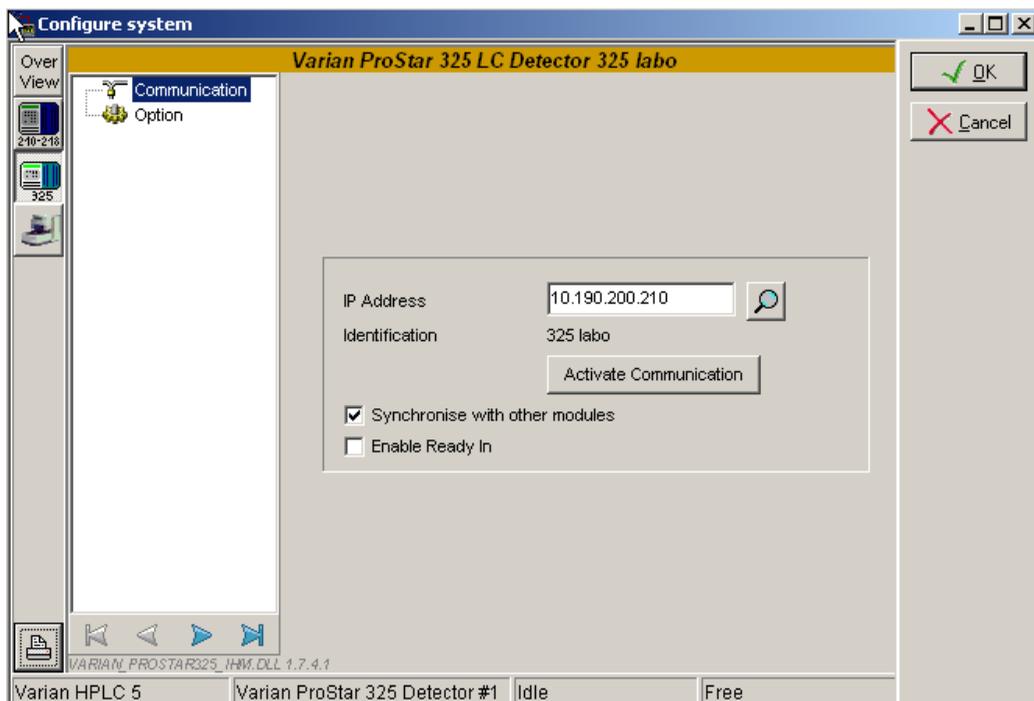


9. Press the ProStar 325 icon and click on the *Communication* tab. To search on the subnet all the connected ProStar 325 instruments press the magnifying glass icon or if you know the IP address enter it directly in the IP address field. If the search icon is pressed, a window will pop up listing all the 325s on the subnet.



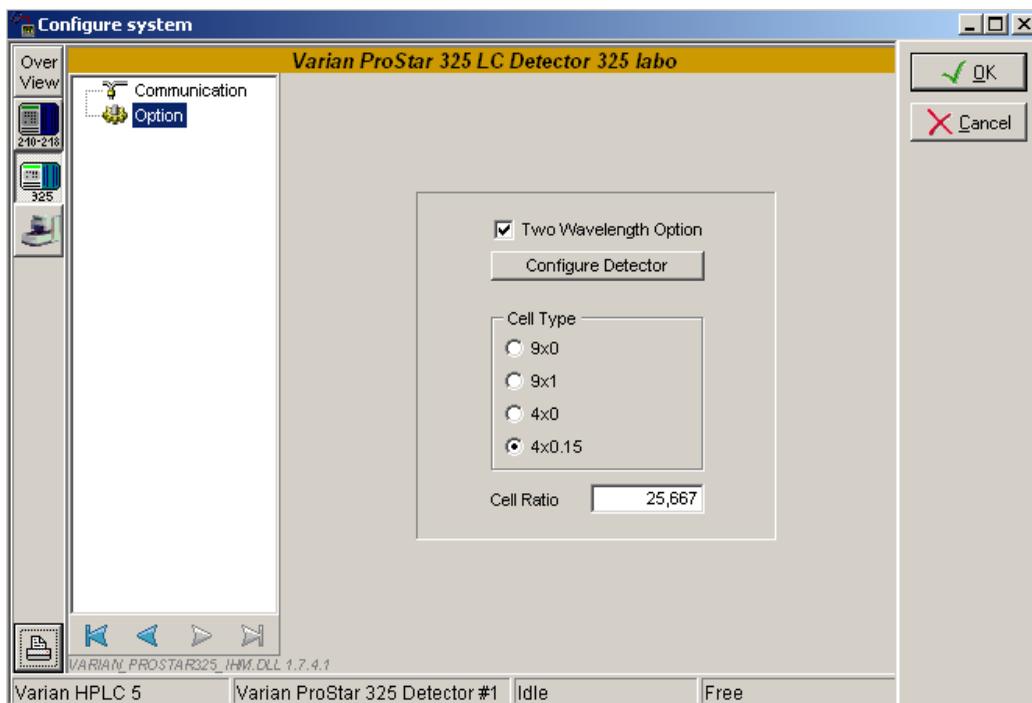
Select one instrument and press OK. Then press the Activate Communication button.

It is also mandatory to check the box Synchronise with other module to be able to inject from the autosampler and from the manual injection valve.

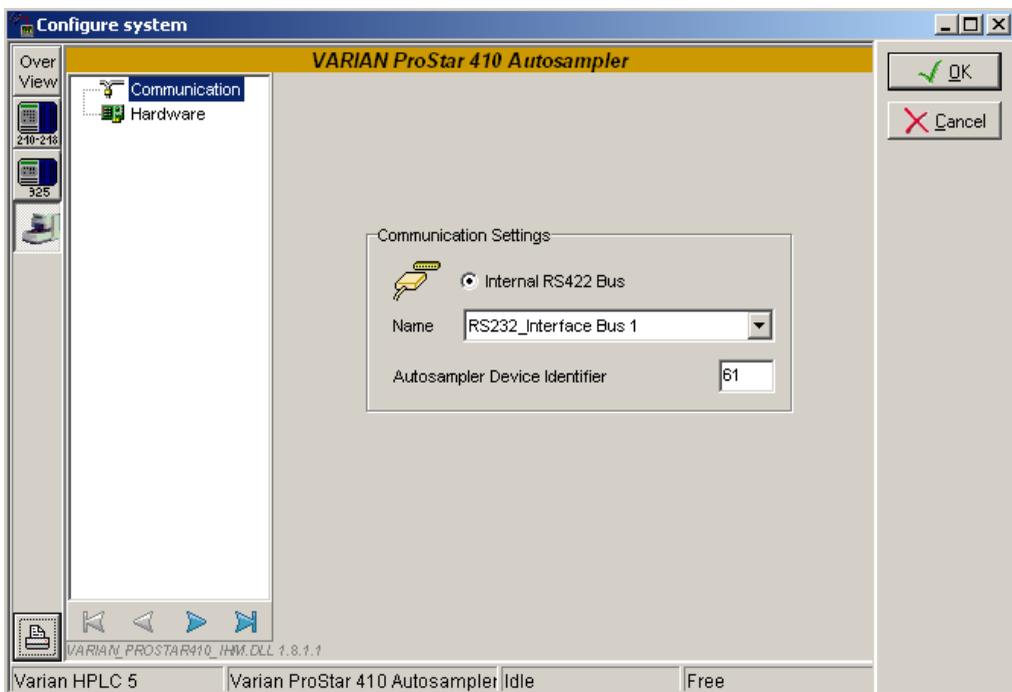


NOTE: It is advised to use fix IP address to communicate with instrument

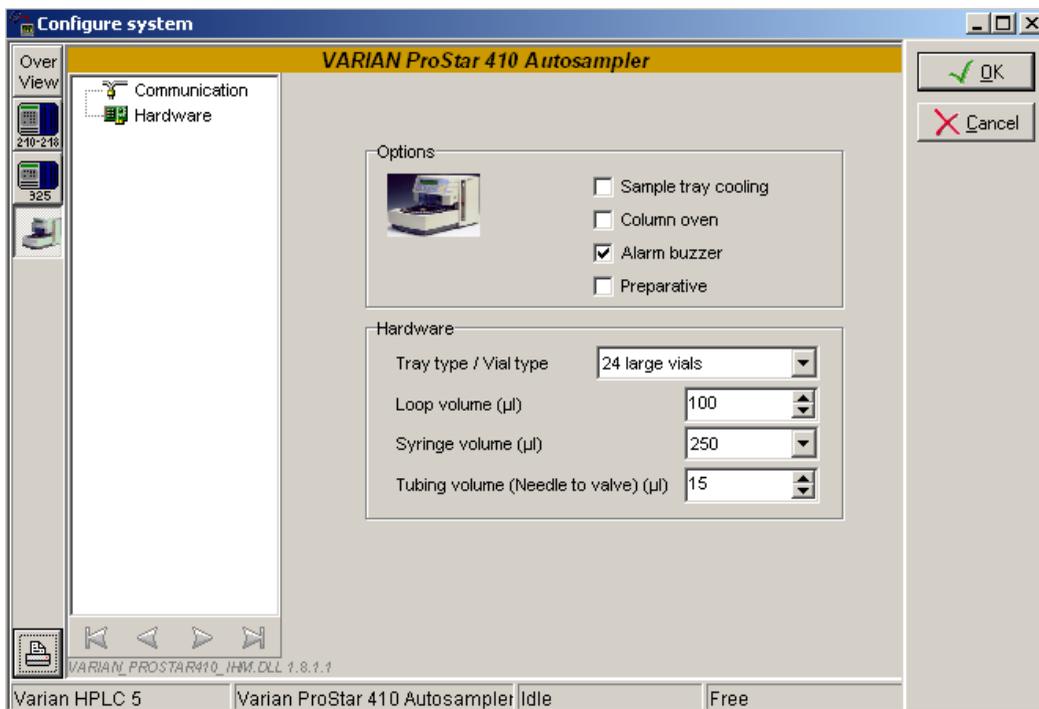
Click on the *Option* tab and select which flow cell is present in the detector.



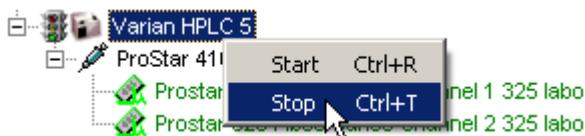
10. Press the 410 autosampler icon and click on the *Communication* tab. Select in the *Name* field the name of the RS232_Interface Bus previously configured to which the autosampler is connected (RS232_Interface Bus 1). Configure the *Autosampler Device Identifier* number of the ProStar 410 module. This RS-422 unit ID must be unique to each module connected to the RS232_Interface bus and must match the one configured in the module (refer to the ProStar 410 manual to configure the RS-422 unit ID number). The autosampler must also be in serial mode to communicate with Galaxie.



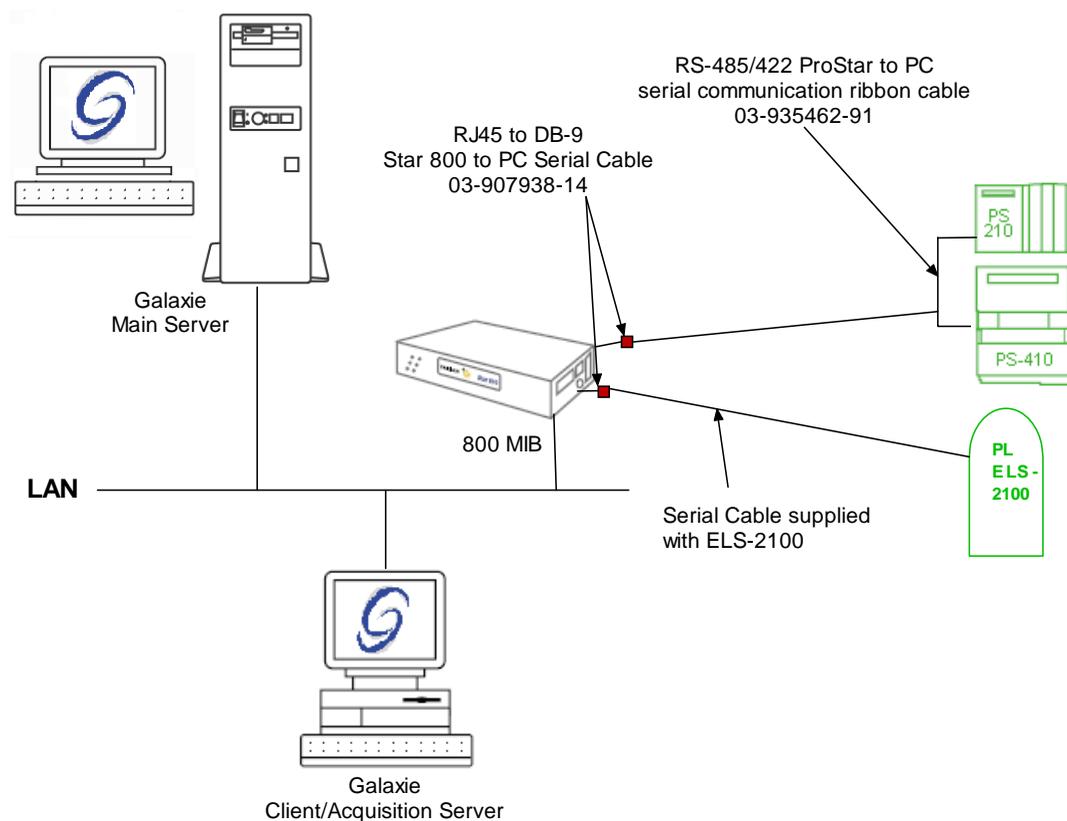
Click on the *Hardware* tab and configure the driver according to the options present in the autosampler.



11. Click on the *OK* button to finish the configuration of the system.
12. Finally stop the system by right clicking on its name in the organization view. Then right click again and press start.

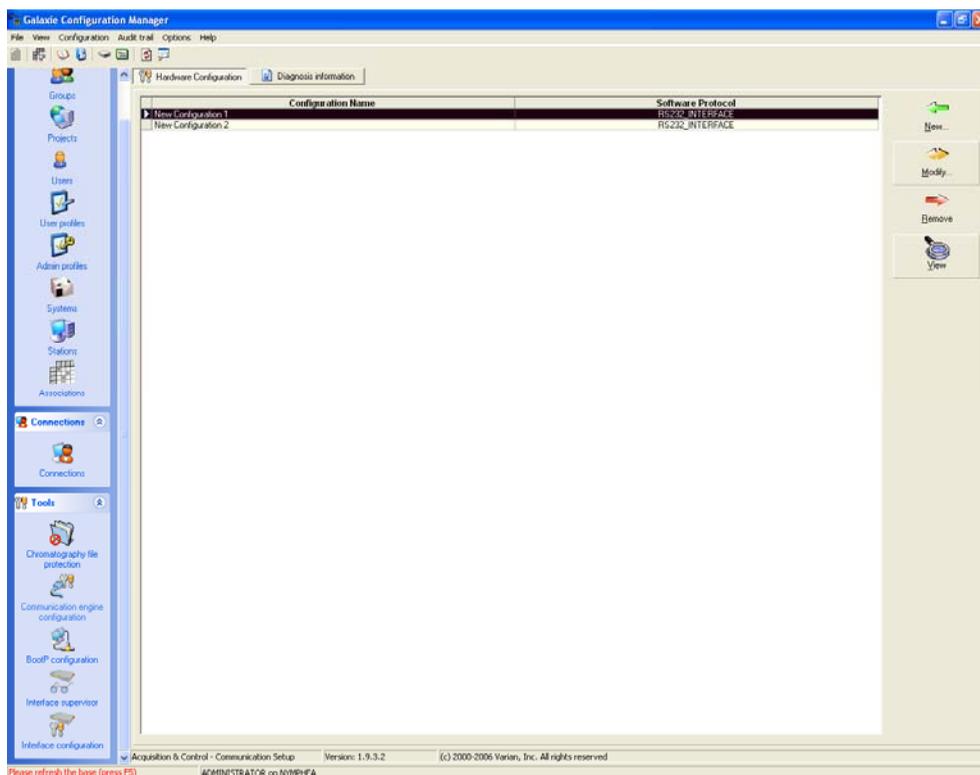


Example 6: ProStar 410-210- Polymer labs ELS-2100

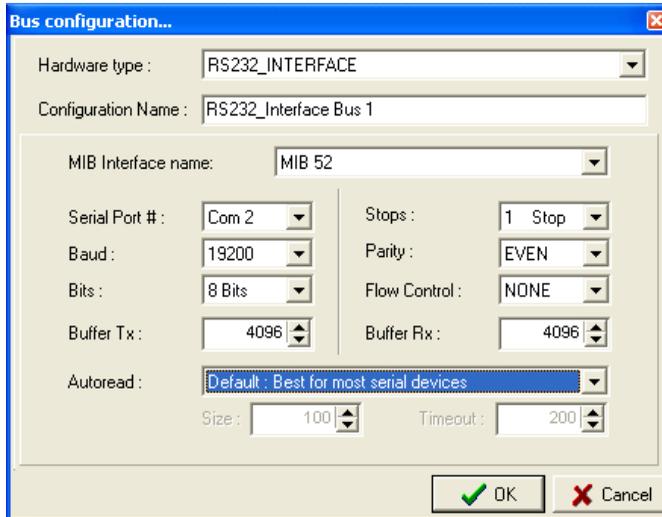


To configure the system shown above, please do the following steps:

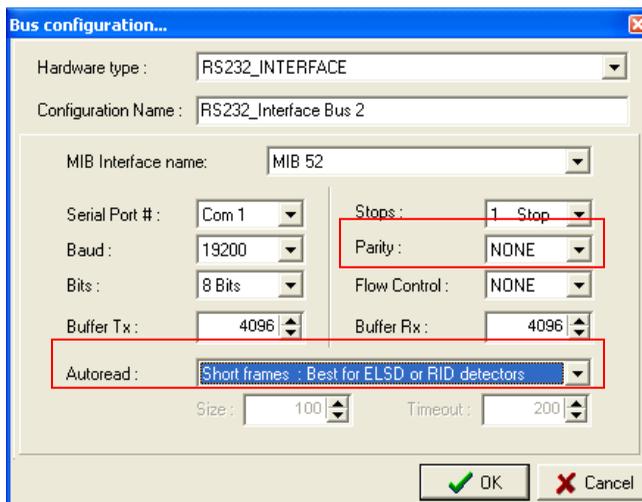
1. Configure the MIB Interface on the acquisition server (refer to section *MIB Interface Configuration* of this manual).
2. Create two **RS232_Interface** communication buses on the acquisition server (refer to section *Communication engine configuration* of this manual): one for the ProStar 210 pump and the ProStar 410 Autosampler and a second for the Polymer Labs 2100 ELS detector. Those communication buses are mandatory to control the modules.



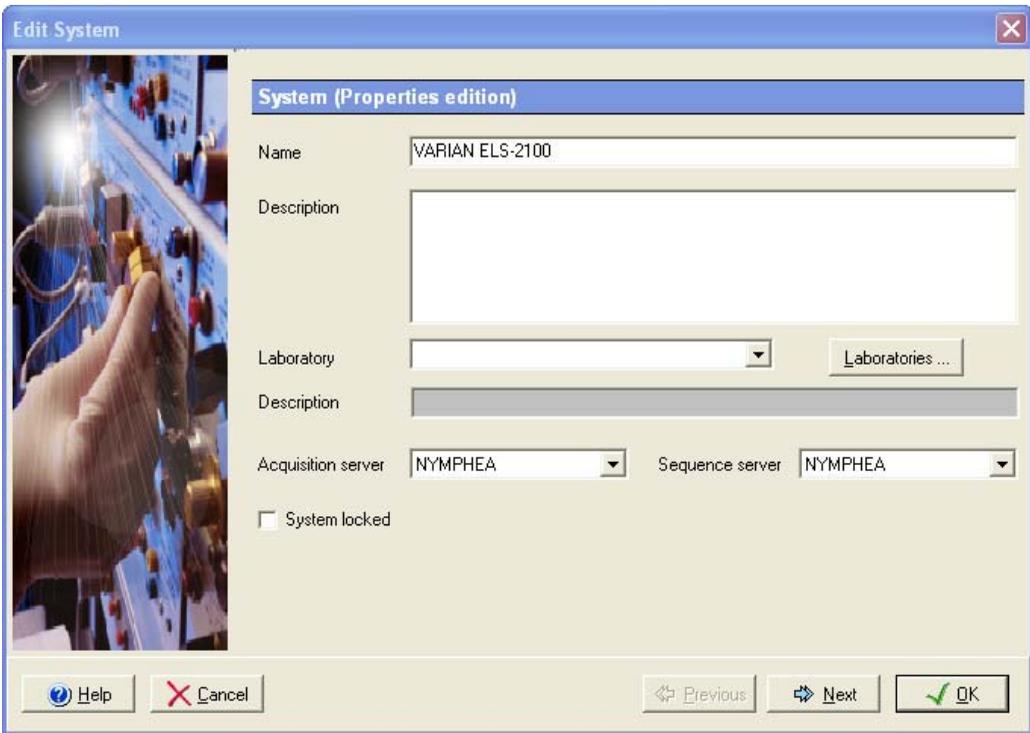
New configuration1 is the bus fro both 210 and 410 prostar modules:



New configuration2 is the bus for the Polymer labs 2100 ELS detector. For the 2100 ELS Detector, set No Parity, and set the Autoread to Short Frames

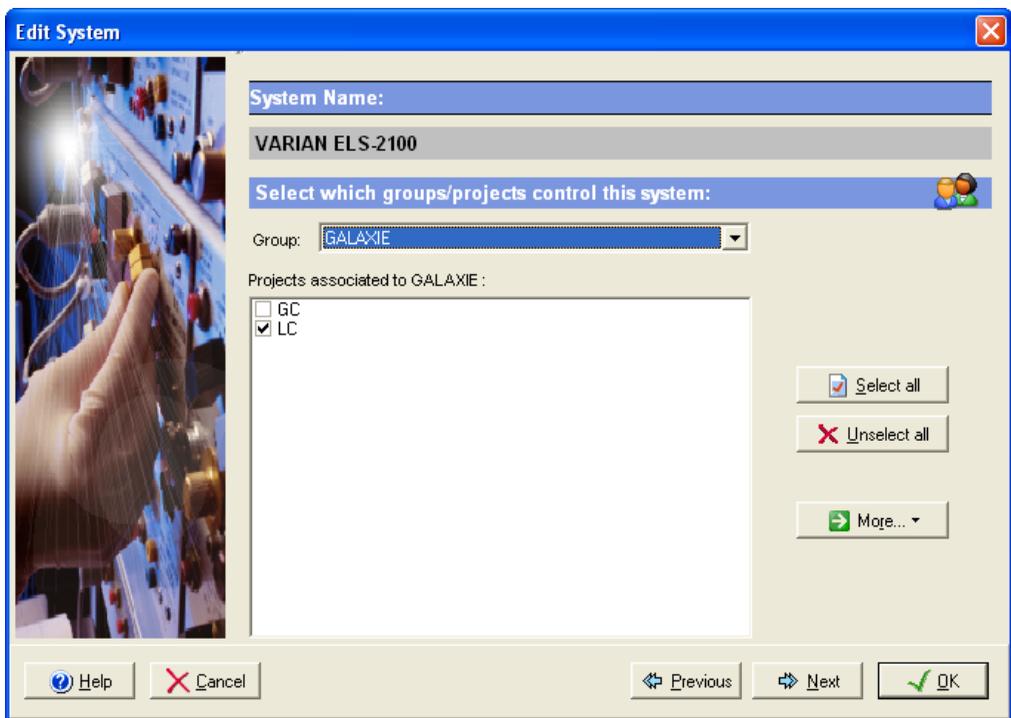


3. In the **Galaxie Configuration Manager** create a new system. The following screen will be displayed.



Enter the *Name* of the system, select in the *Acquisition server* and *Sequence server* the name of the acquisition server and the name of the sequence server. Then click on *Next*.

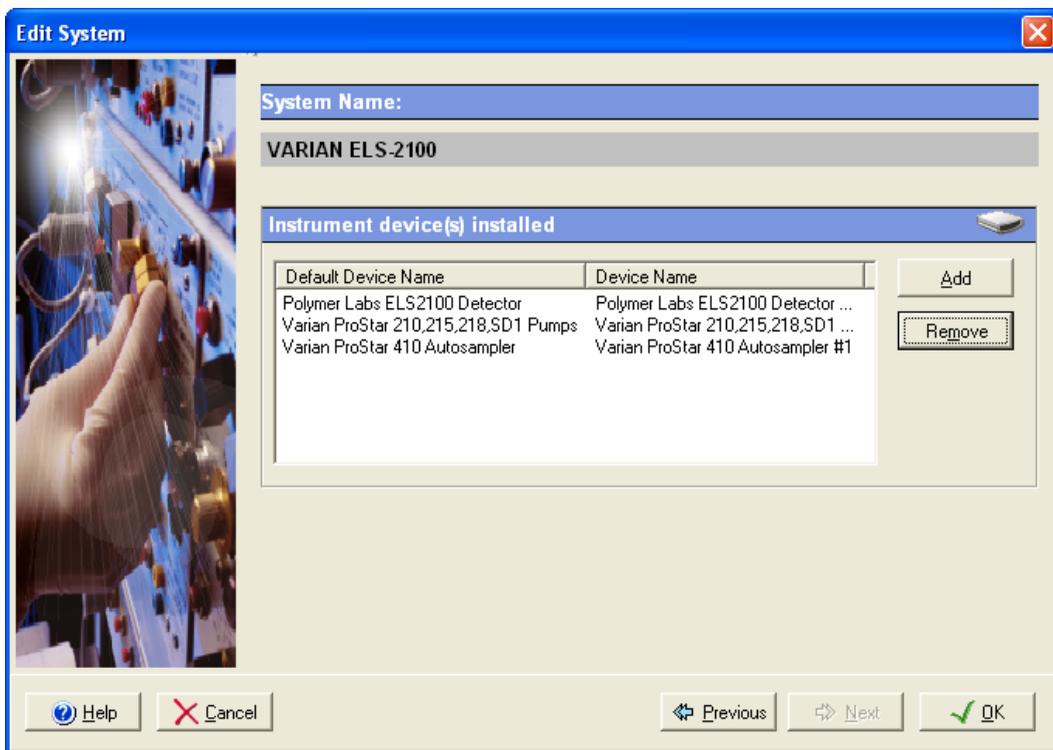
4. In the following screen associate one or more project(s) to the system and click on *Next*. If no groups/projects are defined, click on *Next*.



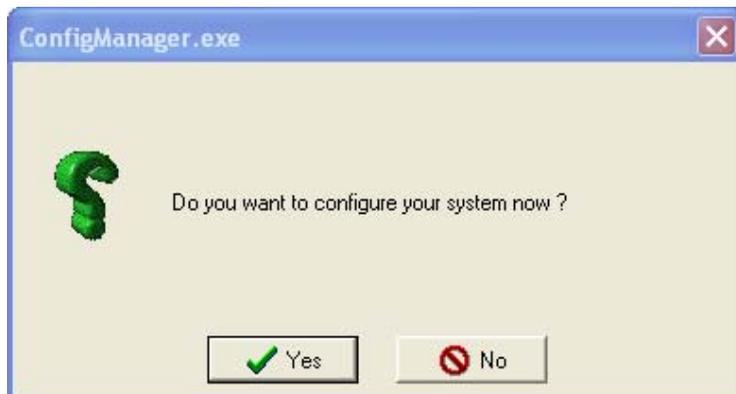
5. To configure that system, it is mandatory to install three devices:

1. Varian ProStar 410 Autosampler
2. Varian ProStar 210/215/218/SD-1 Pump
3. Polymer Labs ELS2100 Detector

Click on the *Add* button, select in the *Device Type* list Varian ProStar 410 Autosampler and press *OK*. Repeat the same operation for the rest of the required devices. When the three devices have been added the screen should be as below.

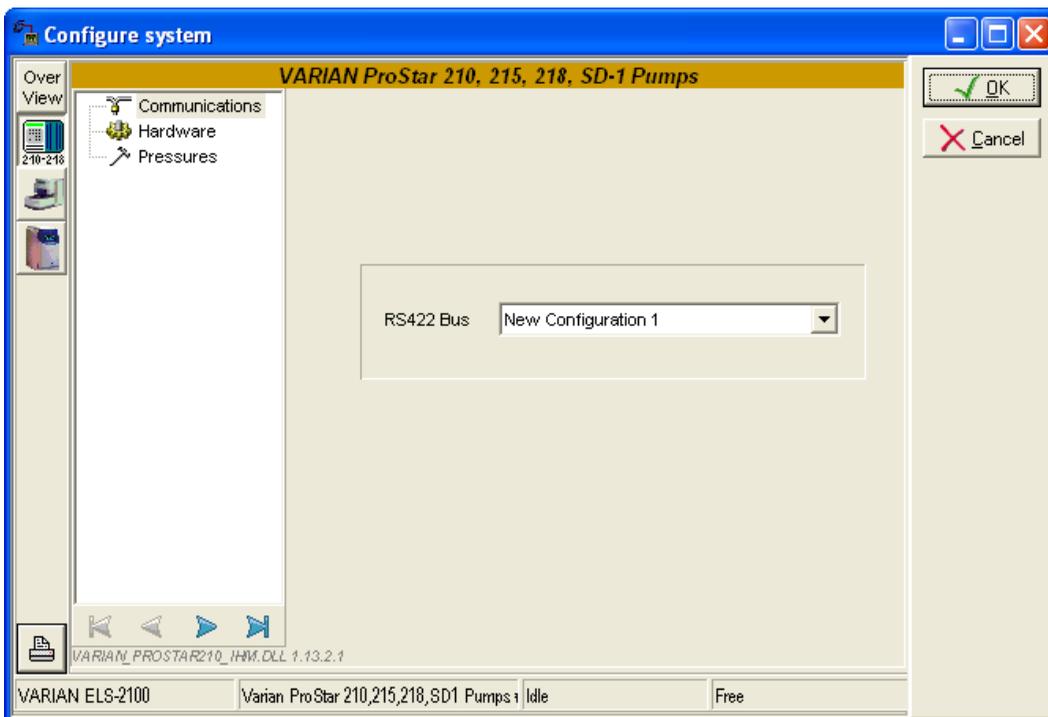


6. Click on the *OK* button and answer *Yes* to the question: "Do you want to configure your system now?"

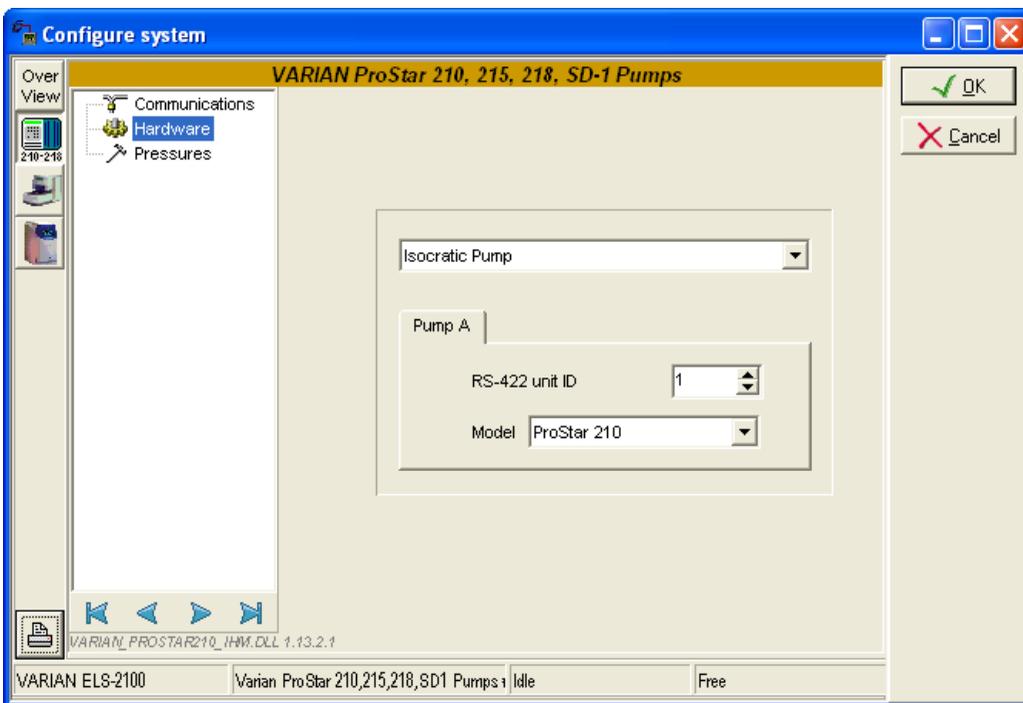


7. In the next screen, click on the *Overview* button and arrange the modules as required.

8. Press the 210-218 icon and click on the *Communication* tab. Select in the *RS422 bus field* the name of the RS232_Interface Bus previously configured on which the pumps are connected (New Configuration1).



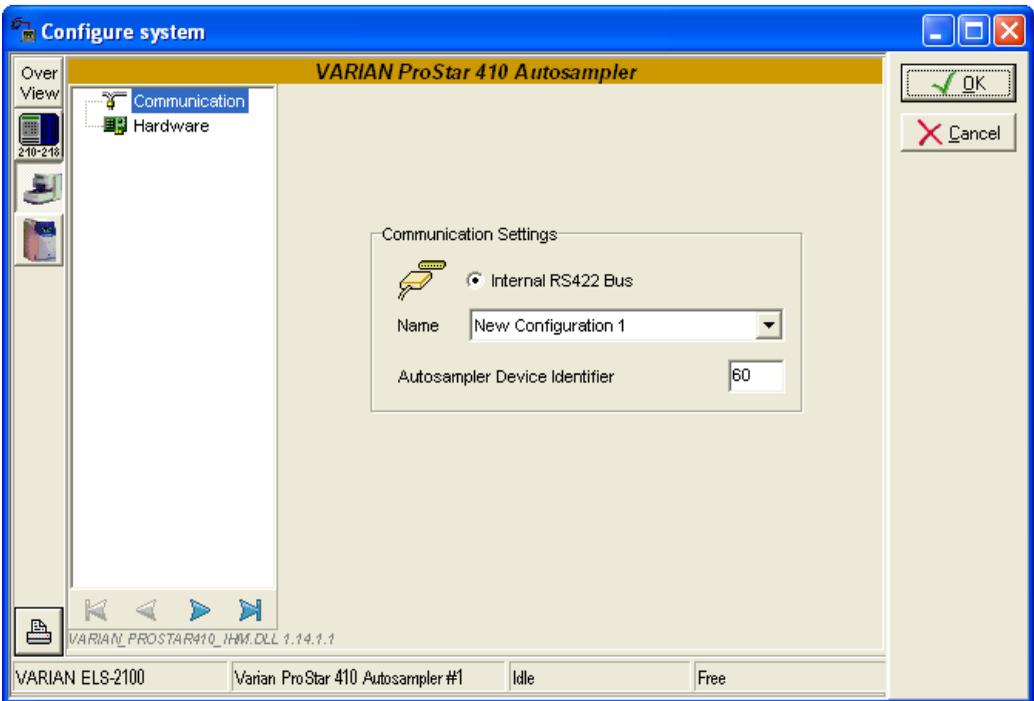
Then click on the *Hardware* tab, select the pump type.



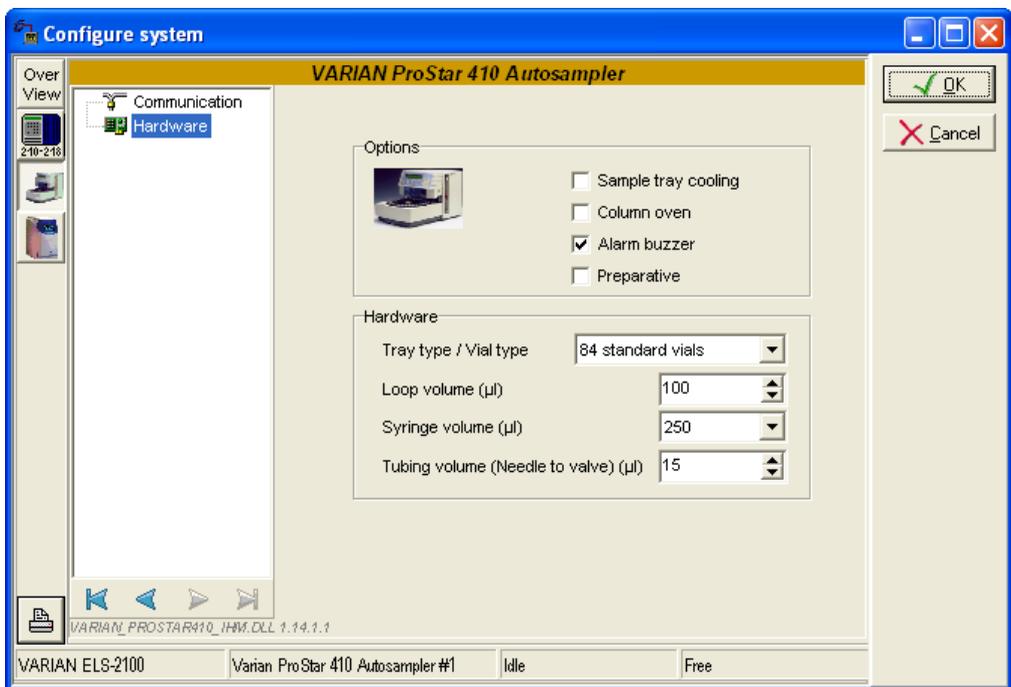
Configure the *RS-422 unit ID* number of the pump and the *Model* of the pump (210, 215, 218 or SD-1).

The RS-422 unit ID must be unique to each module connected to the RS232_Interface bus and must match the one configured in the pumps (refer to the Pump manual to configure the RS-422 unit ID number).

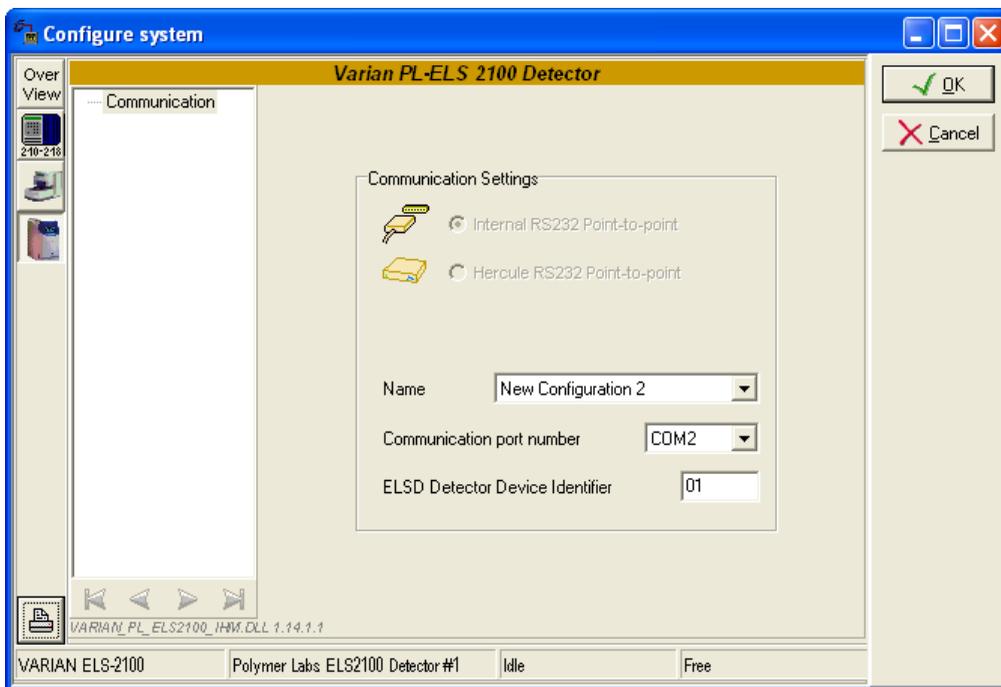
9. Press the 410 autosampler icon and click on the *Communication* tab. Select in the *Name* field the name of the RS232_Interface Bus previously configured to which the autosampler is connected (new Configuration 1). Configure the *Autosampler device identifier* number of the 400 module. This RS-422 unit ID must be unique to each module connected to the RS232_Interface bus and must match the one configured in the module (refer to the 410 manual to configure the RS-422 unit ID number). The autosampler must also be in serial mode to communicate with Galaxie. To do so press F then 4 on the autosampler when it is ready.



Click on the *Hardware* tab and configure the driver according to the options present in the autosampler.



10. Press the *Polymer Labs ELS 2100 Detector* icon and click on the *Communication* tab. Select in the *Name* field the name of the RS232_Interface Bus previously configured to which the detector is connected (New Configuration 2). Configure the *Communication port number* of the ESLD (the Interface port on which the detector is connected). Configure the *ELSD Detector Device Identifier* number which must be unique to each module connected to the RS232_Interface bus and must match the one configured in the module.



11. Click on the *OK* button to finish the configuration of the system.

12. Finally stop the system by right clicking on its name in the organization view. Then right click again and press start.

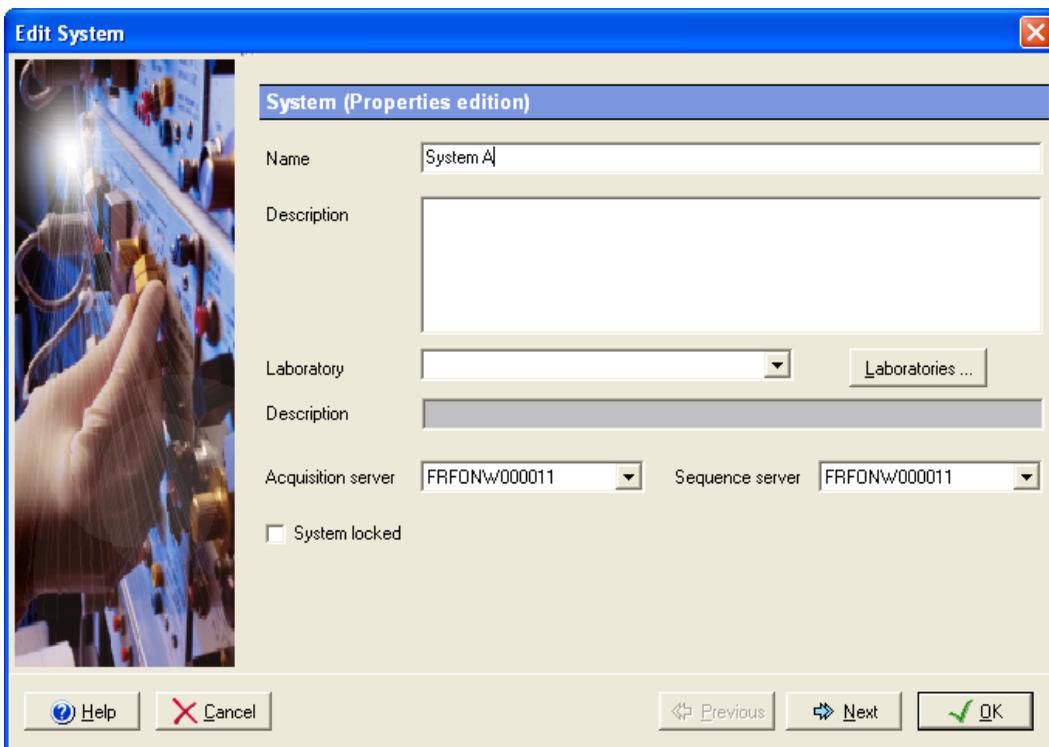


MIB Interface with relays Systems

The MIB Interface offers the possibility to use Relays (from 1 to 4), to control action on instruments.

To configure the system using both analog channels and relay on a MIB Interface, please do the following steps:

1. Configure the MIB Interface on the acquisition server (refer to section *MIB Interface Configuration* of this manual).
2. In the **Galaxie Configuration Manager**, create a new system. The following screen will be displayed.



Edit System

System (Properties edition)

Name: System A

Description:

Laboratory: [Dropdown] Laboratories ...

Description:

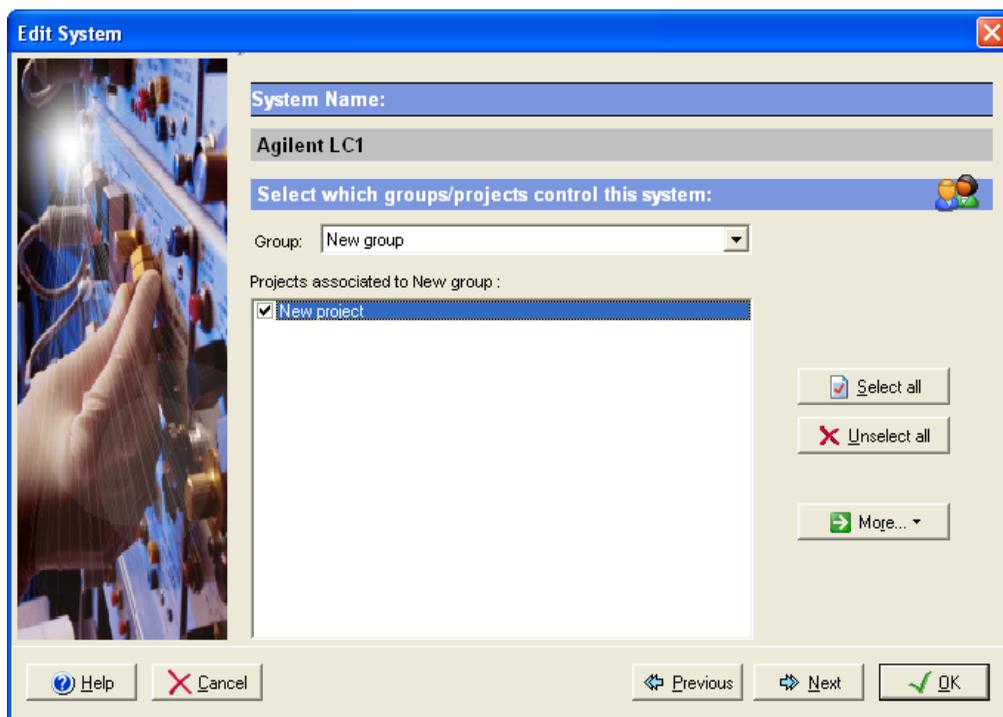
Acquisition server: FRFONW000011 Sequence server: FRFONW000011

System locked

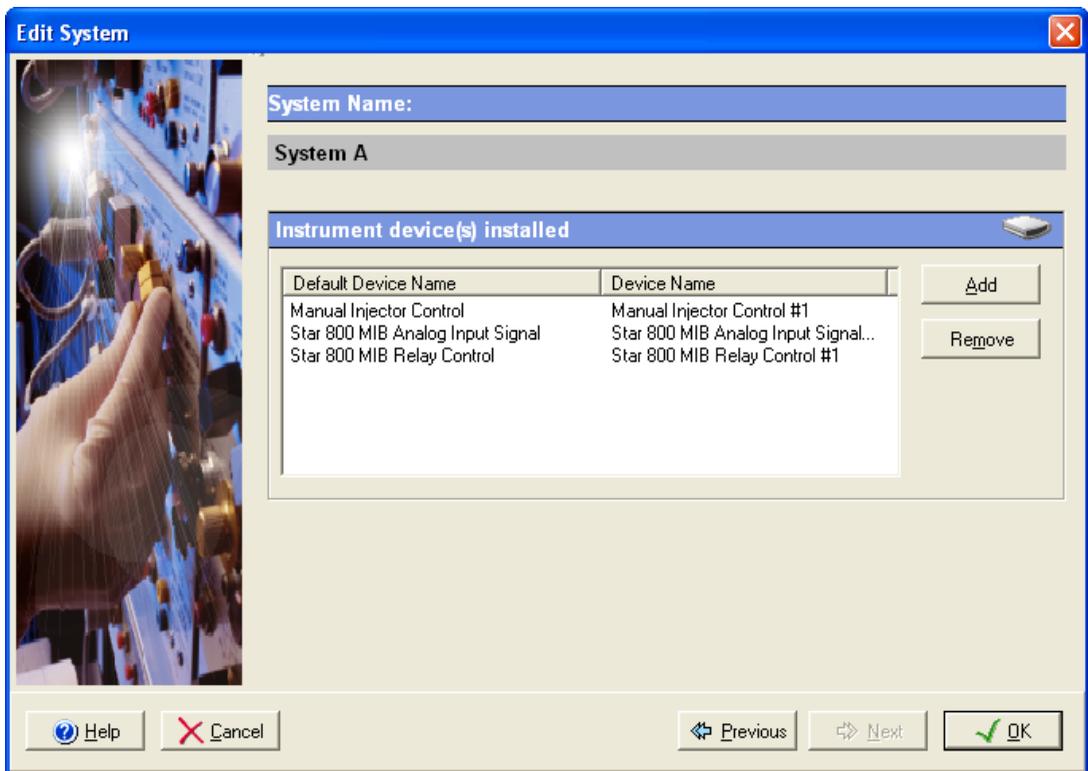
Help Cancel Previous Next OK

Enter the *Name* of the system, select in the *Acquisition server* and *Sequence server* the name of the acquisition server and the sequence server. Then click on *Next*.

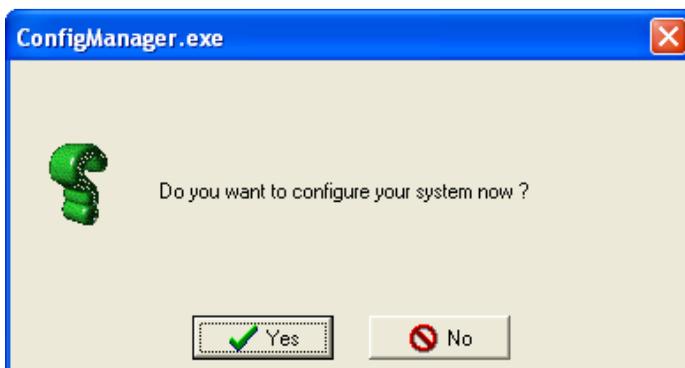
3. In the following screen associate one or more project(s) to the system and click on *Next*. If no groups/projects are defined, click on *Next*.



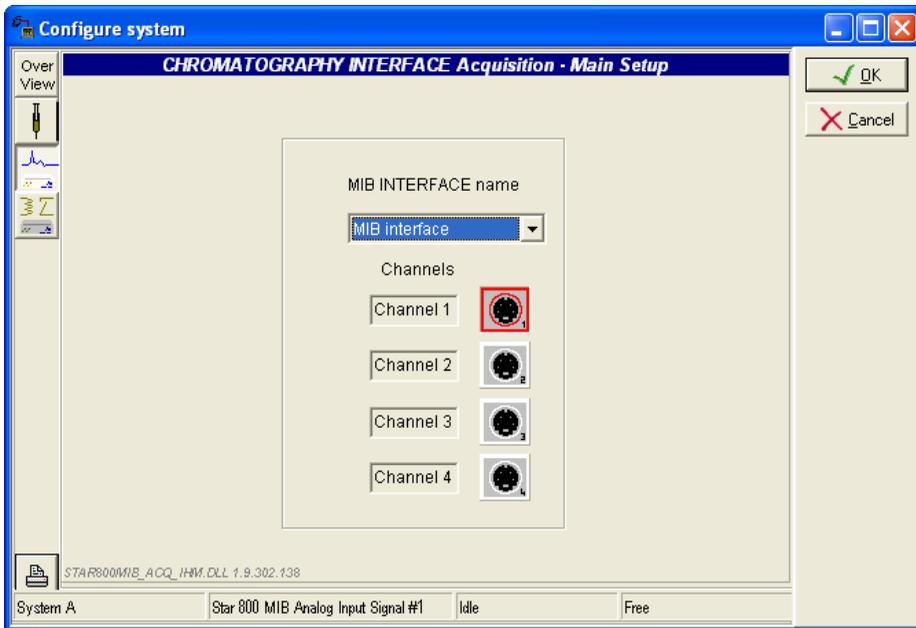
4. To configure that system, it is mandatory to install three devices:
1. Manual Injector Control
 2. Star 800 MIB Analog Input Signal
 3. Star 800 MIB Relay Control
 4. Click on the *Add* button, select in the *Device Type* list Manual Injector Control and press *OK*. Repeat the same operation for the rest of the required devices. When the three devices have been added, the screen should be as below.



5. Click on the **OK** button and answer **Yes** to the question: "Do you want to configure your system now?"



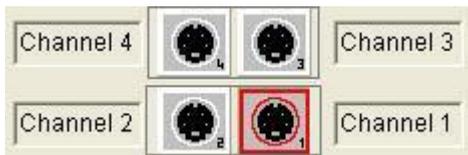
6. In the next screen, click on the *Overview* button and arrange the modules as required.
7. Press the MIB Interface icon.



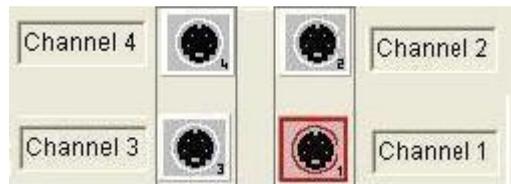
Select the MIB Interface to use in the scrolling list, and the analog channel(s).

Correspondence between channel number and connector on the MIB Interface:

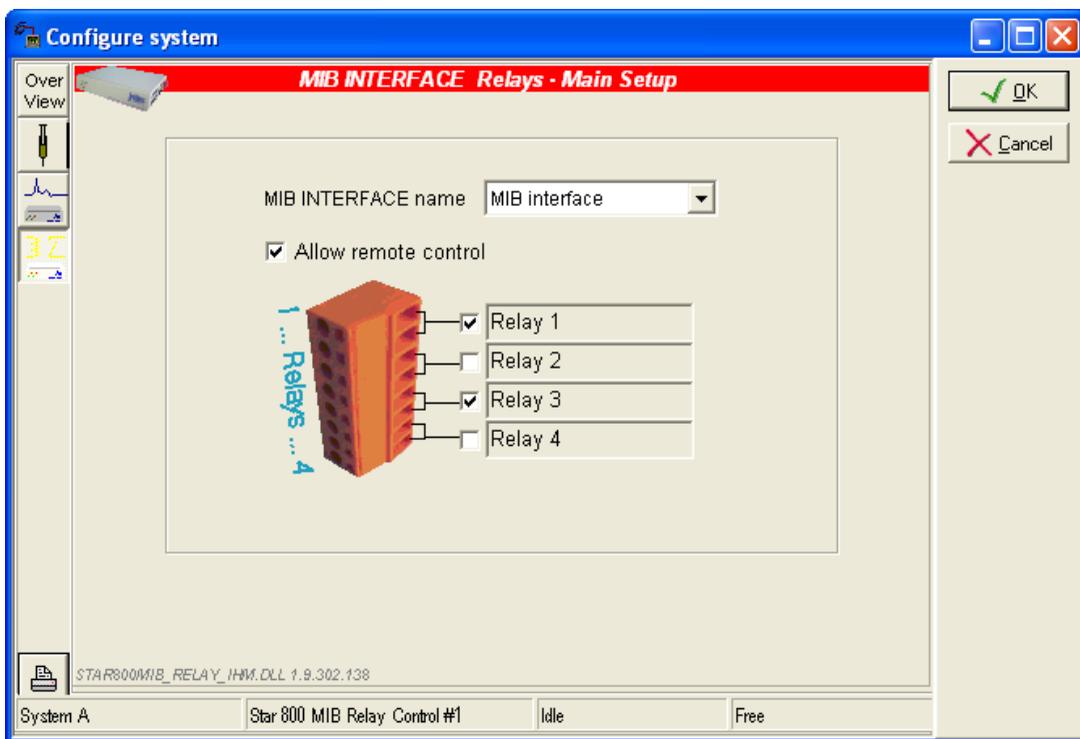
800 MIB Interface:



850 MIB Interface:



8. Press the MIB Relays icon.



Check the Allow remote control options to allow the user to activate the relays from the Status in Galaxie Chromatography Data System application.

Check the relay(s) to use.

NOTE:

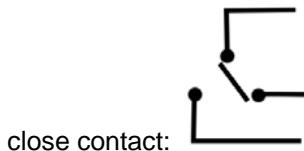
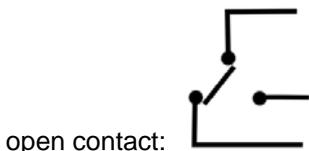
In the case of STAR 800 MIB Interface, the relays are two points, in the case of a 850 MIB Interface, thr relays are three points:

800 MIB:

open contact: 

close contact: 

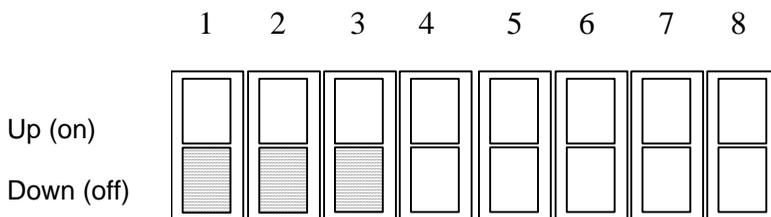
850 MIB:



Agilent LC Systems

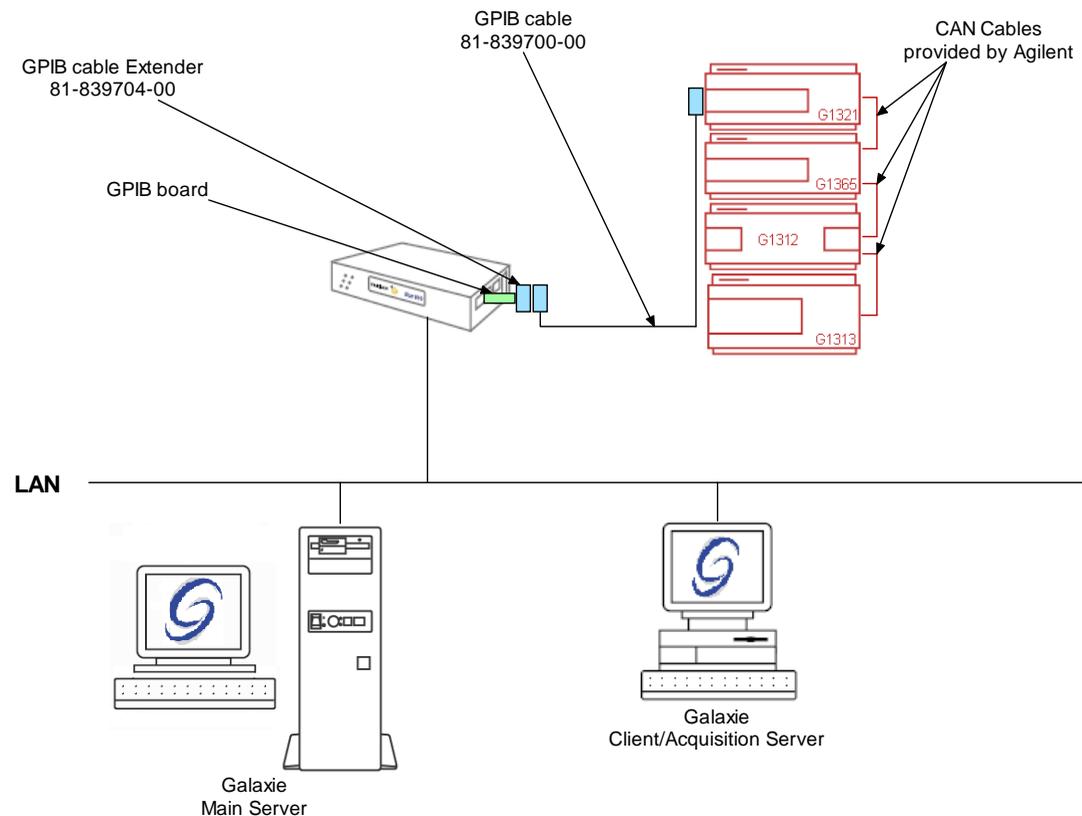
The Galaxie Chromatography Data System uses GPIB to communicate with the Agilent 1100/1200 modules.

For each Agilent 1100/1200 module controlled by Galaxie, a switch located on the rear panel of the instrument must be configured appropriately. For all the modules, the first three switches from left must be turned off (Down Position) for control with Galaxie as for control with HP-CHEMSTATION. Changing the position of these switches must be done with module switched-off.



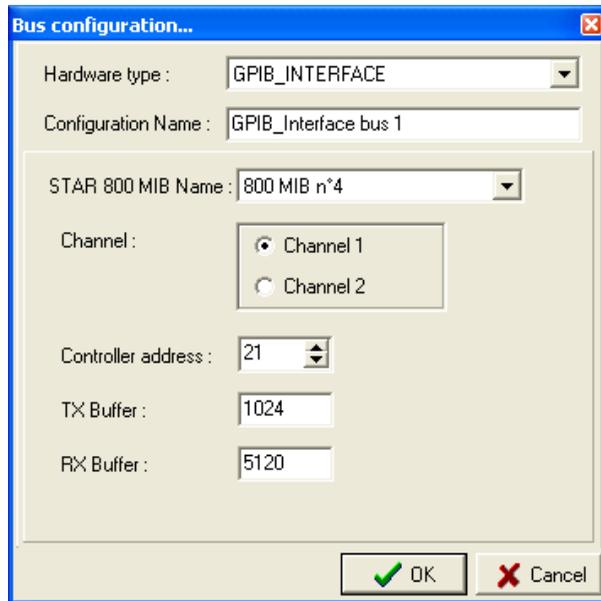
The module where the GPIB cable is connected should be the detector of the HPLC chain (as recommended by Agilent). This module is called the Master module. The rest of the modules of the HPLC chain communicate through the Master module via CAN cables. Please find below some examples of connection between Galaxie and Agilent 1100/1200 modules.

Example 1: Agilent 1100 G1312-G1313-G1321-G1365

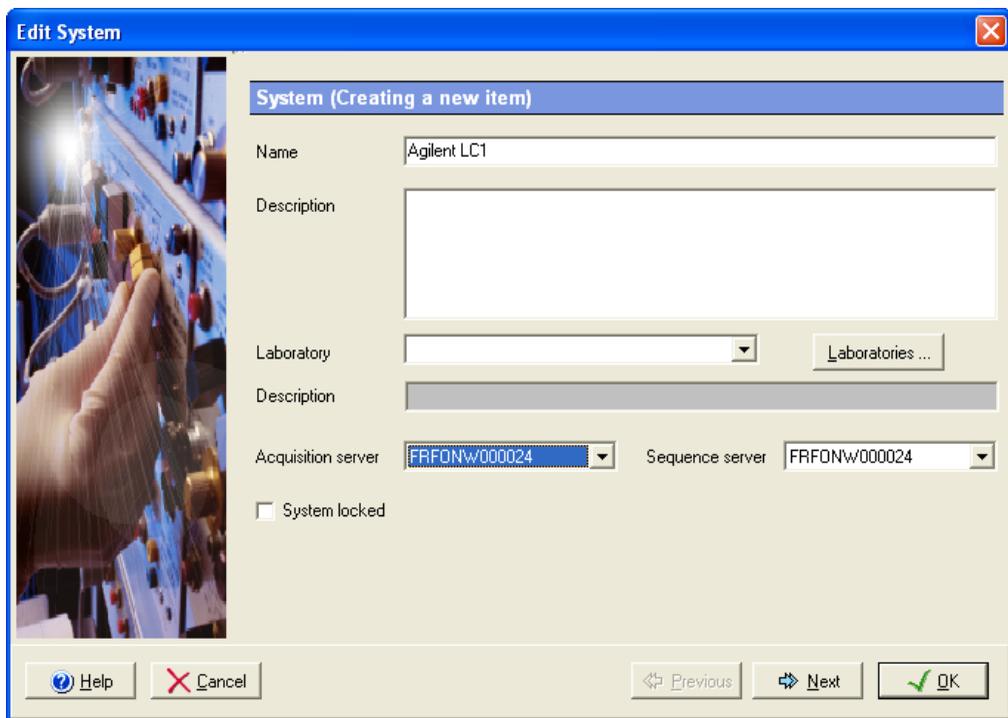


To configure the system shown above, please do the following steps:

1. Configure the MIB Interface on the acquisition server (refer to section *MIB Interface Configuration* of this manual).
2. Create one **GPIB_Interface** communication bus on the acquisition server (refer to section *Communication engine configuration* of this manual). This communication bus is mandatory to control the 1100/1200 modules. It will be called GPIB_Interface bus 1.

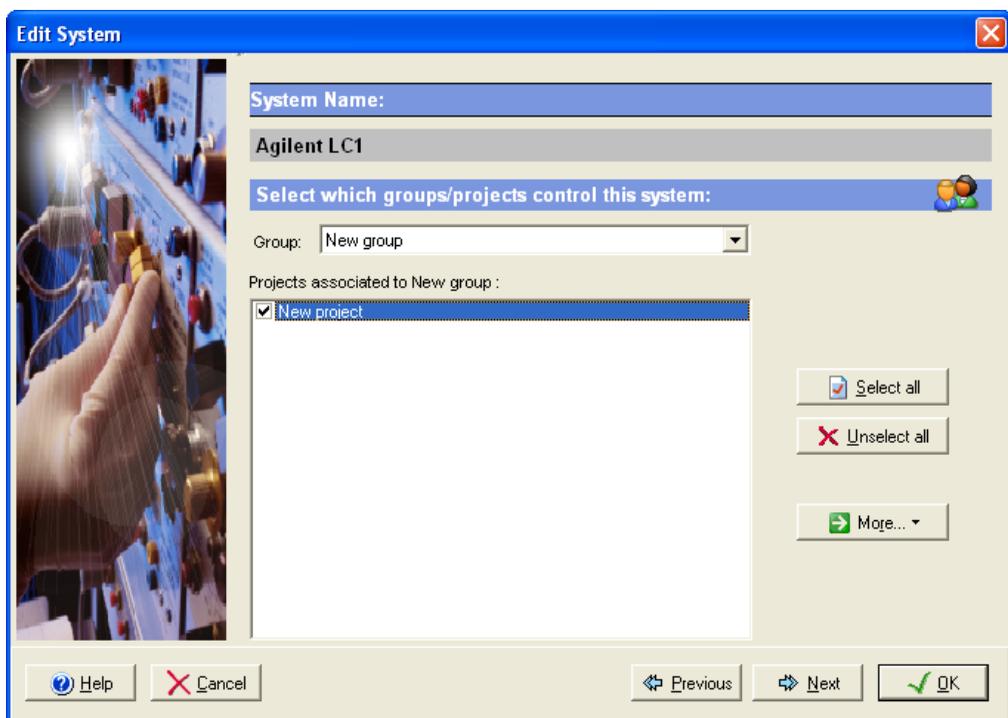


3. In the **Galaxie Configuration Manager**, create a new system.
The following screen will be displayed.



Enter the *Name* of the system, select in the *Acquisition server* and *Sequence server* the name of the acquisition server and the sequence server. Then click on *Next*.

4. In the following screen associate one or more project(s) to the system and click on *Next*. If no groups/projects are defined, click on *Next*.



5. To configure that system, it is mandatory to install four devices:

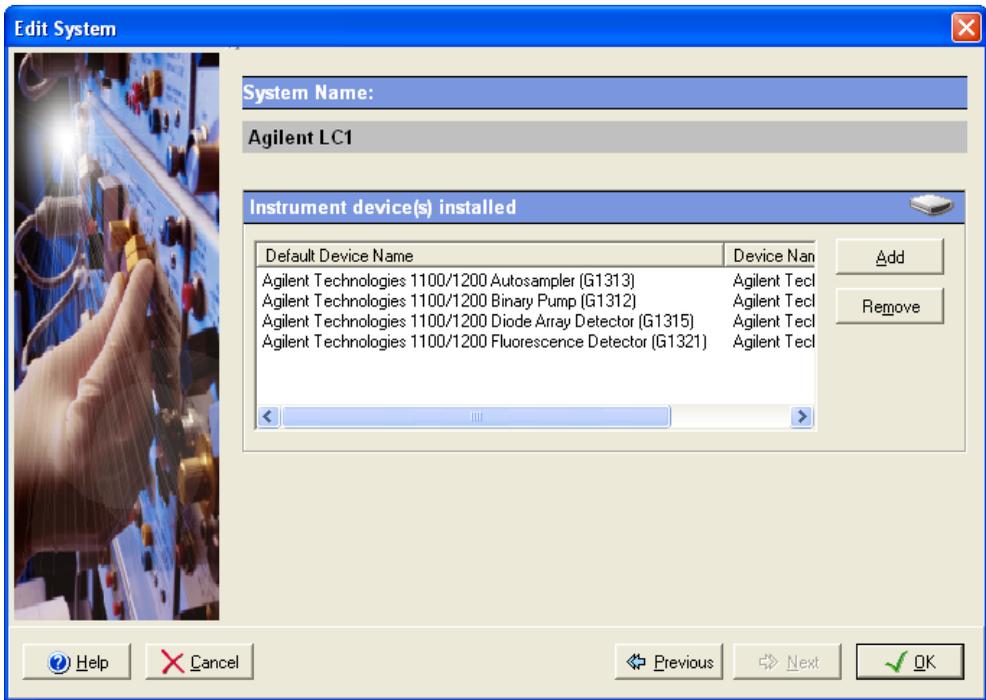
Agilent Technologies 1100/1200 Binary Pump G1312

Agilent Technologies 1100/1200 Autosampler G1313

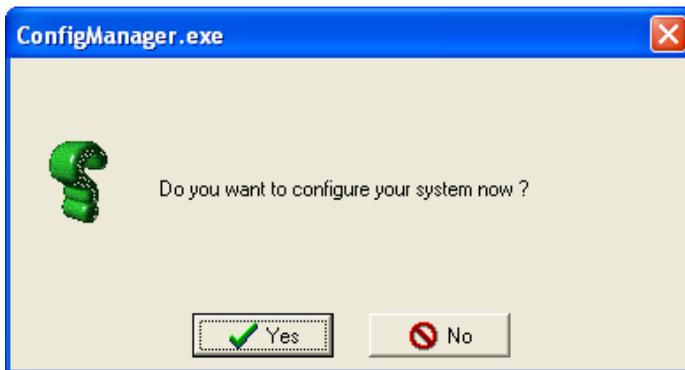
Agilent Technologies 1100/1200 Fluorescence Detector G1321

Agilent Technologies 1100/1200 Diode Array Detector G1315

Click on the *Add* button, select in the *Device Type* list Agilent Technologies 1100/1200 Binary Pump G1312 and press *OK*. Repeat the same operation for the rest of the required devices. Please note that the device used to control the Multiple Wavelength Detector G1365 is the device for Diode Array Detector G1315. When the four devices have been added, the screen should be as below.



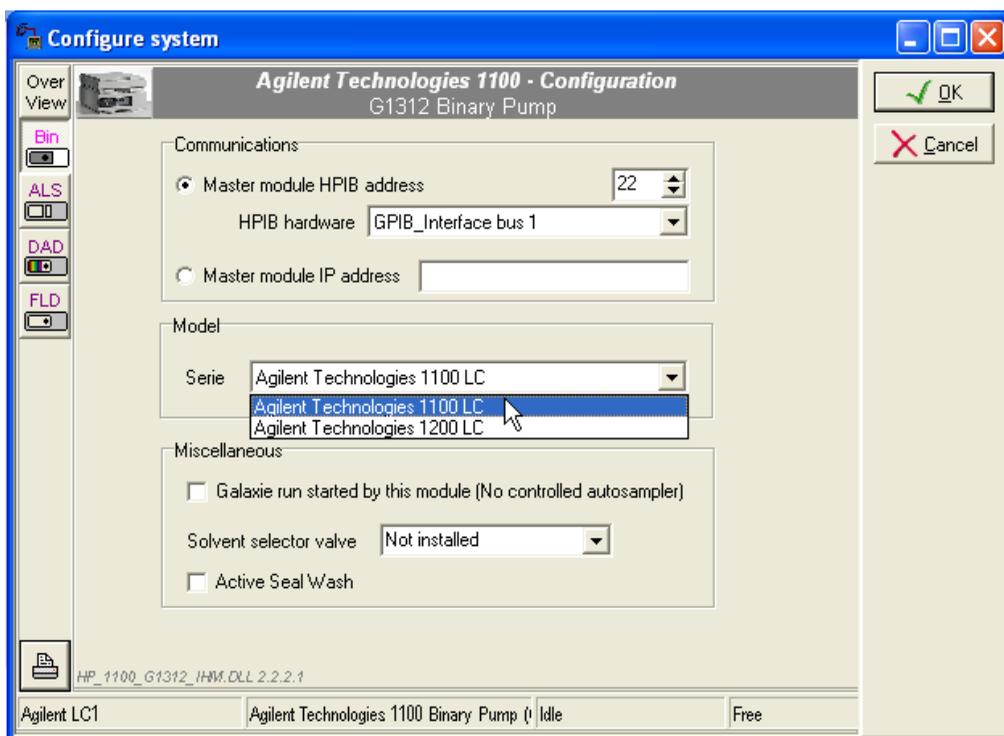
6. Click on the **OK** button and answer Yes to the question: "Do you want to configure your system now?"



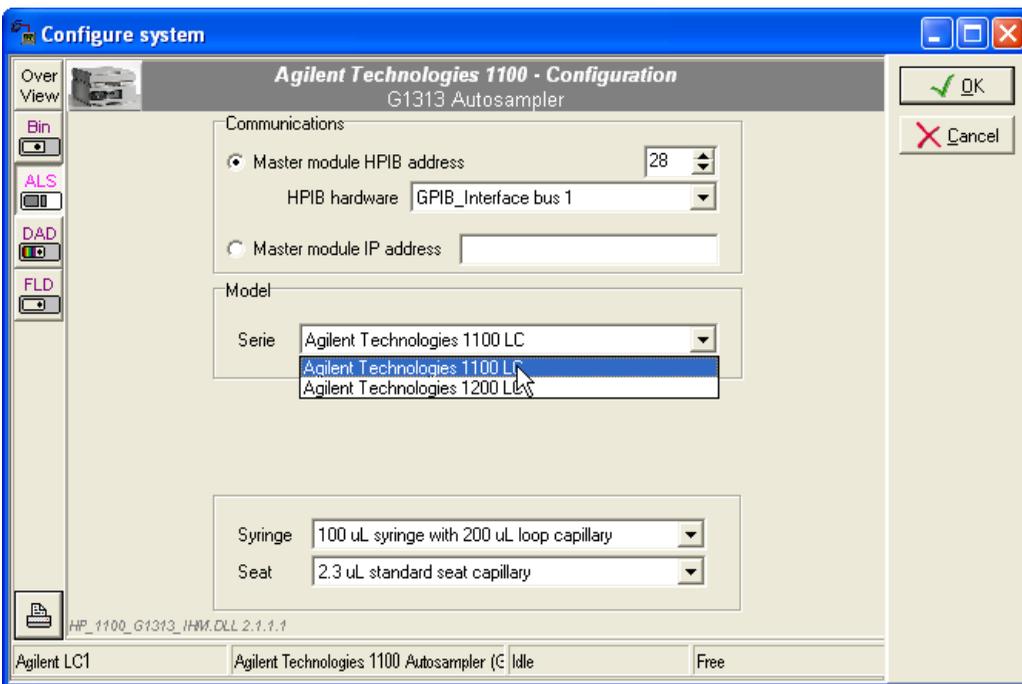
7. In the next screen, click on the *Overview* button and arrange the modules as required.
8. Press the Binary Pump icon. Select in the *HPIB Hardware* field the name of the GPIB Bus previously configured to which the Master module is connected (GPIB_Interface bus 1). Configure the *Master module HPIB address* number of the Master

module (in this example the master module is the G1321 module). This Master GPIB unit must match the one configured on the master module (refer to the Agilent Technologies 1100/1200 driver manual to configure the GPIB unit ID number). The Master GPIB unit must also be different from the GPIB unit ID controller. Once the communication is set, it is applicable for all modules.

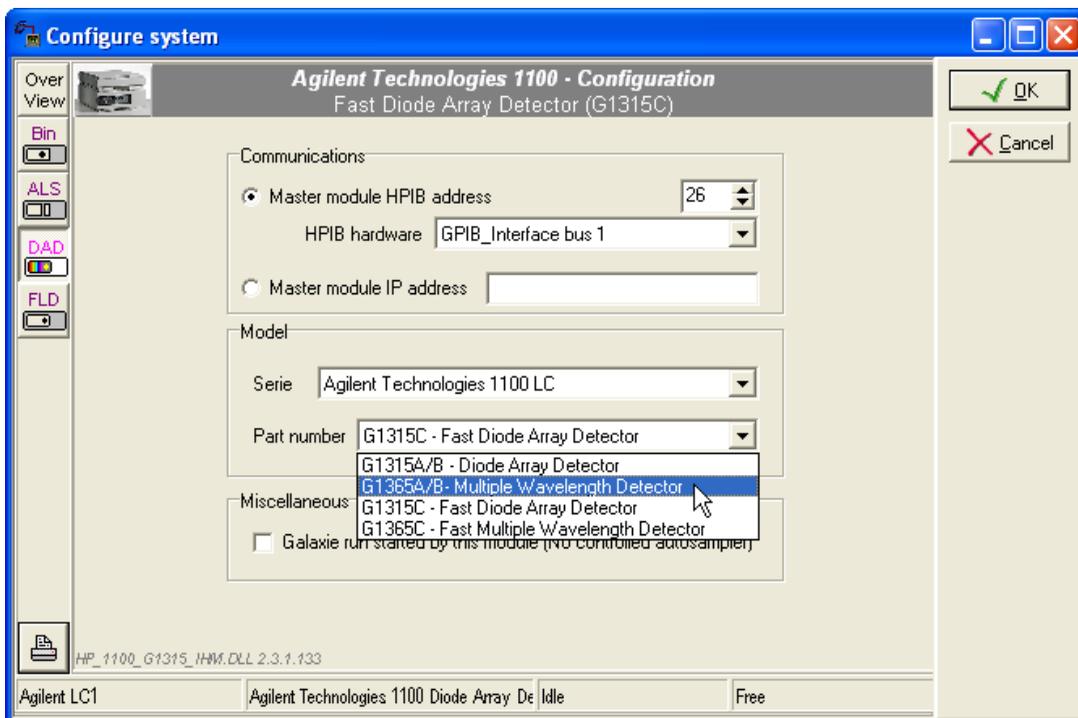
9. Then, configure the *Model Serie* of the LC chain. Here it is an Agilent technologies 1100LC. In the Miscellaneous part, you have to choose some options available or not on your Binary pump. Choose if *Galaxie run is started by this module* or not. Select if the *Solvent Selector Valve* is installed or not, and finally, choose if the *Active Seal Wash* is installed or not. Galaxie will detect automatically the model of the Binary pump (G1312A or G1312B)



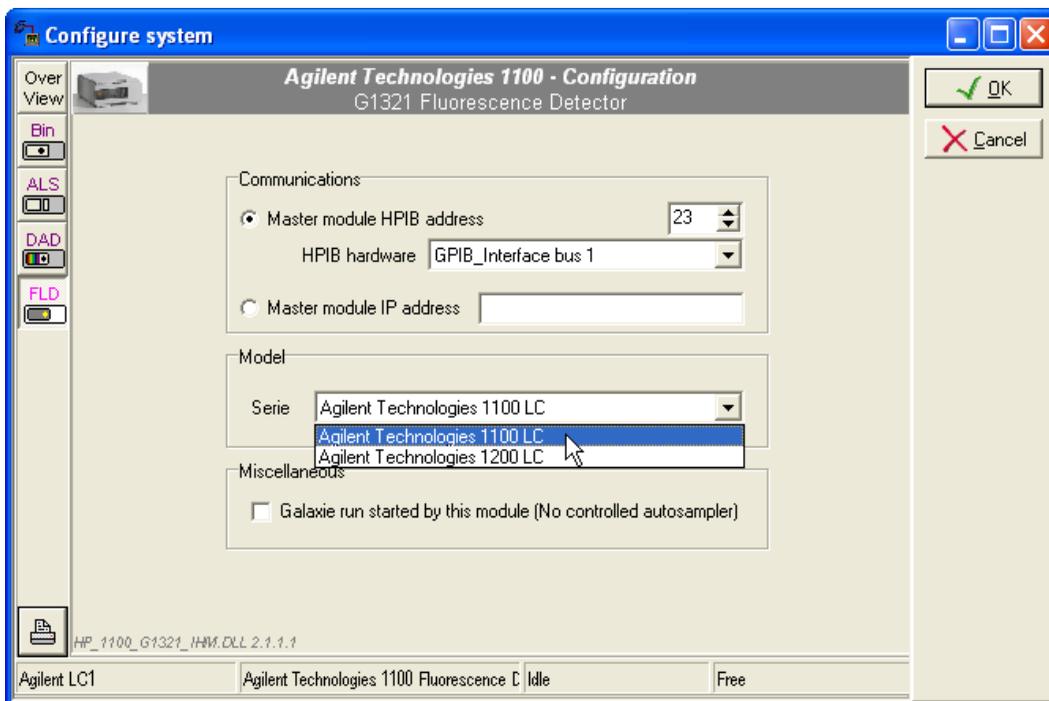
10. Press the Autosampler icon (ALS). Configure the *Model Serie* of the LC chain. Here it is an Agilent technologies 1100 LC. Finally configure the *Syringe* and *Seat* of the autosampler.



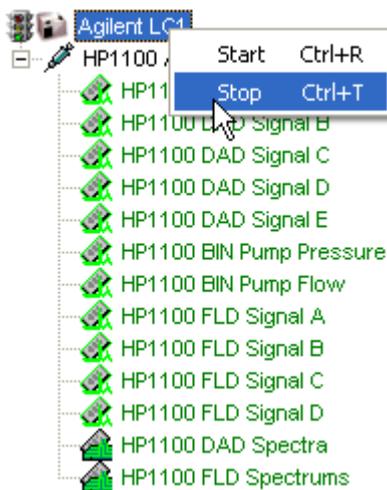
11. Press the DAD icon. First, select in the *Model* field Multiple Wavelength Detector (G1365A/B). Then, configure the *Model Serie* of the LC chain. Here it is an Agilent Technologies 1100LC. Finally, choose if Galaxie run is started by this module.



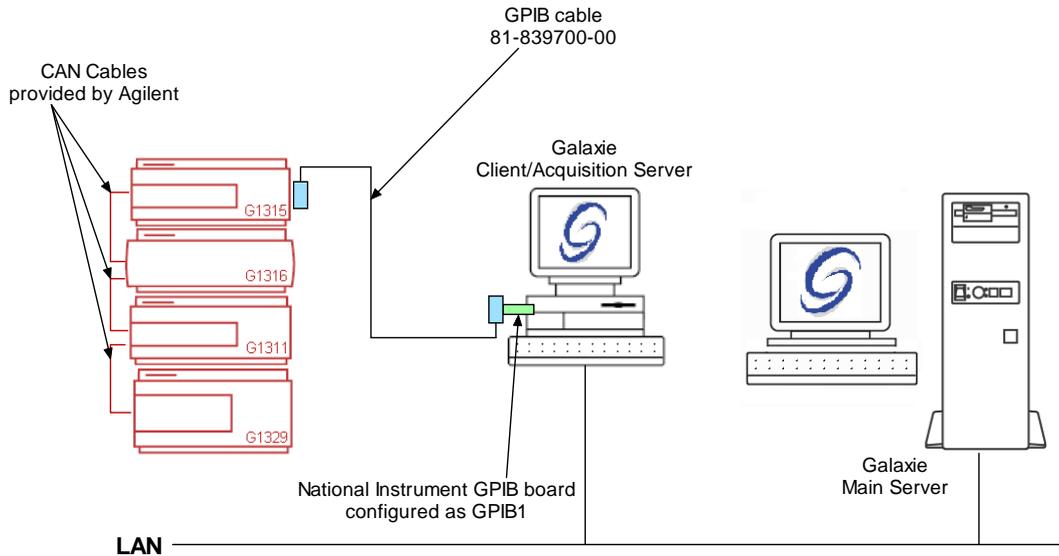
12. Press the FLD icon. Configure the *Model Serie* of the LC chain. Here it is an Agilent Technologies 1100LC.



13. Click on the *OK* button to finish the configuration of the system.
14. Finally stop the system by right clicking on its name in the organization view. Then right click again and press start.

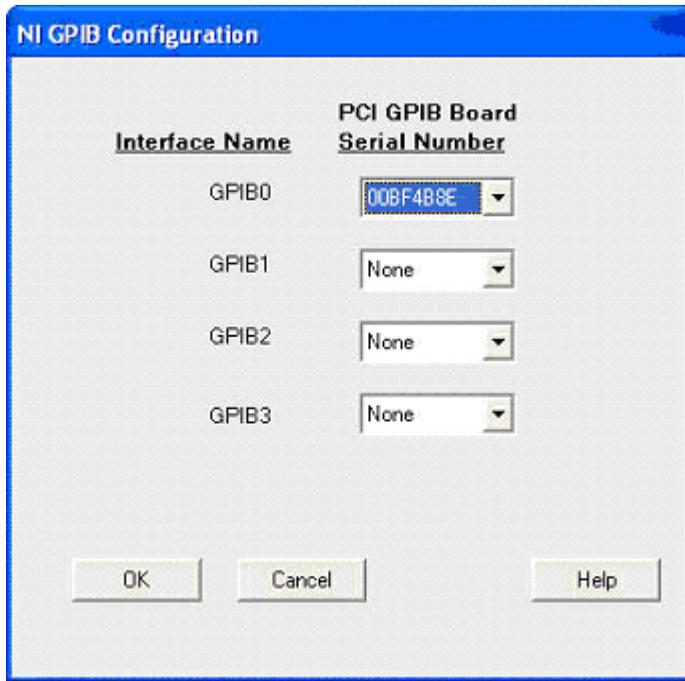


Example 2: Agilent 1100 G1311-G1315-G1316-G1329

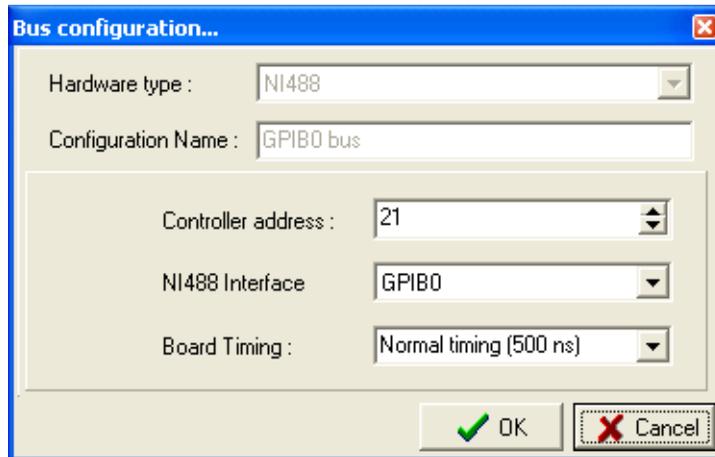


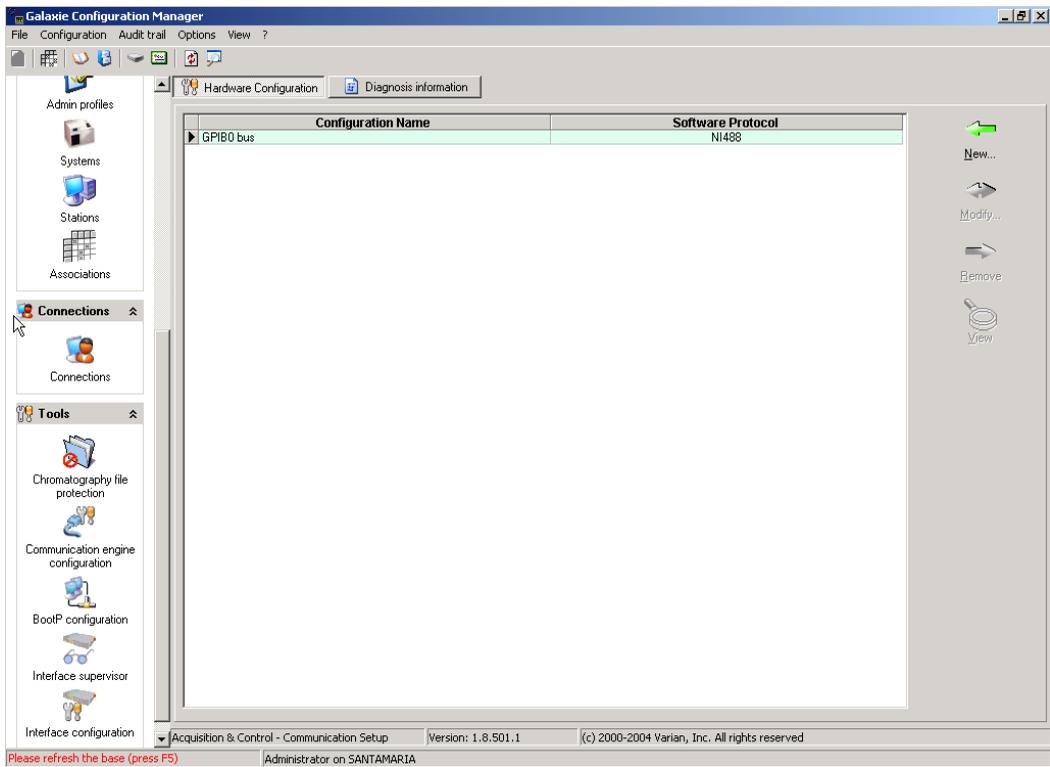
To configure the system shown above, please do the following steps:

1. Install the National Instrument GPIB board in the acquisition server (refer to section *National Instrument GPIB Board Installation* of this manual). Once the board is installed, configure it so that it is the GPIB0.

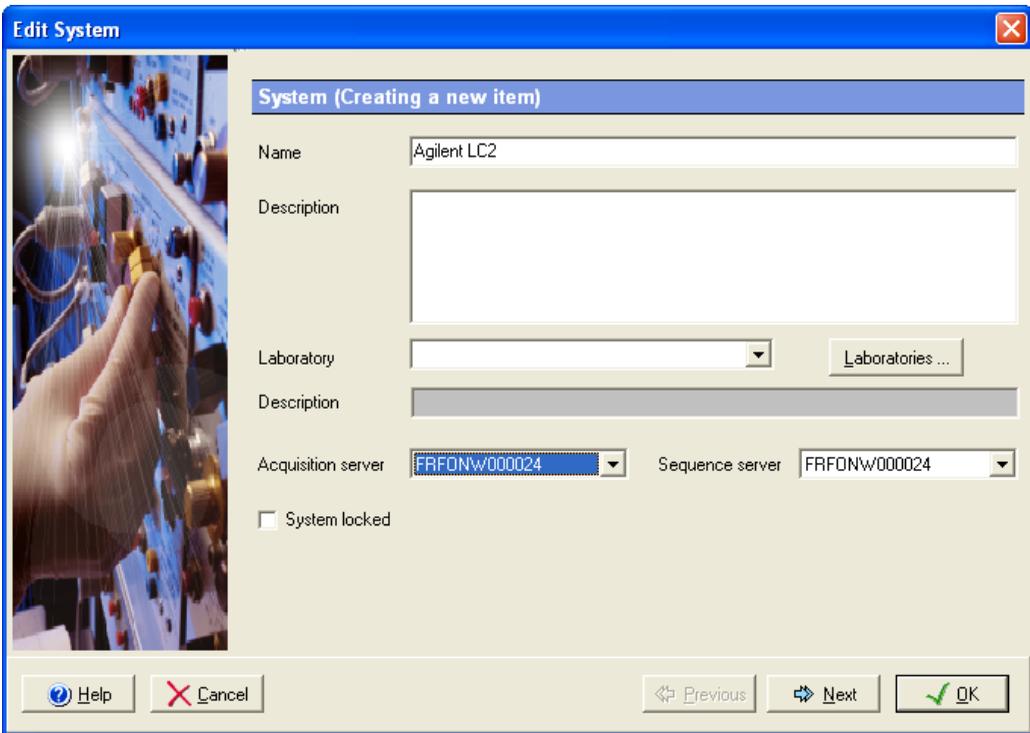


2. Create one **NI488** communication bus on the acquisition server (refer to section Communication engine configuration of this manual). This communication bus is mandatory to control the 1100/1200 modules. It will be called GPIB0 bus.



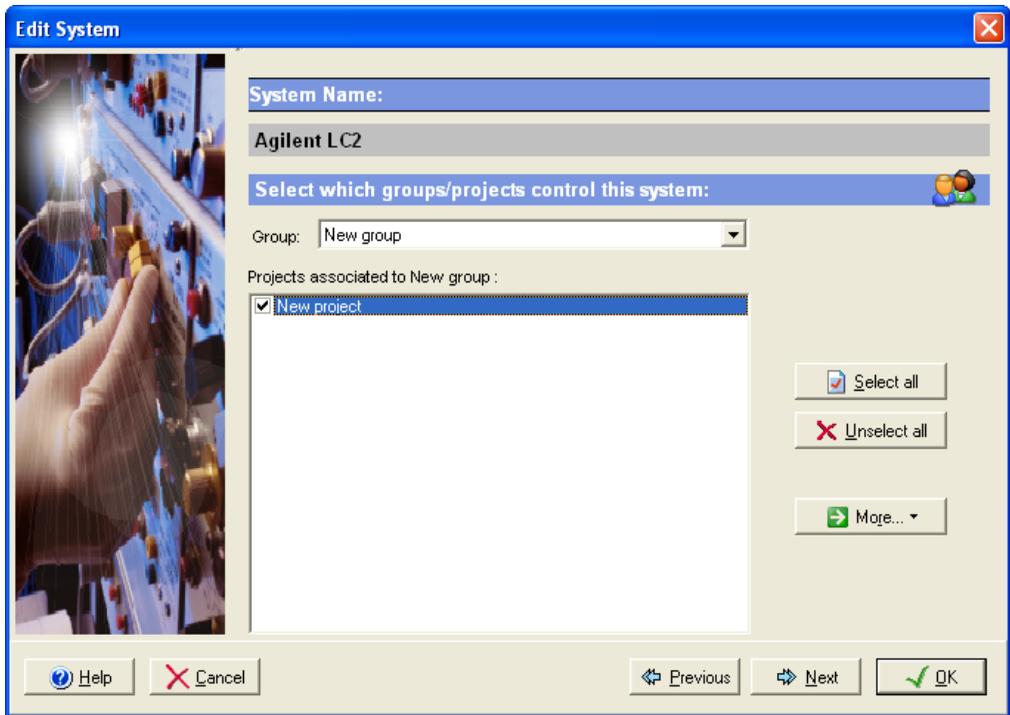


3. In the **Galaxie Configuration Manager**, create a new system. The following screen will be displayed.



Enter the *Name* of the system, select in the *Acquisition server* and *Sequence server* the name of the acquisition server and the name of the sequence server. Then click on *Next*.

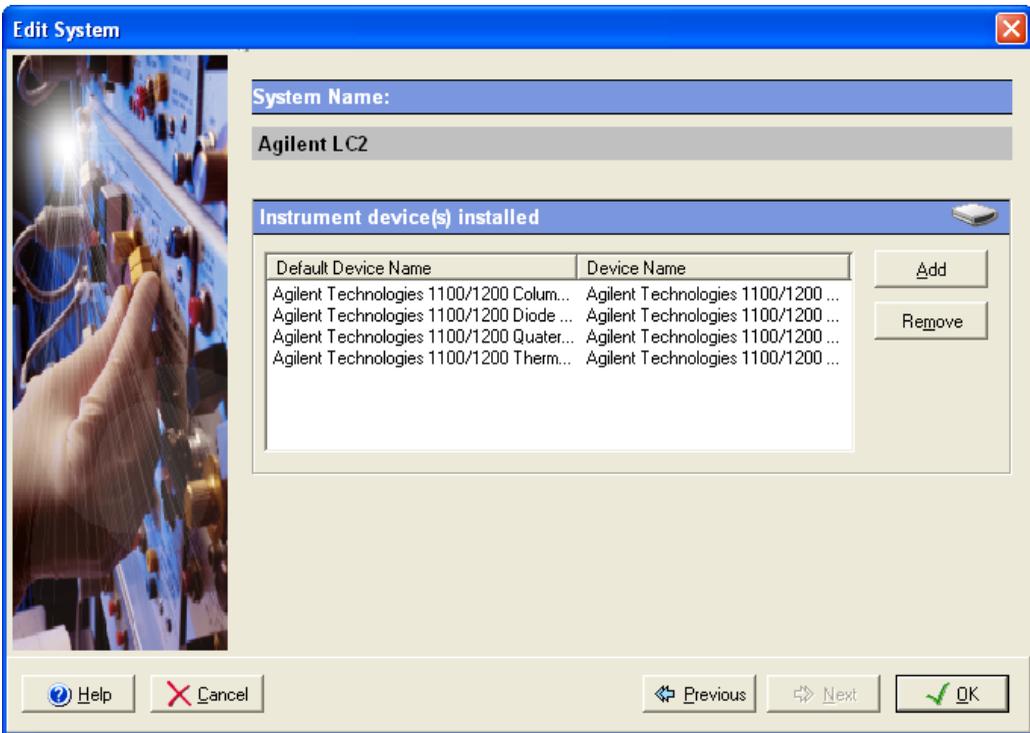
4. In the following screen associate one or more project(s) to the system and click on *Next*. If no groups/projects are defined, click on *Next*.



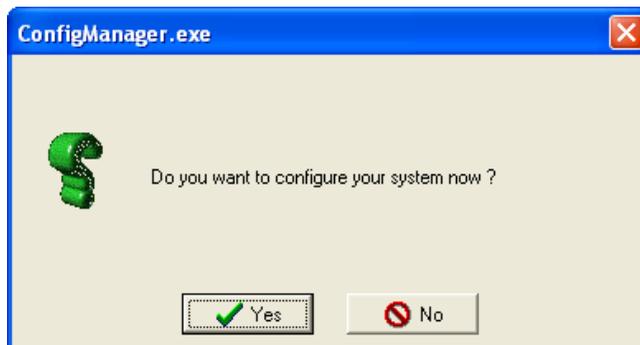
5. To configure that system, it is mandatory to install four devices:

1. Agilent Technologies 1100/1200 Quaternary Pump G1311
2. Agilent Technologies 1100/1200 Diode Array Detector G1315
3. Agilent Technologies 1100/1200 Column Compartment G1316
4. Agilent Technologies 1100/1200 Thermostated Autosampler G1329

Click on the *Add* button, select in the *Device Type* list Agilent Technologies 1100/1200 Quaternary Pump G1311 and press *OK*. Repeat the same operation for the rest of the required devices. When the four devices have been added, the screen should be as below.

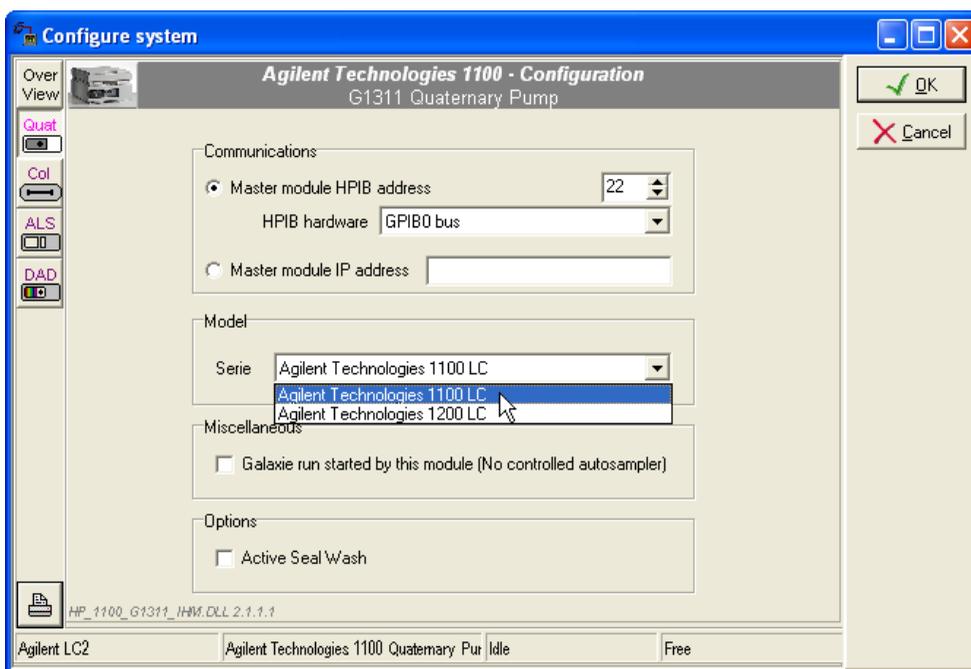


6. Click on the *OK* button and answer Yes to the question: "Do you want to configure your system now?"

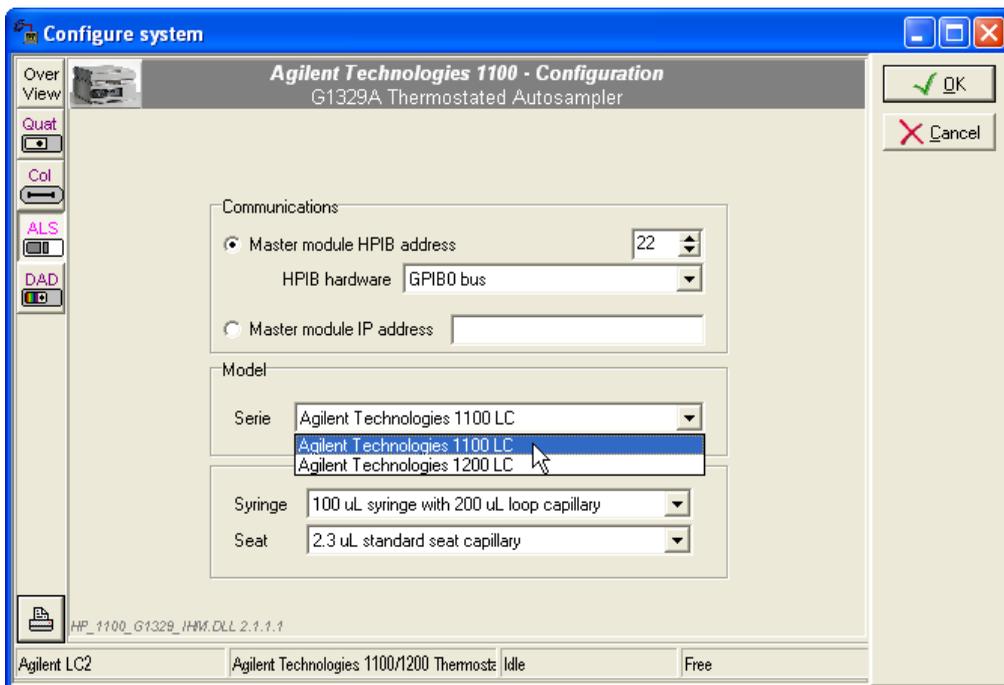


7. In the next screen, click on the *Overview* button and arrange the modules as required.

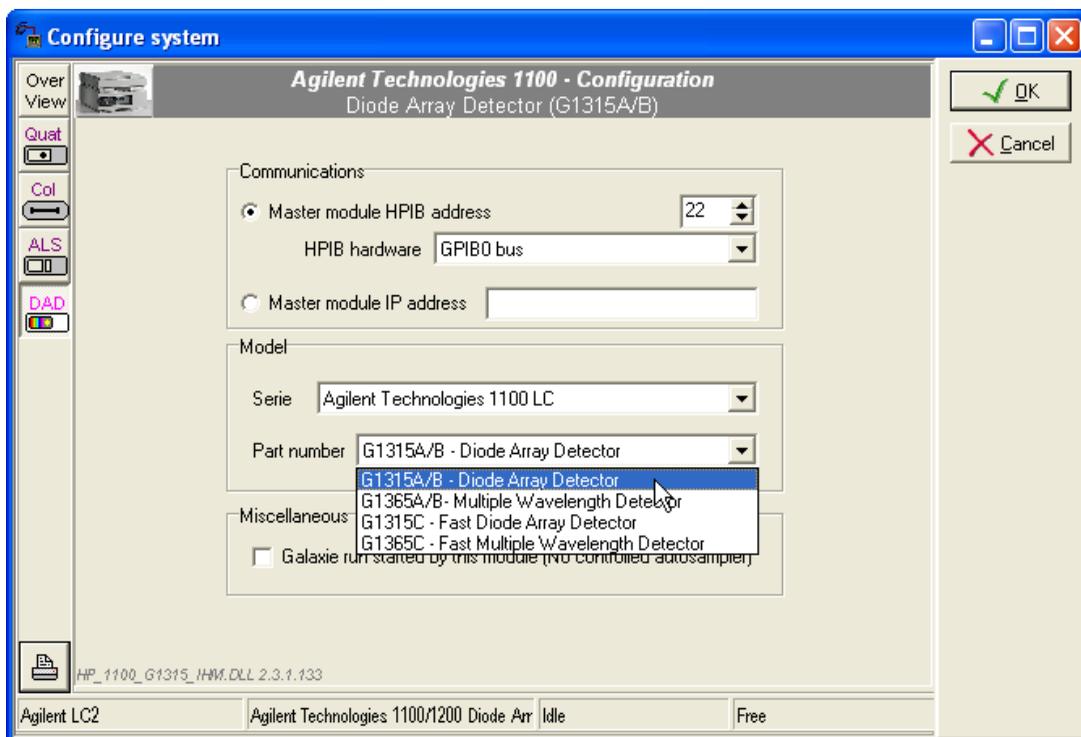
8. Press the Quaternary Pump icon. Select in the *HPIB Hardware* field the name of the GPIB Bus previously configured to which the Master module is connected (GPIB_Interface bus 1). Configure the *Master module HPIB address* number of the Master module (in this example the master module is the G1321 module). This Master GPIB unit must match the one configured on the master module (refer to the Agilent Technologies 1100/1200 driver manual to configure the GPIB unit ID number). The Master GPIB unit must also be different from the GPIB unit ID controller. Once the communication is set, it is applicable for all modules.
9. Then, configure the *Model Serie* of the LC chain. Here it is an Agilent Technologies 1100 LC. In the Miscellaneous part, choose if *Galaxie run is started by this module* or not. Finally, choose if the *Active Seal Wash* is installed or not.



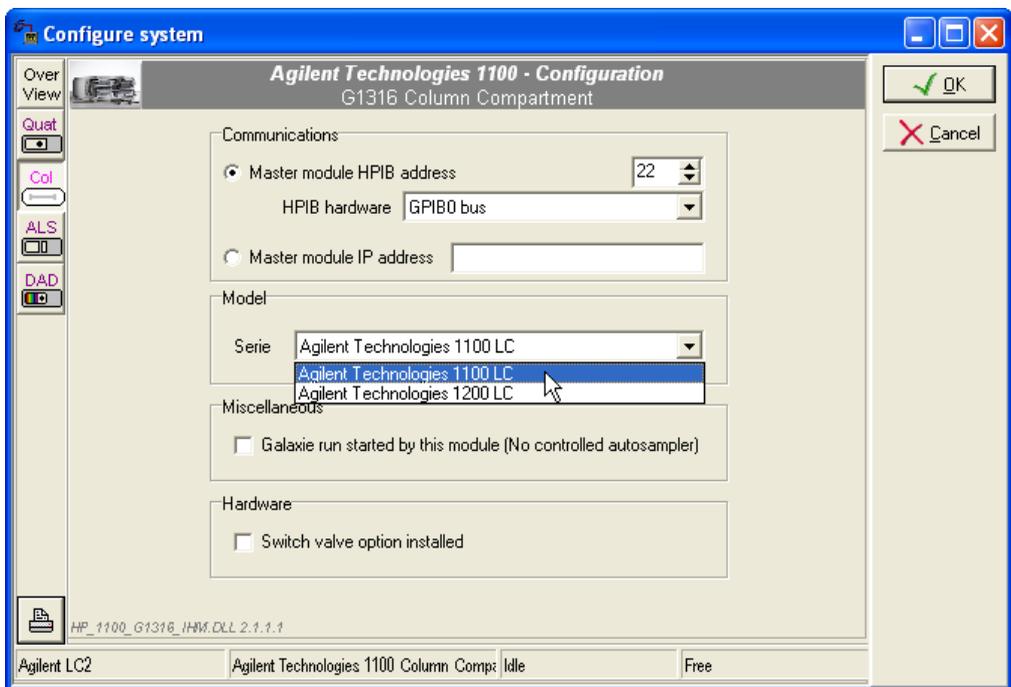
10. Press the Autosampler icon (ALS). Configure the *Model Serie* of the LC chain. Here it is an Agilent Technologies 1100 LC. Finally configure the *Syringe* and *Seat* of the autosampler.



11. Press the DAD icon. First, select in the *Model* field Multiple Wavelength Detector (G1315A/B). Then, configure the *Model Serie* of the LC chain. Here it is an Agilent Technologies 1100 LC. Choose the model of the detector, and finally, choose if Galaxie run is started by this module.



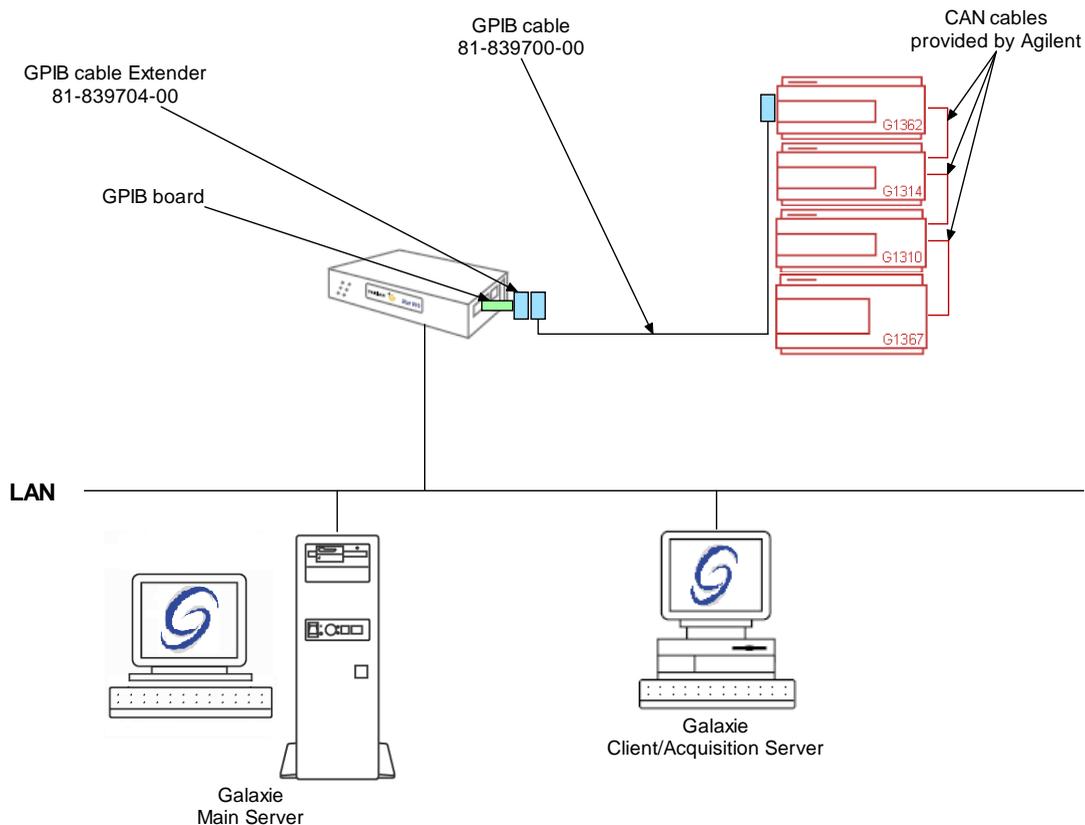
12. Press the Col icon. Check *Switch valve option installed* if this option is present in the instrument. Then choose if Galaxie run is started by this module or not;



13. Click on the *OK* button to finish the configuration of the system.
14. Finally stop the system by right clicking on its name in the organization view. Then right click again and press start.

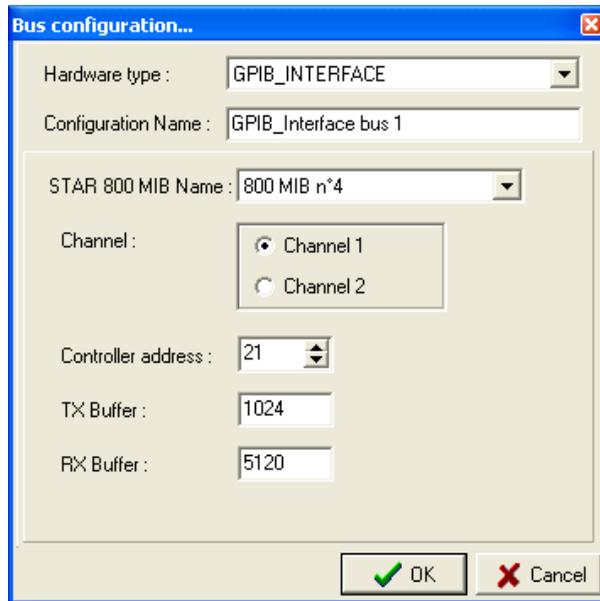


Example 3: Agilent 1100 G1310-G1321-G1365-G1367



To configure the system shown above, please do the following steps:

1. Configure the MIB Interface on the acquisition server (refer to section *MIB Interface Configuration* of this manual).
2. Create one **GPIB_Interface** communication bus on the acquisition server (refer to section *Communication engine configuration* of this manual). This communication bus is mandatory to control the 1100/1200 modules. It will be called GPIB_Interface bus 1.



3. In the **Galaxie Configuration Manager**, create a new system.
The following screen will be displayed.

Edit System

System (Creating a new item)

Name: Agilent LC3

Description: [Empty text area]

Laboratory: [Empty dropdown] Laboratories ...

Description: [Empty text area]

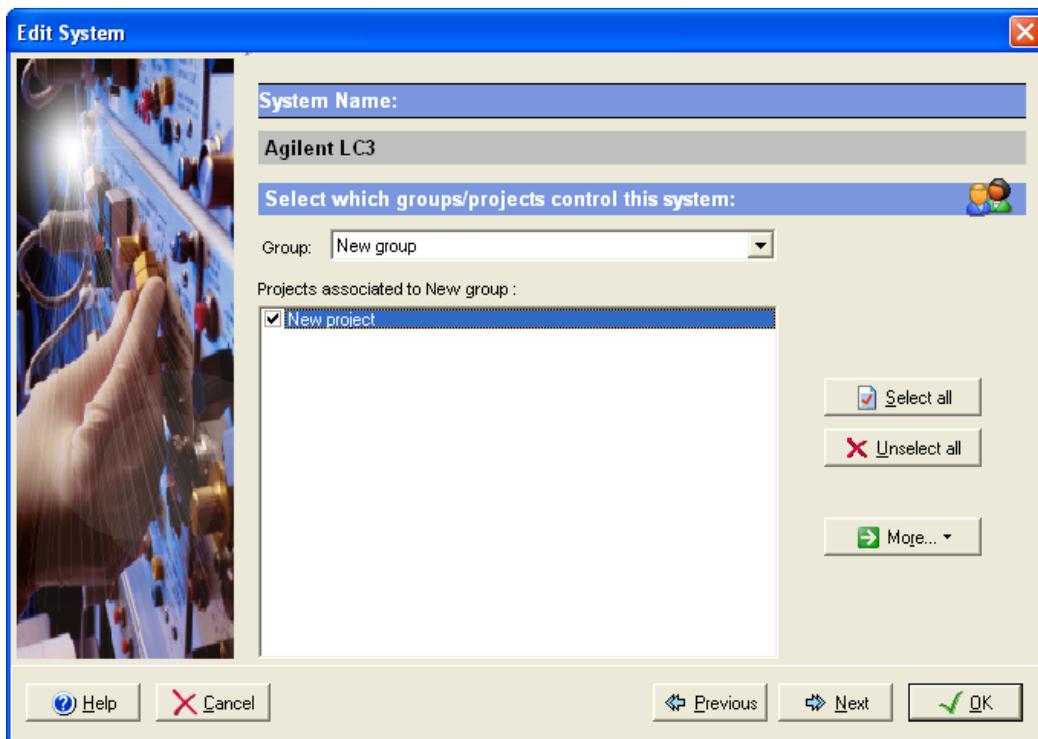
Acquisition server: FRFONW000024 Sequence server: FRFONW000024

System locked

Help Cancel Previous Next OK

Enter the *Name* of the system, select in the *Acquisition server* and *Sequence server* the name of the acquisition server and the name of the sequence server. Then click on *Next*.

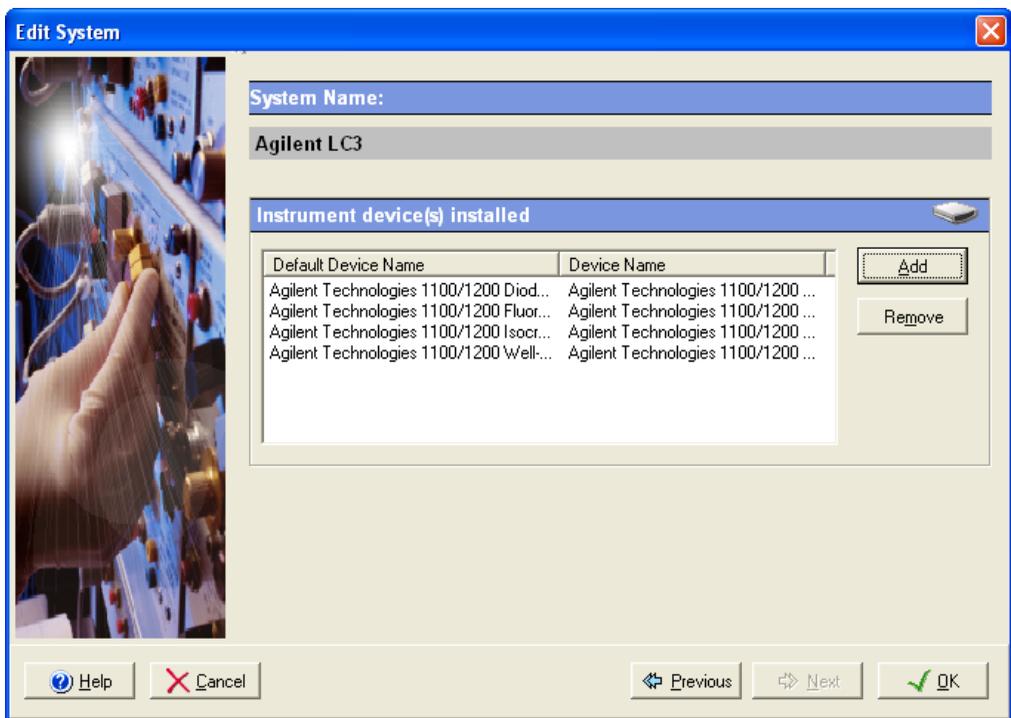
4. In the following screen associate one or more project(s) to the system and click on *Next*. If no groups/projects are defined, click on *Next*.



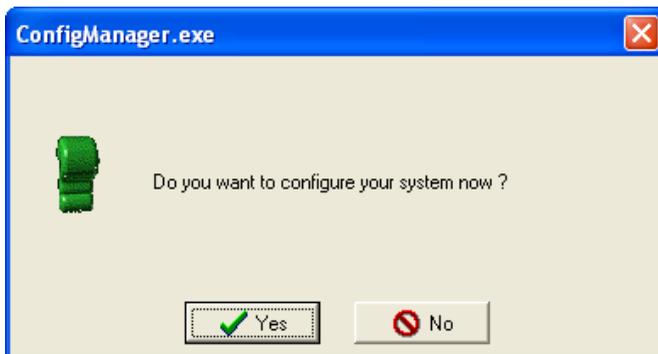
5. To configure that system, it is mandatory to install four devices:

1. Agilent Technologies 1100/1200 Isocratic Pump G1310
2. Agilent Technologies 1100/1200 Well Plate Autosampler G1367
3. Agilent Technologies 1100/1200 Variable Wavelength Detector G1314
4. Agilent Technologies 1100/1200 Refractive Index Detector G1362

Click on the *Add* button, select in the *Device Type* list Agilent Technologies 1100/1200 Isocratic Pump G1310 and press *OK*. Repeat the same operation for the rest of the required devices. When the four devices have been added the screen should be as below.



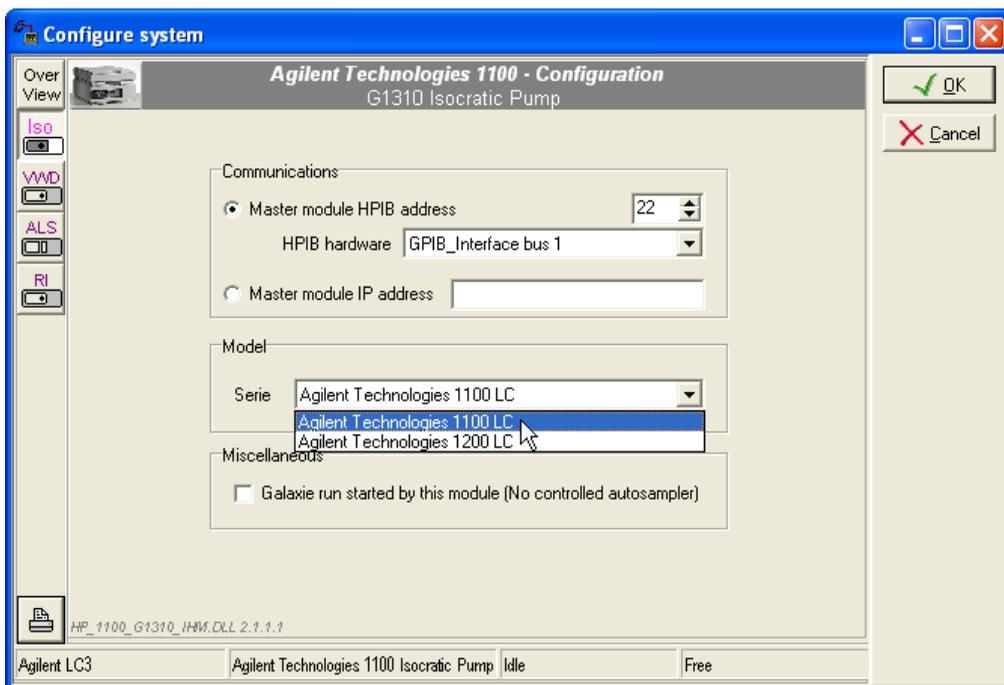
- Click on the *OK* button and answer Yes to the question: "Do you want to configure your system now?"



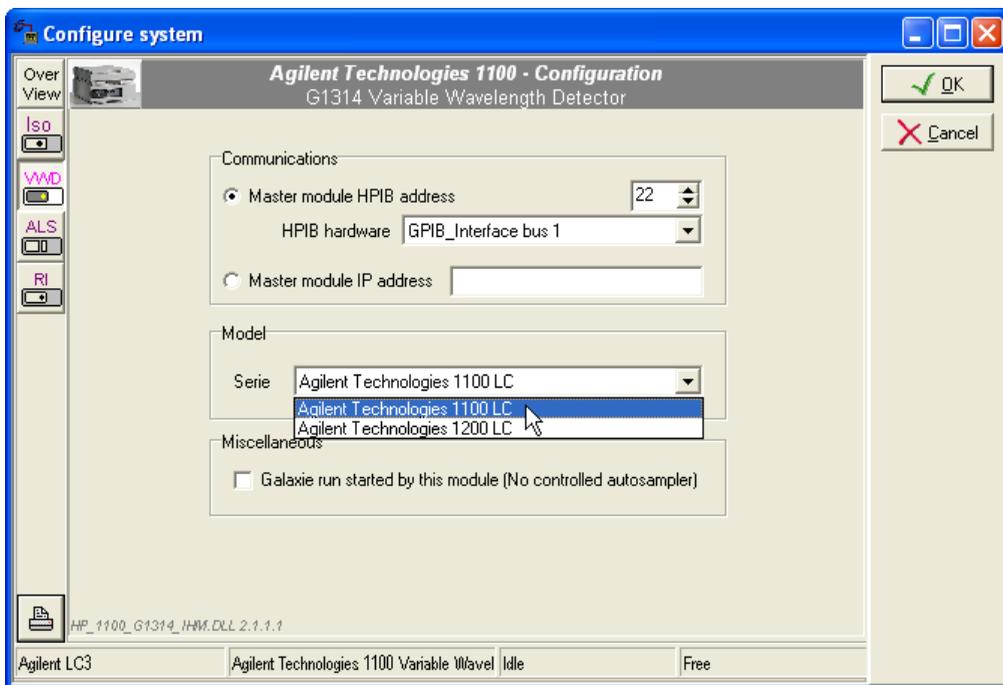
- In the next screen, click on the *Overview* button and arrange the modules as required.
- Press the Isocratic Pump icon. Select in the *HPIB Hardware* field the name of the GPIB Bus previously configured to which the Master module is connected (GPIB_Interface bus 1). Configure the *Master module HPIB address* number of the

Master module (in this example the master module is the G1362 module). This Master GPIB unit must match the one configured on the master module (refer to the Agilent Technologies 1100/1200 driver manual to configure the GPIB unit ID number). The Master GPIB unit must also be different from the GPIB unit ID controller. Once the communication is set, it is applicable for all modules.

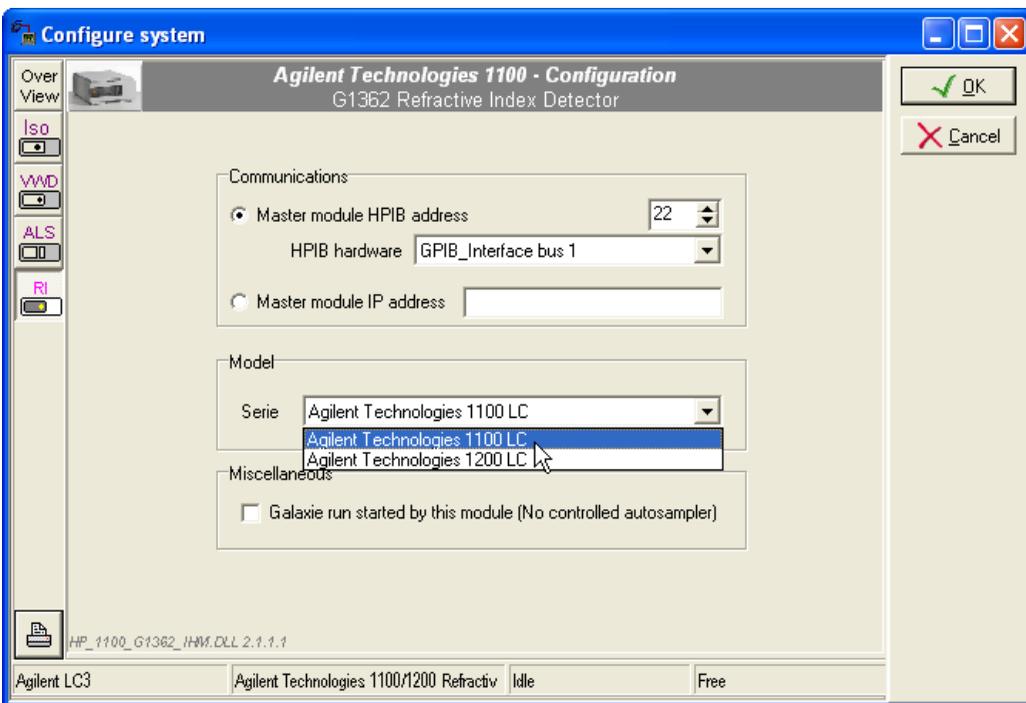
9. Then, configure the *Model Serie* of the LC chain. Here it is an Agilent Technologies 1100 LC. Finally, in the Miscellaneous part, choose if *Galaxie run is started by this module* or not.



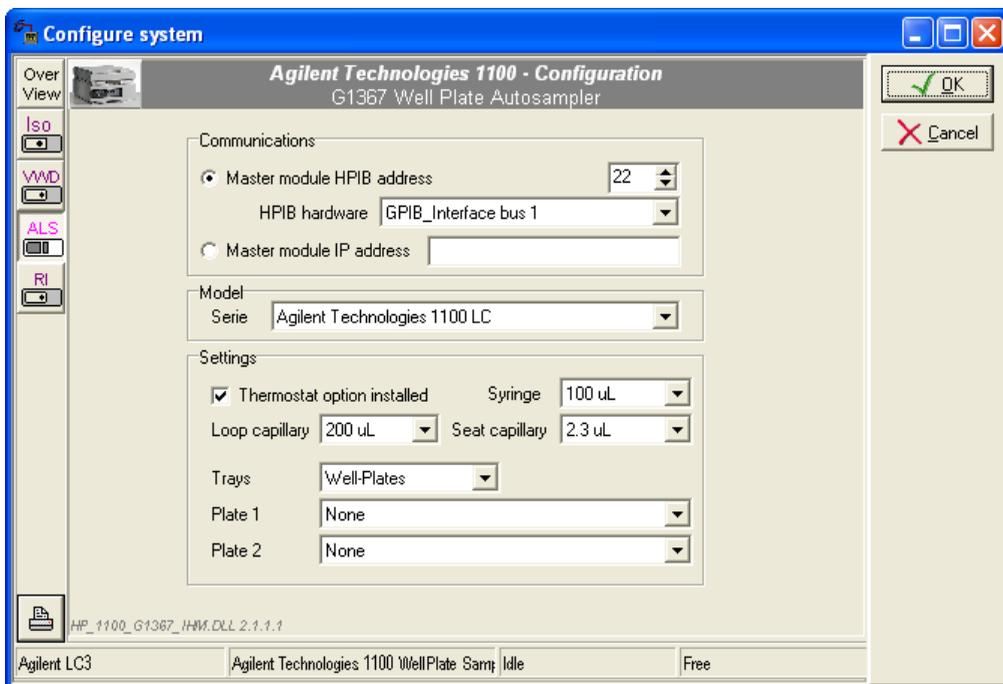
10. Press the VWD icon. Configure the *Model Serie* of the LC chain. Here it is an Agilent Technologies 1100 LC. Finally, in the Miscellaneous part, choose if *Galaxie run is started by this module* or not.



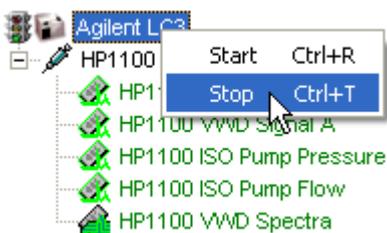
11. Press the RI icon. Configure the *Model Serie* of the LC chain. Here it is an Agilent Technologies 1100 LC. Finally, in the Miscellaneous part, choose if *Galaxie run is started by this module* or not.



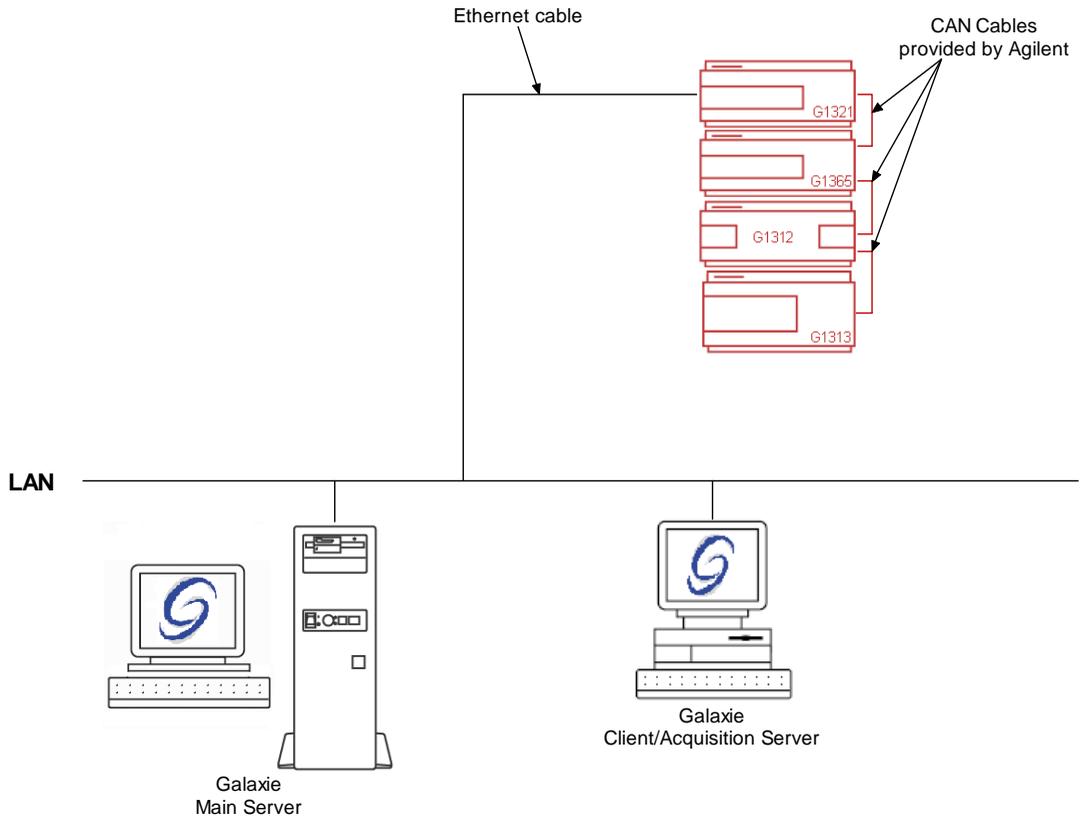
12. Press the autosampler icon (ALS). Configure the *Model Serie* of the LC chain. Here it is an Agilent Technologies 1100 LC. Check *Thermostat option installed* if this option is present in the instrument. Configure the *Syringe size*, *Seat capillary* and *Loop capillary* of the autosampler. Finally, configure the type of *trays* and/or *well-plates* present in the autosampler.



13. Click on the *OK* button to finish the configuration of the system.
14. Finally stop the system by right clicking on its name in the organization view. Then right click again and press start.



Example 4: Agilent 1200 G1312-G1313-G1315-G1321



To configure the system shown above, please do the following steps:

1. In the **Galaxie Configuration Manager**, create a new system. The following screen will be displayed.

Edit System

System (Creating a new item)

Name: Agilent 1200

Description: [Empty text area]

Laboratory: [Empty dropdown] Laboratories ...

Description: [Empty text area]

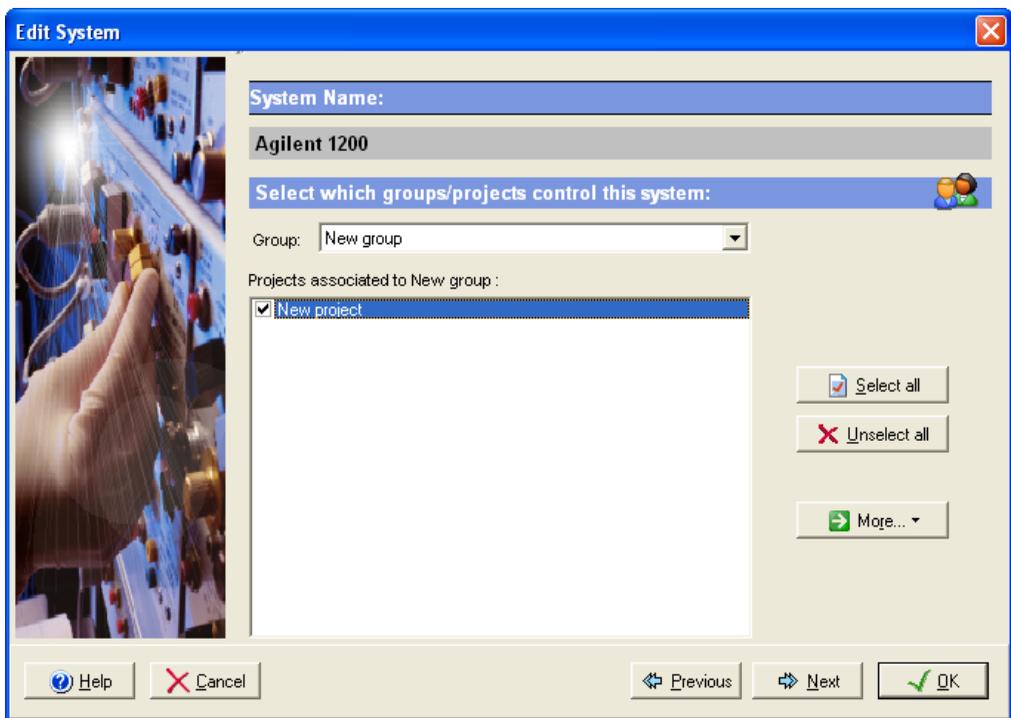
Acquisition server: FRFONW000024 Sequence server: FRFONW000024

System locked

Help Cancel Previous Next OK

Enter the *Name* of the system, select in the *Acquisition server* and *Sequence server* the name of the acquisition server and the name of the sequence server. Then click on *Next*.

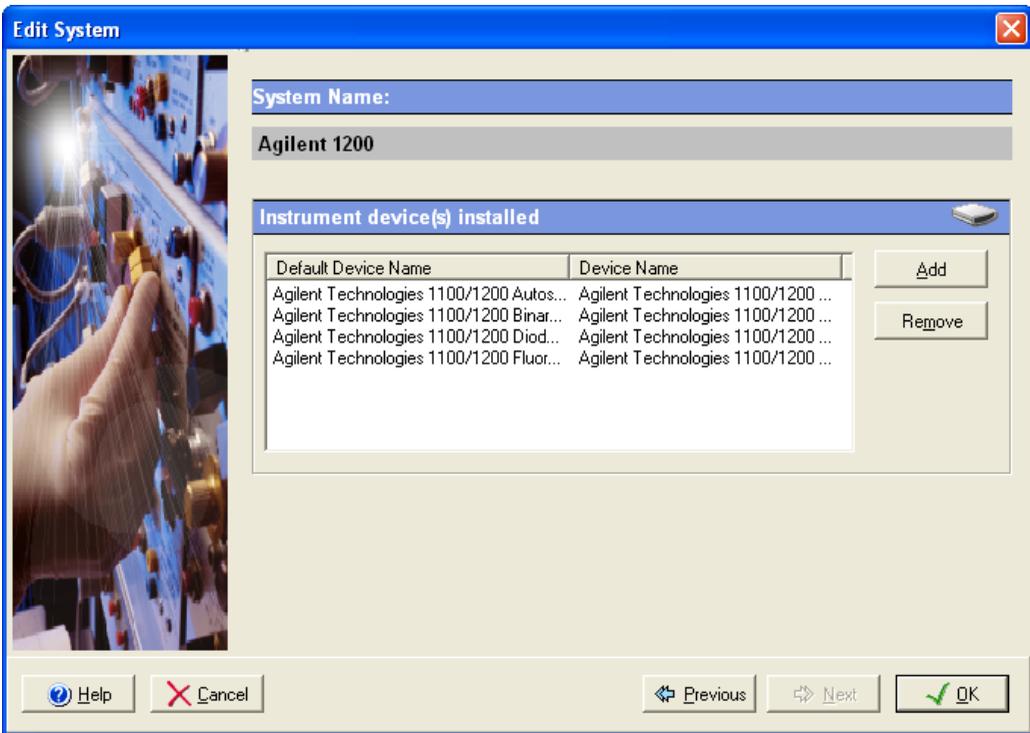
2. In the following screen associate one or more project(s) to the system and click on *Next*. If no groups/projects are defined, click on *Next*.



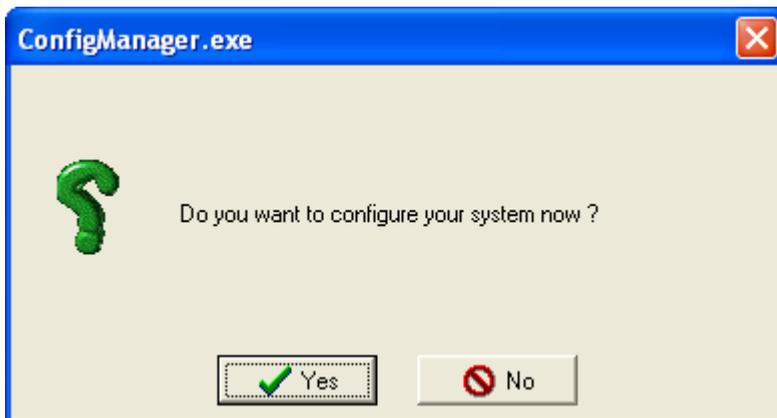
3. To configure that system, it is mandatory to install four devices:

1. Agilent Technologies 1100/1200 Binary Pump G1312
2. Agilent Technologies 1100/1200 Autosampler G1313
3. Agilent Technologies 1100/1200 Diode Array Detector G1315
4. Agilent Technologies 1100/1200 Fluorescence detector G1321

Click on the *Add* button, select in the *Device Type* list Agilent Technologies 1100/1200 Binary Pump G1312 and press *OK*. Repeat the same operation for the rest of the required devices. When the four devices have been added, the screen should be as below.

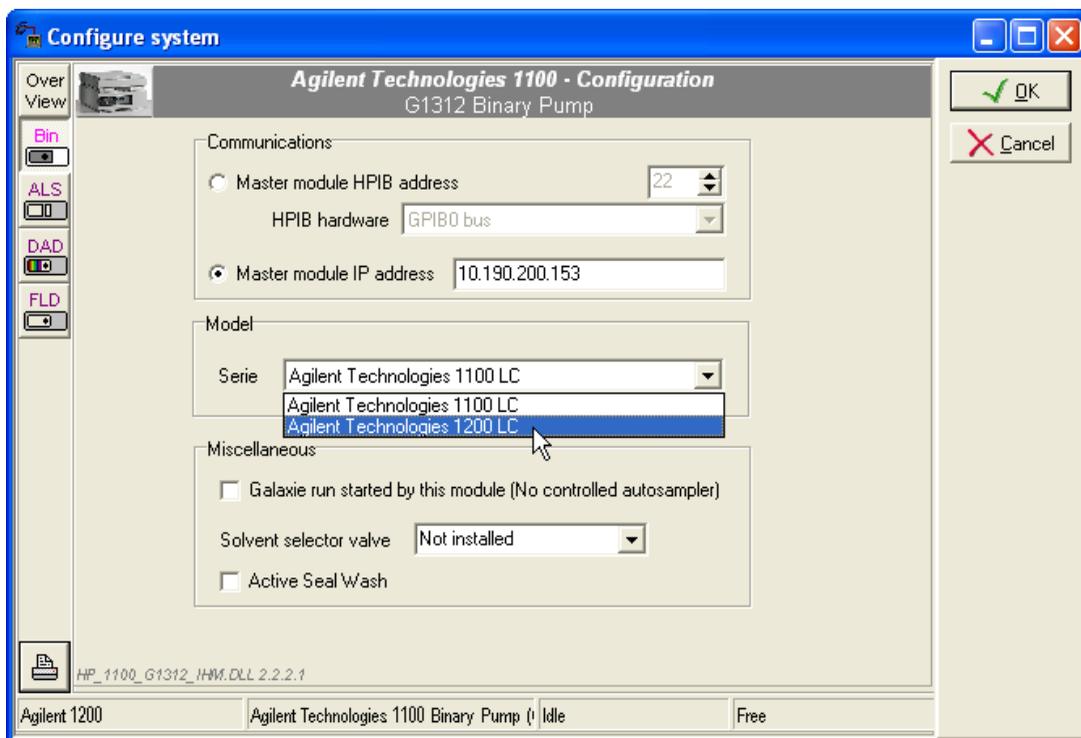


4. Click on the *OK* button and answer Yes to the question: "Do you want to configure your system now?"

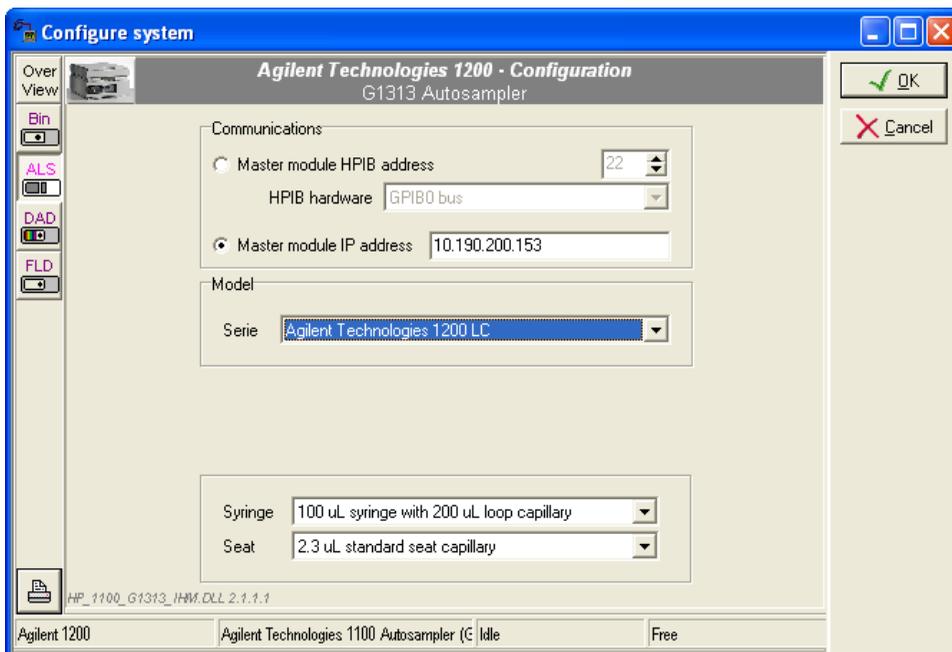


5. In the next screen, click on the *Overview* button and arrange the modules as required.

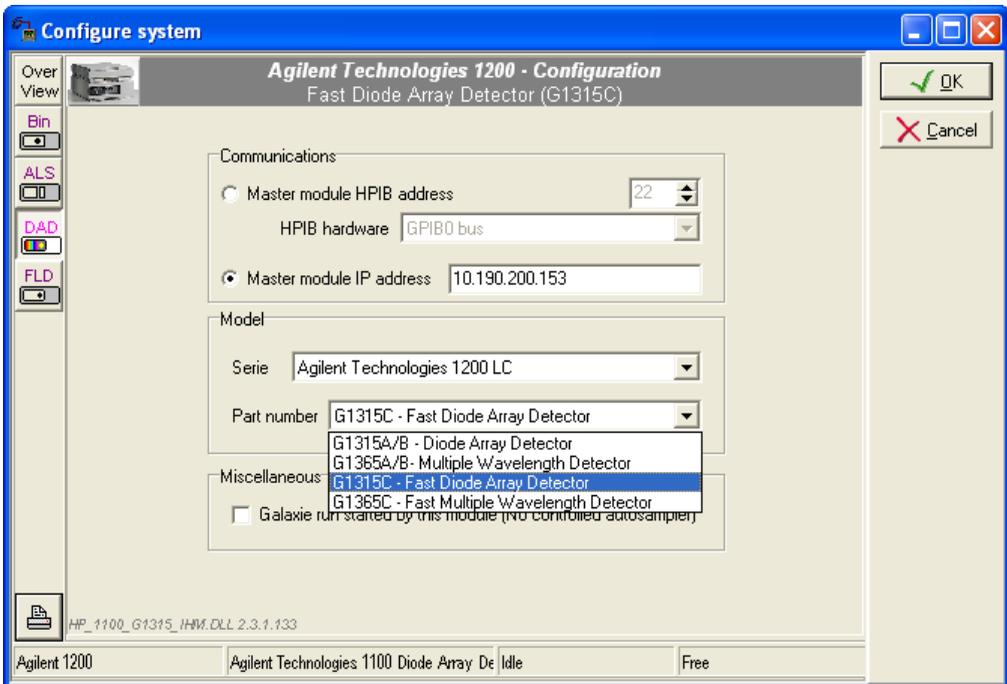
6. Press the Binary Pump icon. Select in the *Master module IP address* field the IP address. Once the communication is set, it is applicable for all modules. It is possible to set the IP address from any module.
7. Configure the *Model Serie* of the LC chain. Here it is an Agilent Technologies 1200 LC. Then, in the Miscellaneous part, choose if *Galaxie run is started by this module* or not. Select if the *Solvent Selector Valve* is installed or not, and finally, choose if the *Active Seal Wash* is installed or not. Galaxie will detect automatically the model of the Binary pump (G1312A or G1312B)



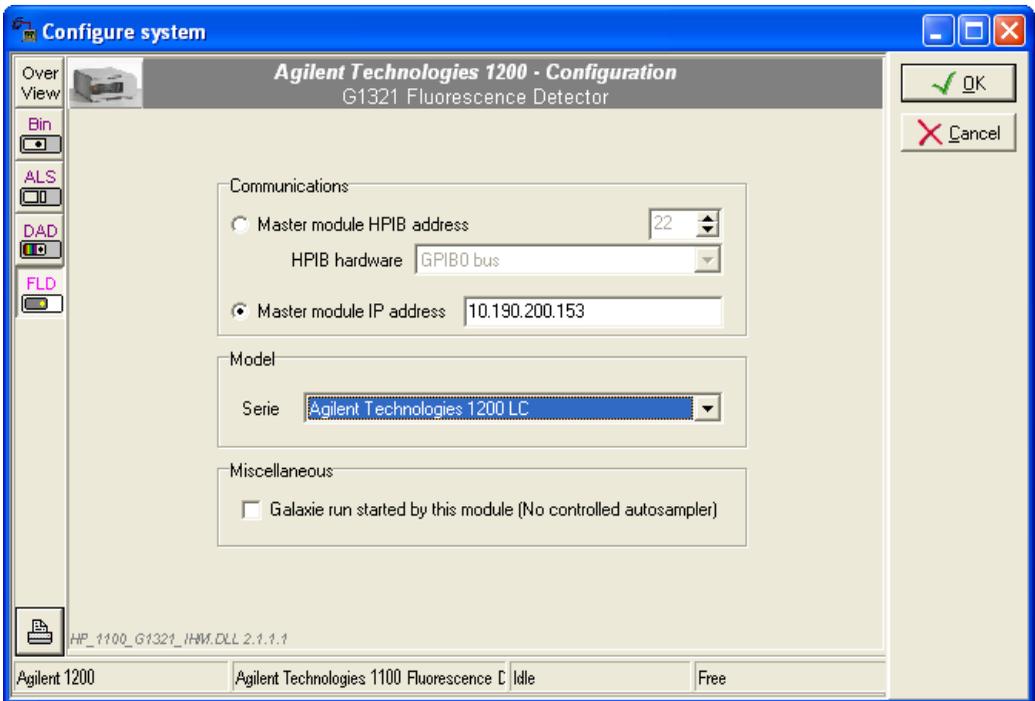
8. Press the Autosampler icon (ALS). Configure the *Model Serie* of the LC chain. Here it is an Agilent Technologies 1200 LC. Finally configure the *Syringe* and *Seat* of the autosampler.



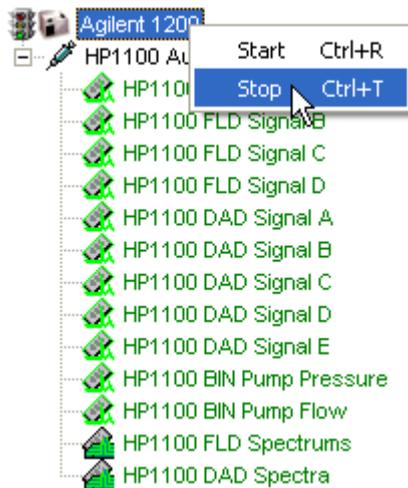
9. Press the DAD icon. First, select in the Model field Multiple Wavelength Detector (G1315C-Fast Diode Array Detector). Then, configure the *Model Serie* of the LC chain. Here it is an Agilent Technologies 1200 LC. Choose the model of the detector, and finally, choose if Galaxie run is started by this module.



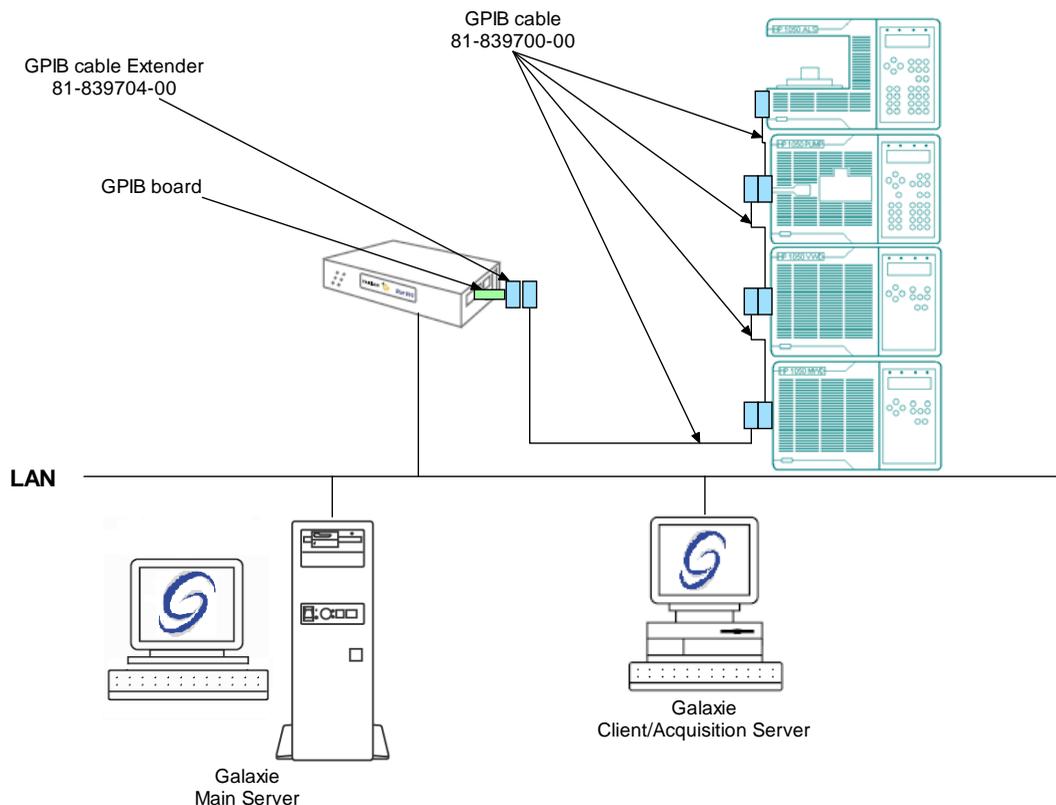
10. Press the FLD icon. Check if Galaxie run is started by this module or not.



11. Click on the *OK* button to finish the configuration of the system.
12. Finally stop the system by right clicking on its name in the organization view. Then right click again and press start.

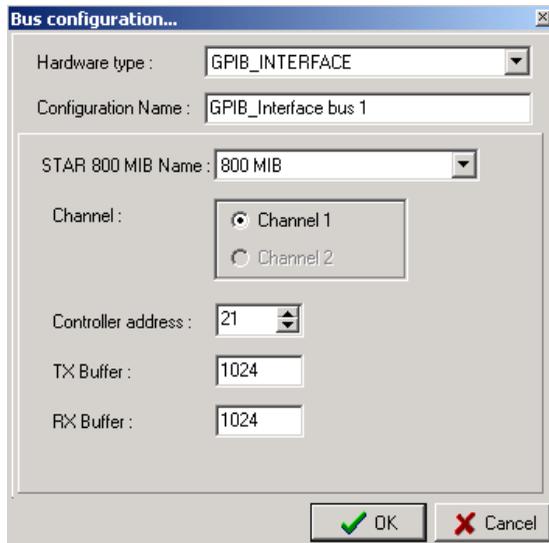


Example 5: Agilent 1050 79855-79854-79853-79852

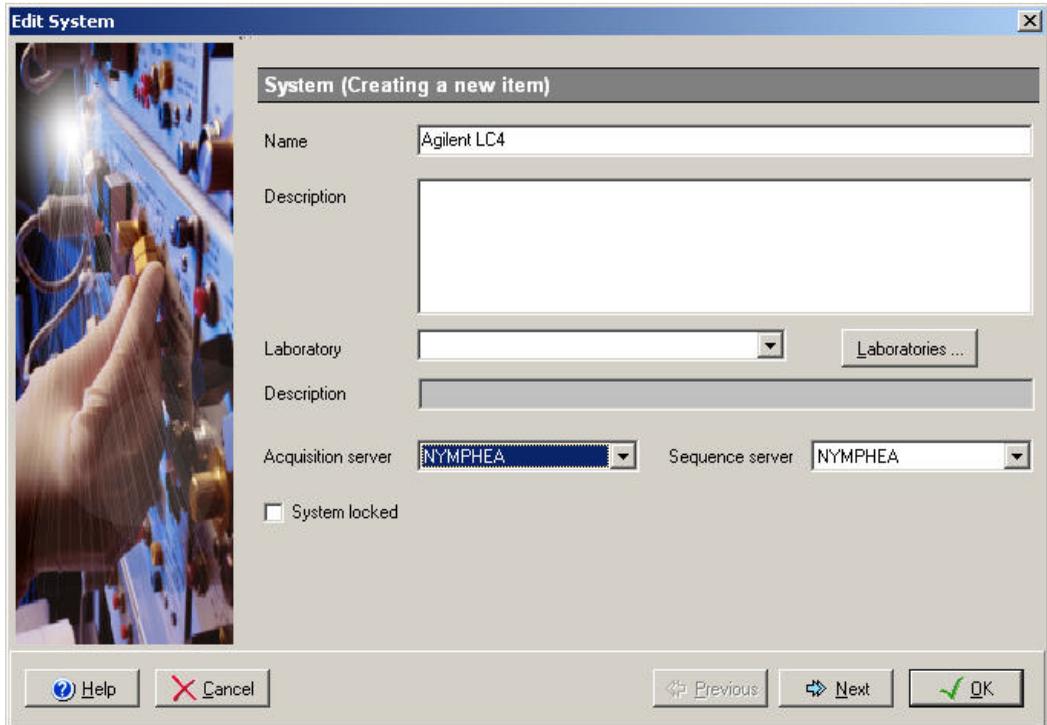


To configure the system shown above, please do the following steps:

1. Configure the MIB Interface on the acquisition server (refer to section *MIB Interface Configuration* of this manual).
2. Create one **GPIB_Interface** communication bus on the acquisition server (refer to section *Communication Engine Configuration* of this manual). This communication bus is mandatory to control the 1100/1200 modules. It will be called GPIB_Interface bus 1.

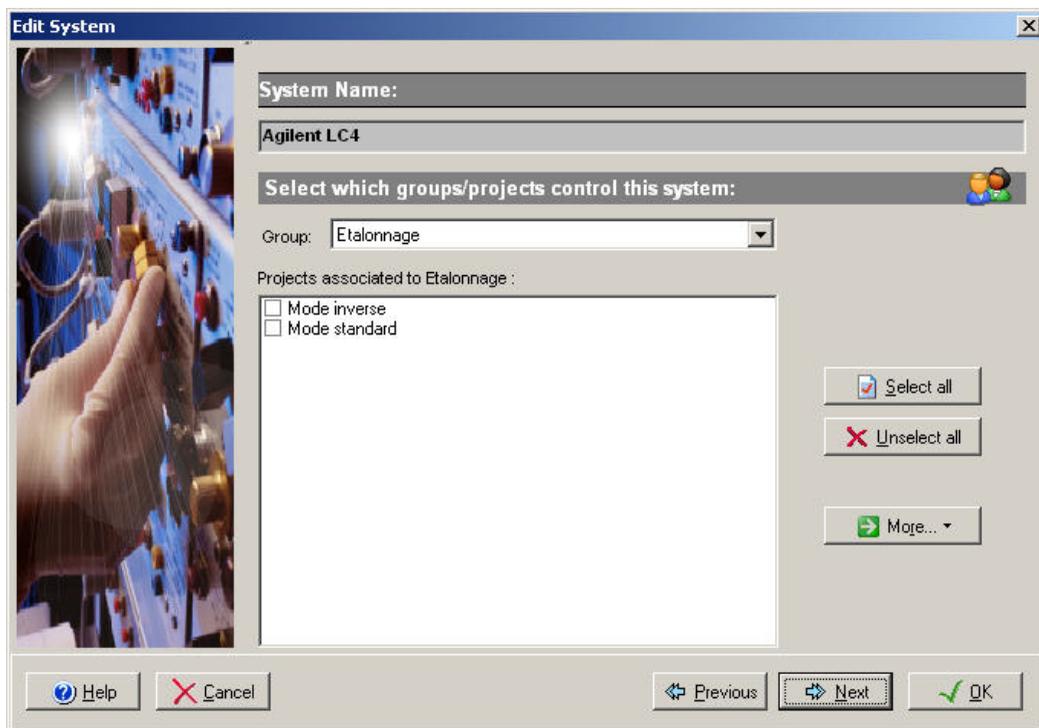


3. In the **Galaxie Configuration Manager**, create a new system.
The following screen will be displayed.



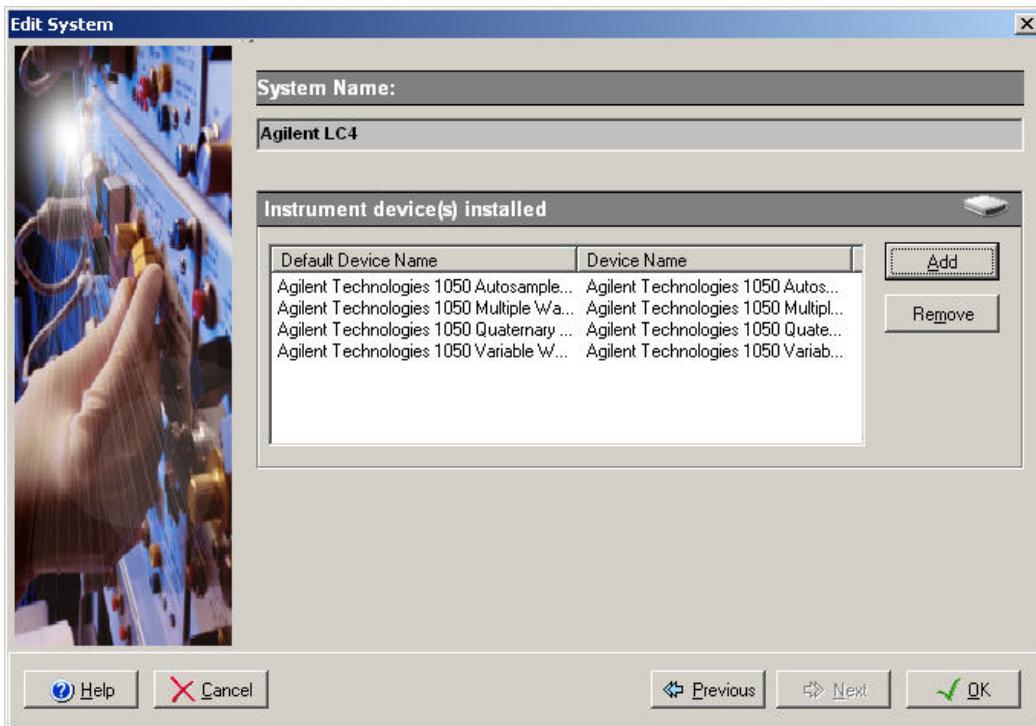
Enter the *Name* of the system, select in the *Acquisition server* and *Sequence server* the name of the acquisition server and the name of the sequence server. Then click on *Next*.

4. In the following screen associate one or more project(s) to the system and click on *Next*. If no groups/projects are defined, click on *Next*.

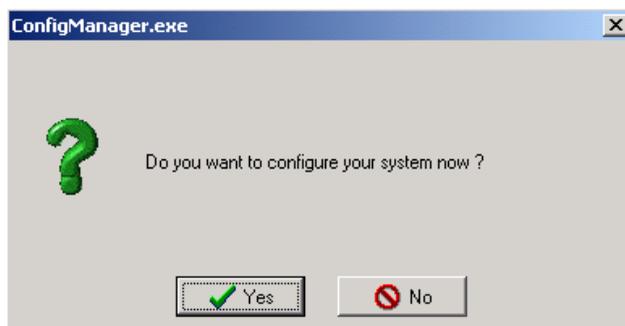


5. To configure that system, it is mandatory to install four devices:
 1. Agilent Technologies 1050 Autosampler
 2. Agilent Technologies 1050 Multiple Wavelength Detector
 3. Agilent Technologies 1050 Variable Wavelength Detector
 4. Agilent Technologies 1050 Quaternary Pump

Click on the *Add* button, select in the *Device Type* list Agilent Technologies 1050 Autosampler and press *OK*. Repeat the same operation for the rest of the required devices. When the four devices have been added the screen should be as below.

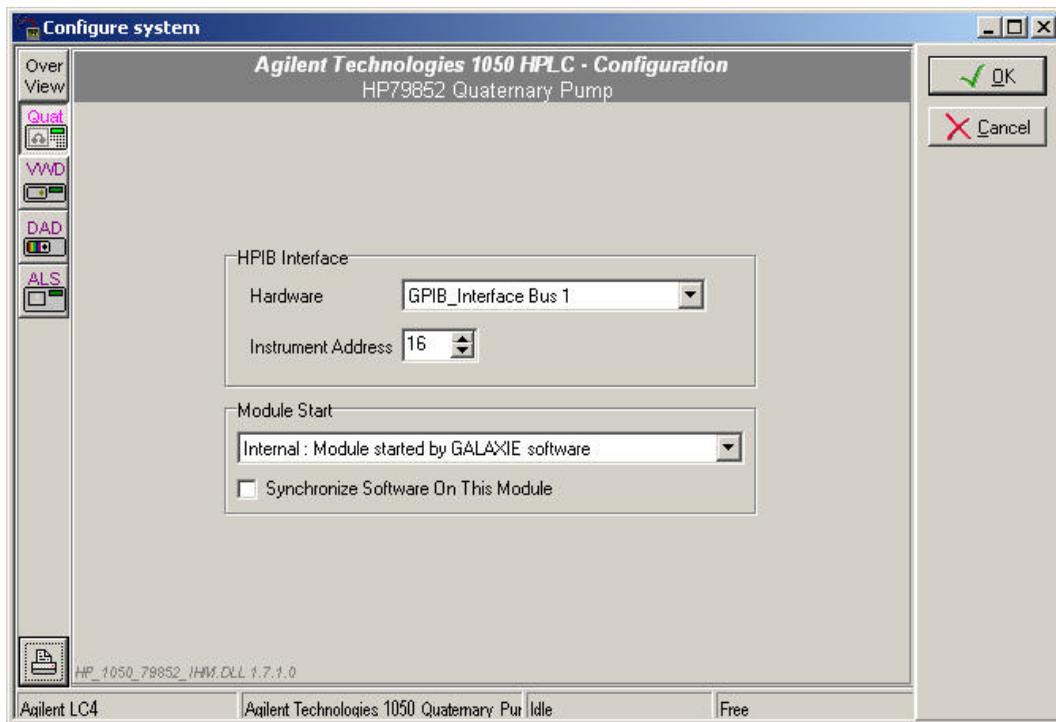


6. Click on the **OK** button and answer Yes to the question: "Do you want to configure your system now?"

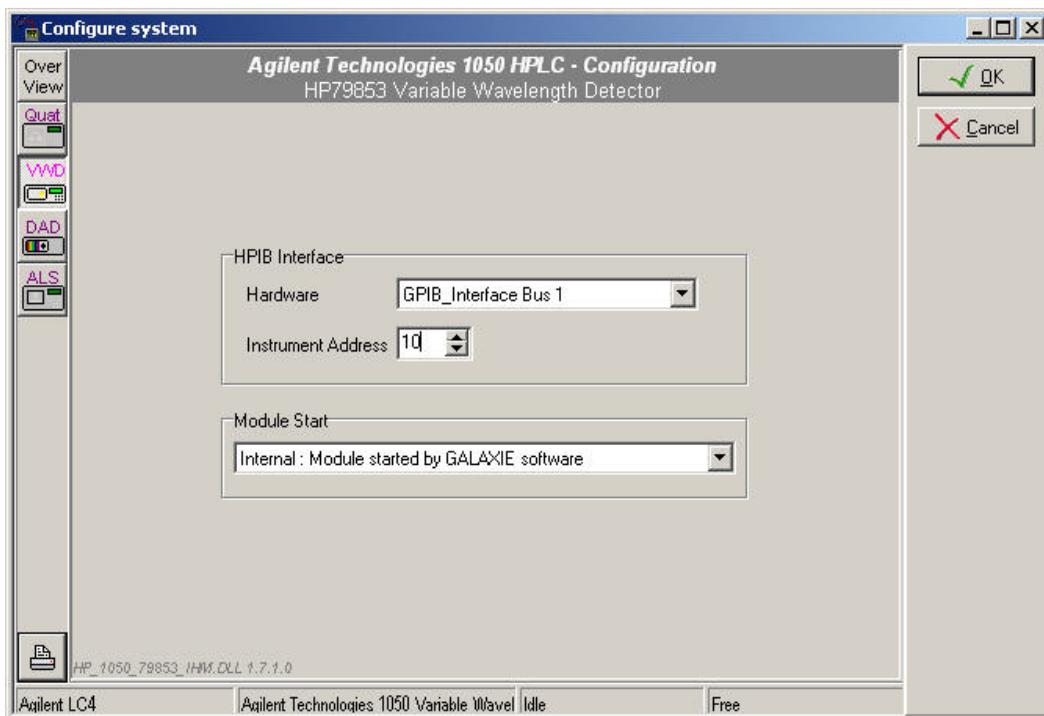


7. In the next screen, click on the *Overview* button and arrange the modules as required.
8. Press the Quaternary Pump icon. Select in the *Hardware* field the name of the GPIB Bus previously configured to which the pump is connected (GPIB_Interface bus 1). Configure the *Instrument address* number of the 1050 module This GPIB unit

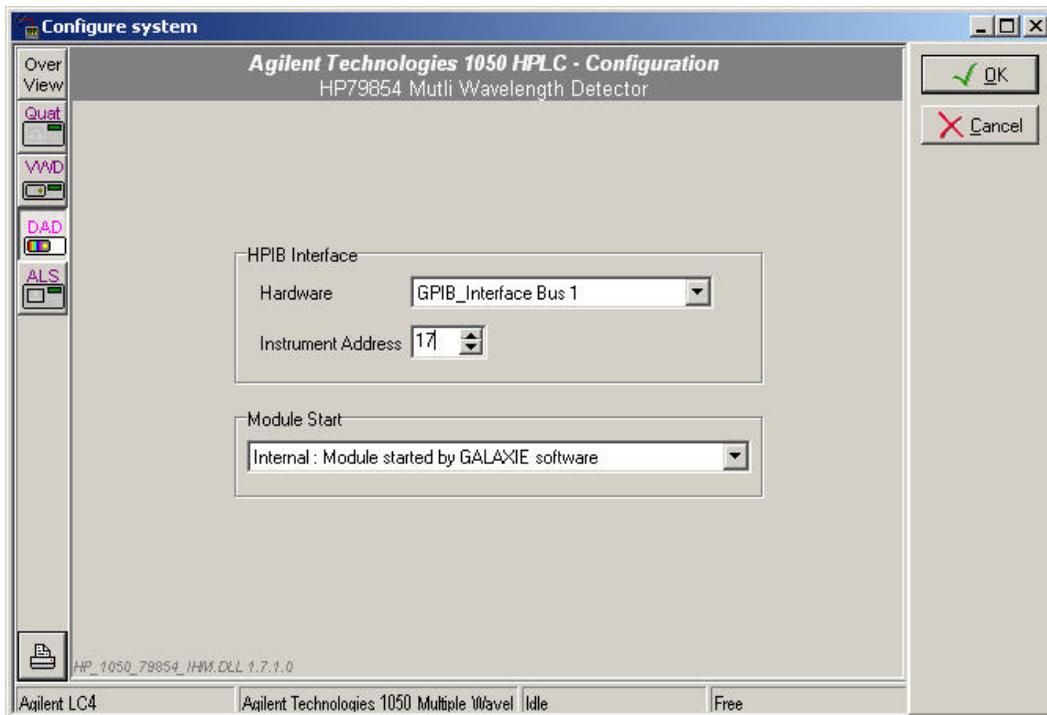
ID must be unique to each module connected to the GPIB bus and must match the one configured in the module (refer to the Agilent Technologies 1050 driver manual to configure the GPIB unit ID number). The GPIB unit must also be different from the GPIB unit ID controller. Finally in *Module Start*, select Internal: Module is started by GALAXIE software.



9. Press the VWD icon. Select in the *Hardware* field the name of the GPIB Bus previously configured to which the detector is connected (GPIB_Interface bus 1). Configure the *Instrument HPIB address* number of the 1050 module This GPIB unit ID must be unique to each module connected to the GPIB bus and must match the one configured in the module (refer to the Agilent Technologies 1050 driver manual to configure the GPIB unit ID number). The GPIB unit must also be different from the GPIB unit ID controller. Finally in *Module Start*, select Internal: Module is started by GALAXIE software.



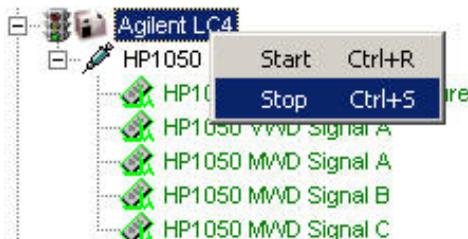
10. Press the DAD icon. Select in the *Hardware* field the name of the GPIB Bus previously configured to which the detector is connected (GPIB_Interface bus 1). Configure the *Instrument address* number of the 1050 module This GPIB unit ID must be unique to each module connected to the GPIB bus and must match the one configured in the module (refer to the Agilent Technologies 1050 driver manual to configure the GPIB unit ID number). The GPIB unit must also be different from the GPIB unit ID controller. Finally in *Module Start*, select Internal: Module is started by GALAXIE software.



11. Press the ALS icon. Select in the *Hardware* field the name of the GPIB Bus previously configured to which the detector is connected (GPIB_Interface bus 1). Configure the *Instrument address* number of the 1050 module This GPIB unit ID must be unique to each module connected to the GPIB bus and must match the one configured in the module (refer to the Agilent Technologies 1050 driver manual to configure the GPIB unit ID number). The GPIB unit must also be different from the GPIB unit ID controller.

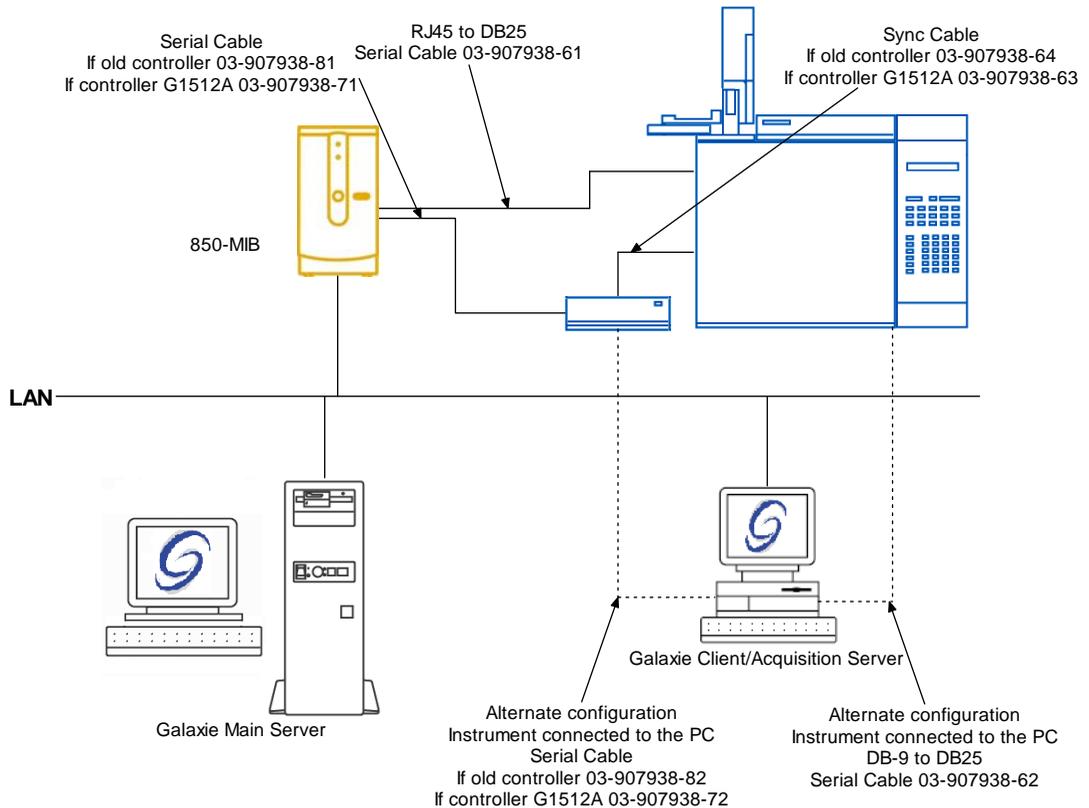


12. Click on the *OK* button to finish the configuration of the system.
13. Finally stop the system by right clicking on its name in the organization view. Then right click again and press start.



Agilent GC Systems

Example 1: Agilent 5890 with 7673 Autosampler



To configure the system shown above, please do the following steps:

1. Configure the MIB Interface on the acquisition server (refer to section MIB Interface Configuration of this manual).
2. In the **Galaxie Configuration Manager**, create a new system. The following screen will be displayed.

Edit System

System (Creating a new item)

Name: 5890-7673

Description:

Laboratory: [] Laboratories ...

Description:

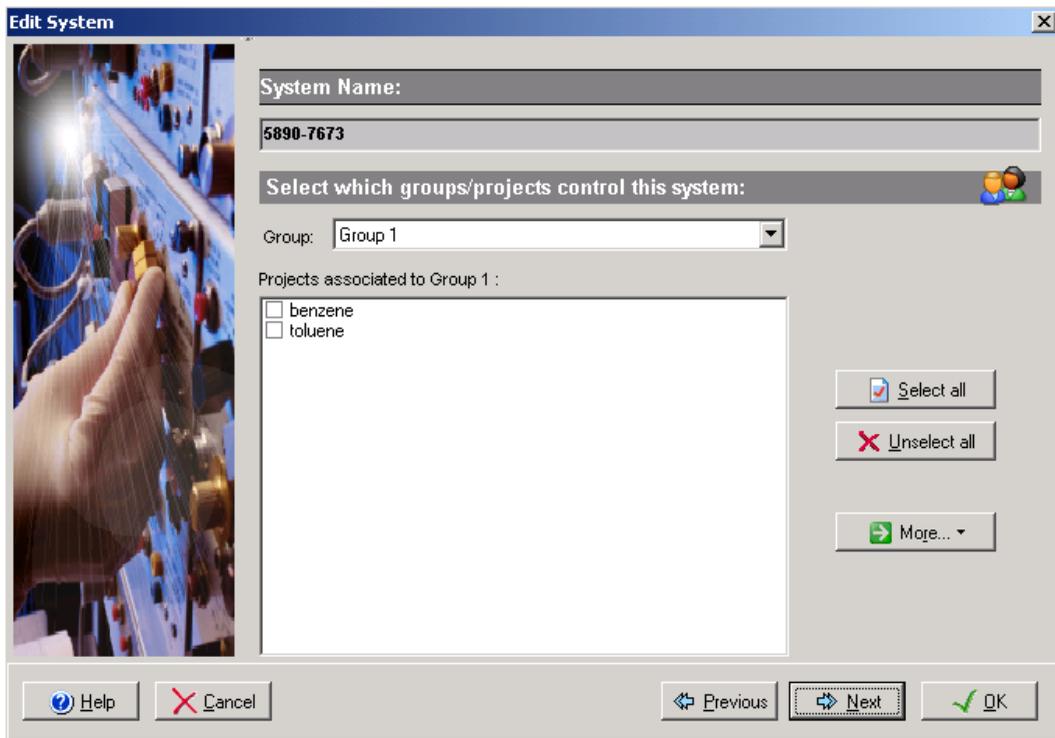
Acquisition server: SANTAMARIA Sequence server: SANTAMARIA

System locked

Help Cancel Previous Next OK

Enter the *Name* of the system, select in the *Acquisition server* and *Sequence server* the name of the acquisition server and the name of the sequence server. Then click on *Next*.

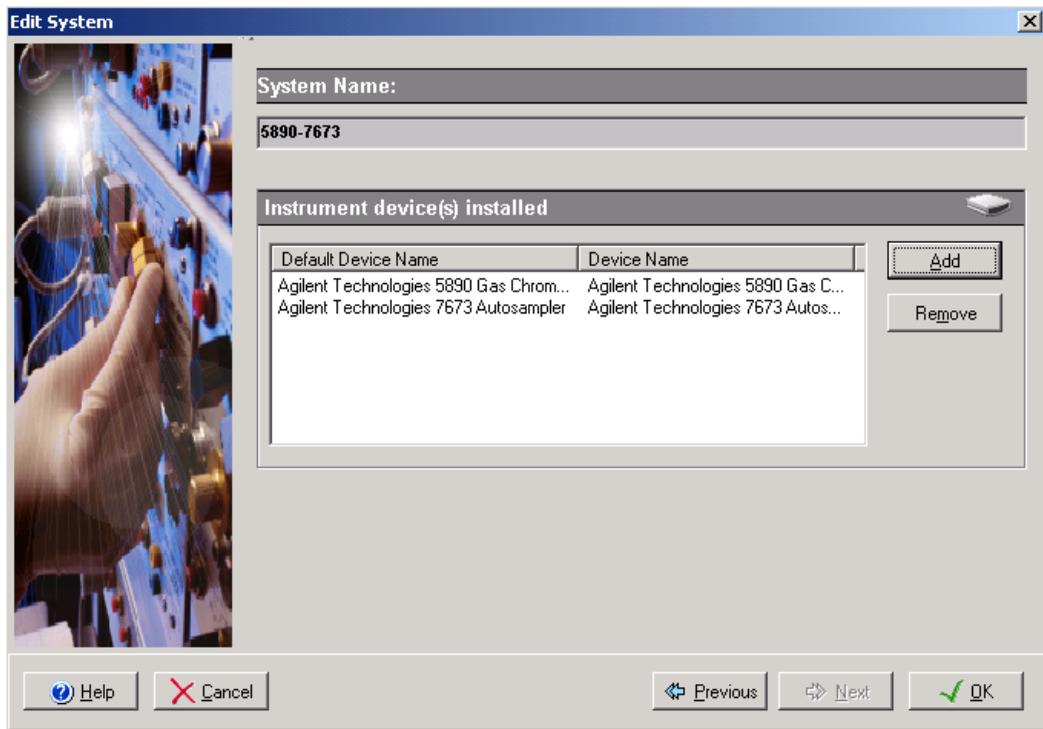
3. In the following screen associate one or more project(s) to the system and click on *Next*. If no groups/projects are defined, click on *Next*.



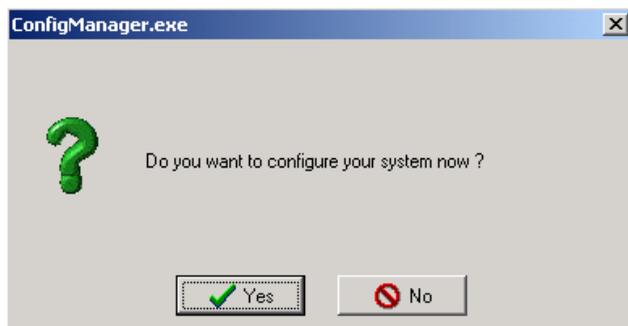
4. To configure that system, it is mandatory to install two devices:

1. Agilent Technologies 5890 Gas Chromatograph
2. Agilent Technologies 7673 Autosampler

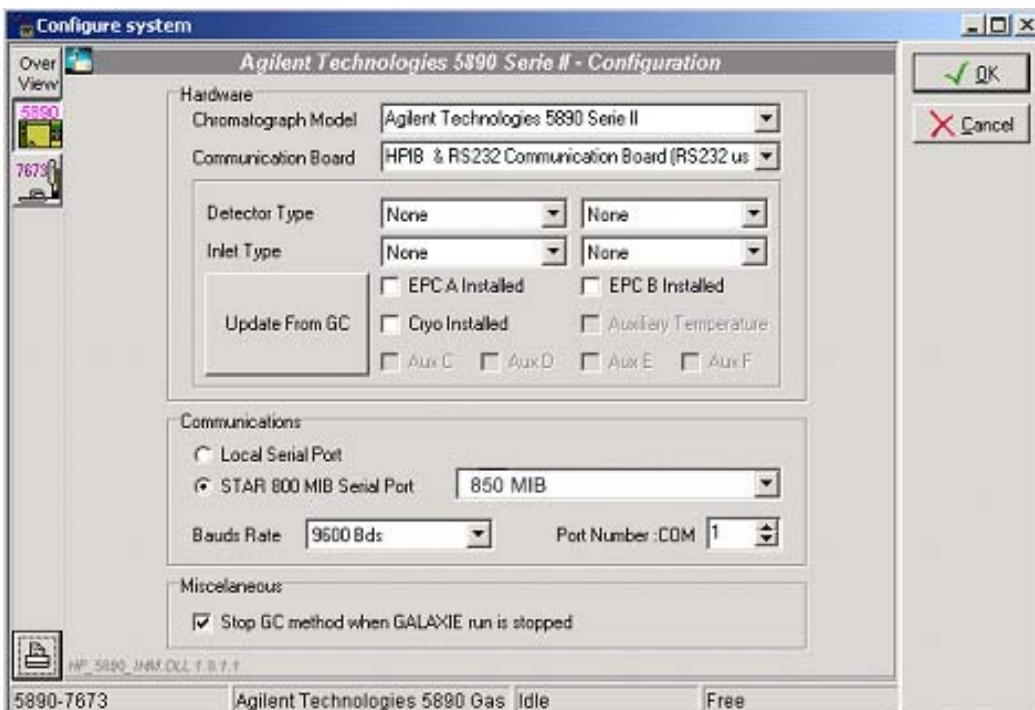
Click on the *Add* button, select in the *Device Type* list Agilent Technologies 5890 Gas Chromatograph and press *OK*. Repeat the same operation for the rest of the required devices. When the two devices have been added the screen should be as below.



5. Click on the *OK* button and answer Yes to the question: "Do you want to configure your system now?"



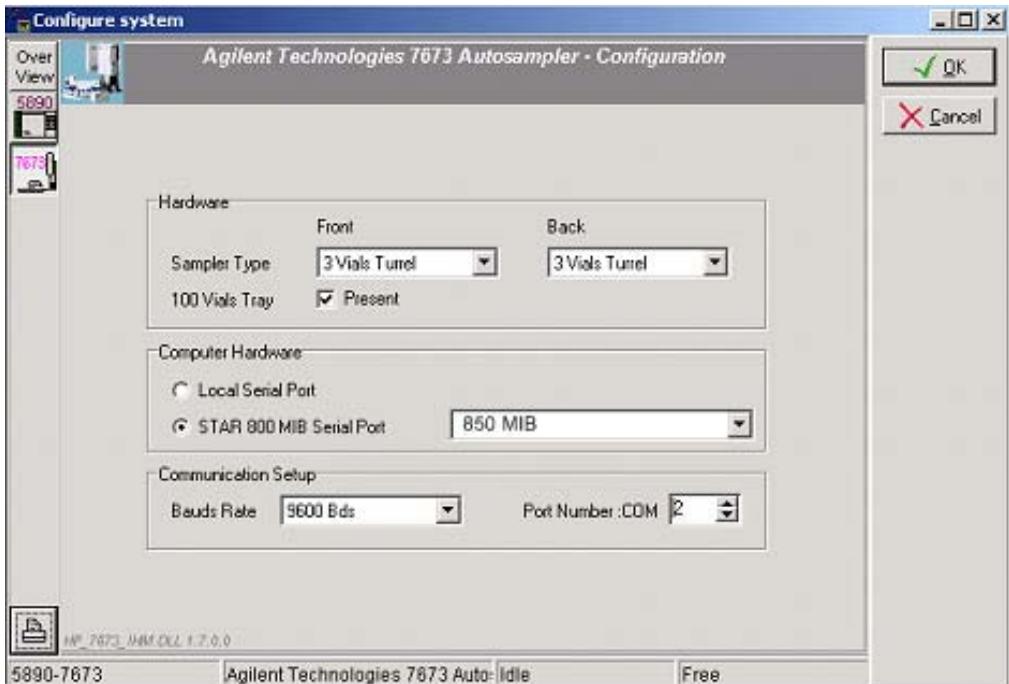
6. Press the 5890 icon, the following screen will be displayed.



Select in the *Chromatograph Model* list the type the 5890. In the *Communication board* field, it is mandatory to select HPIB&RS232 Communication Board. Select also which type of inlets and detectors are present in the GC.

Finally in the *Communications* group parameters, select the *Star 800 MIB serial port*, and in the dropdown list select the MIB Interface previously configured. Set the communication *Baud Rate* and enter in the *Port Number* field, the port number of the where the 5890 is connected to.

7. Press the 7673 autosampler icon, the following screen should appear.



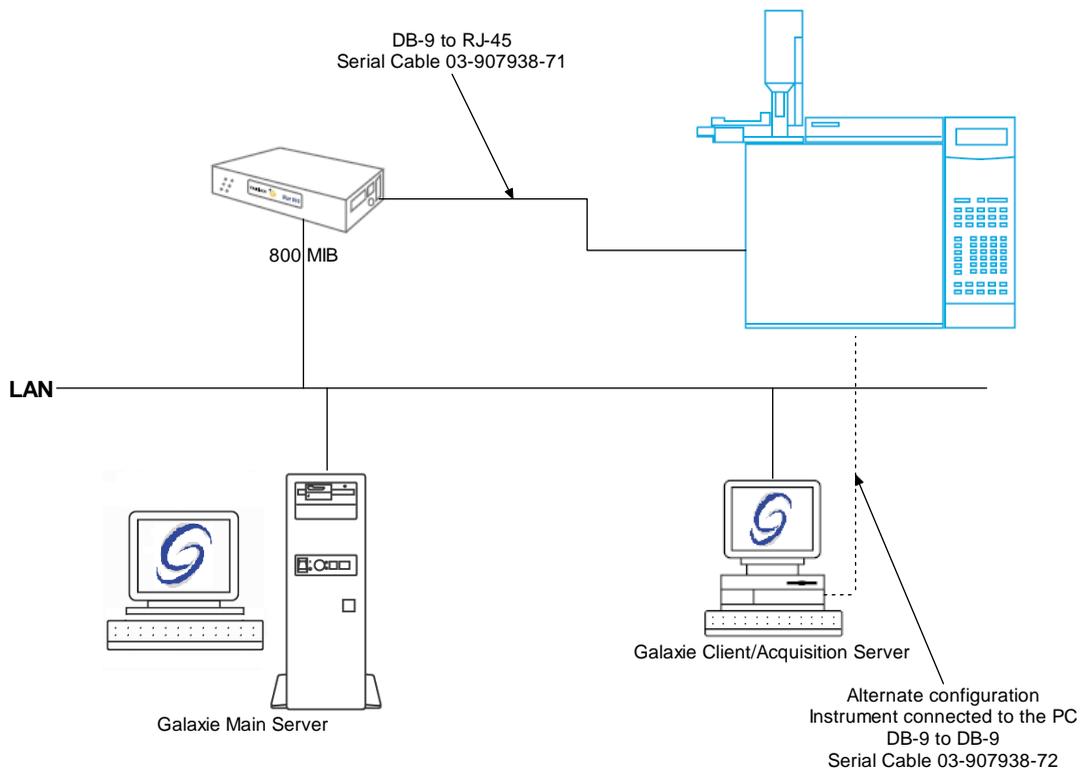
In the Hardware parameter group, select if the autosampler is installed on the front or/and back *inlet* and if the *100 vial Tray* option is present.

Finally in the *Computer Hardware* and *Communication Setup* group parameters, select the *Star 800 MIB serial port* and in the dropdown list select the MIB Interface previously configured. Set the communication *Bauds Rate* and enter the port number of the (where the 7673 is connected to) in the *Port Number* field.

8. Click on the OK button to finish the configuration of the system.
9. Finally stop the system by right clicking on its name in the organization view. Then right click again and press start.



Example 2: Agilent 6890 GC with 7673 Autosampler in Serial communication mode



To configure the system shown above please do the following steps:

1. Configure the MIB Interface on the acquisition server (refer to section *MIB Interface Configuration* of this manual).
2. In the **Galaxie Configuration Manager**, create a new system. The following screen will be displayed.

Edit System

System (Creating a new item)

Name: 6890-7673

Description:

Laboratory: [Dropdown] Laboratories ...

Description:

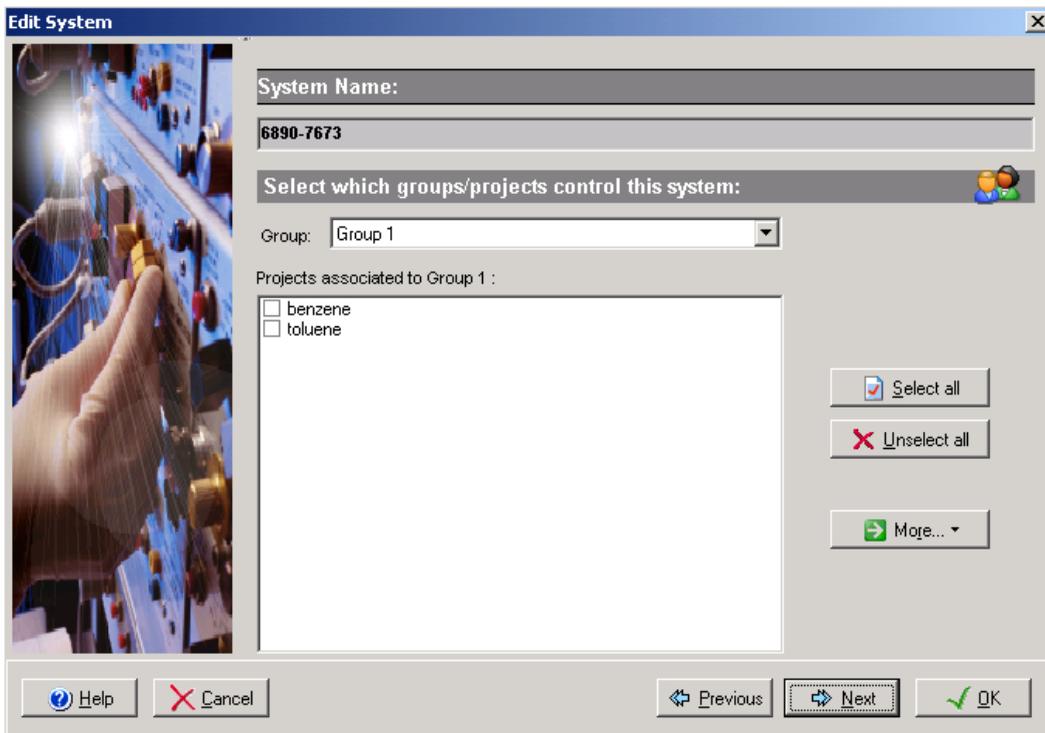
Acquisition server: SANTAMARIA Sequence server: SANTAMARIA

System locked

Help Cancel Previous Next OK

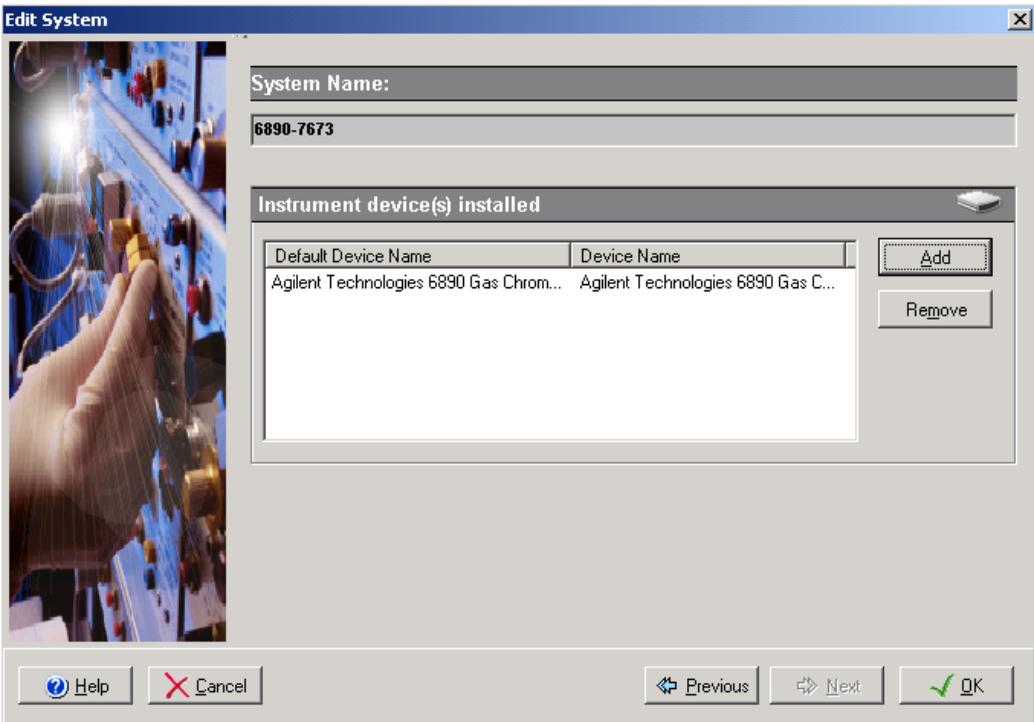
Enter the *Name* of the system, select in the *Acquisition server* and *Sequence server* the name of the acquisition server and the name of the sequence server. Then click on *Next*.

3. In the following screen associate one or more project(s) to the system and click on *Next*. If no groups/projects are defined, click on *Next*.



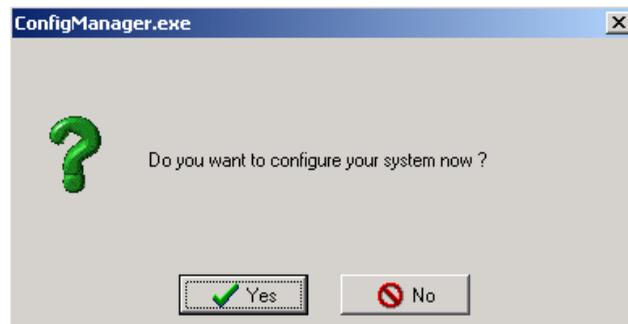
4. To configure that system, it is mandatory to install one device:
 1. Agilent Technologies 6890 Gas Chromatograph

Click on the *Add* button, select in the *Device Type* list Agilent Technologies 6890 Gas Chromatograph and press *OK*. When the device has been added the screen should be as below.

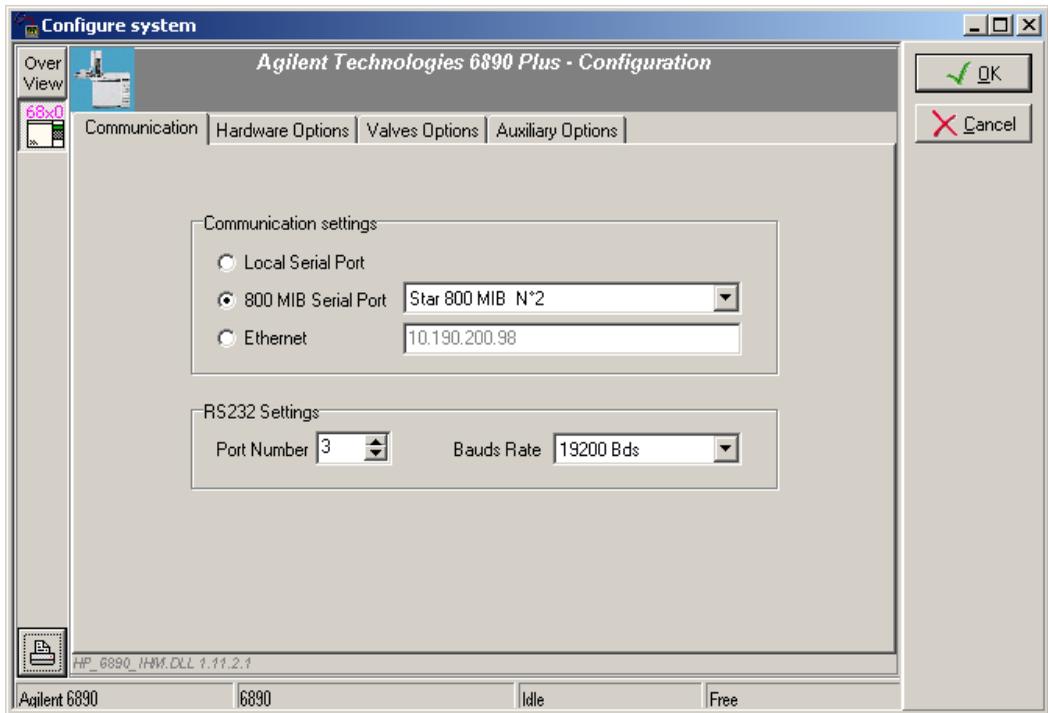


Please note that even if the GC is equipped with a 7673 autosampler, only the 6890 device must be added as the 6890 gas chromatograph controls the autosampler.

5. Click on the *OK* button and answer *Yes* to the question: "Do you want to configure your system now?"

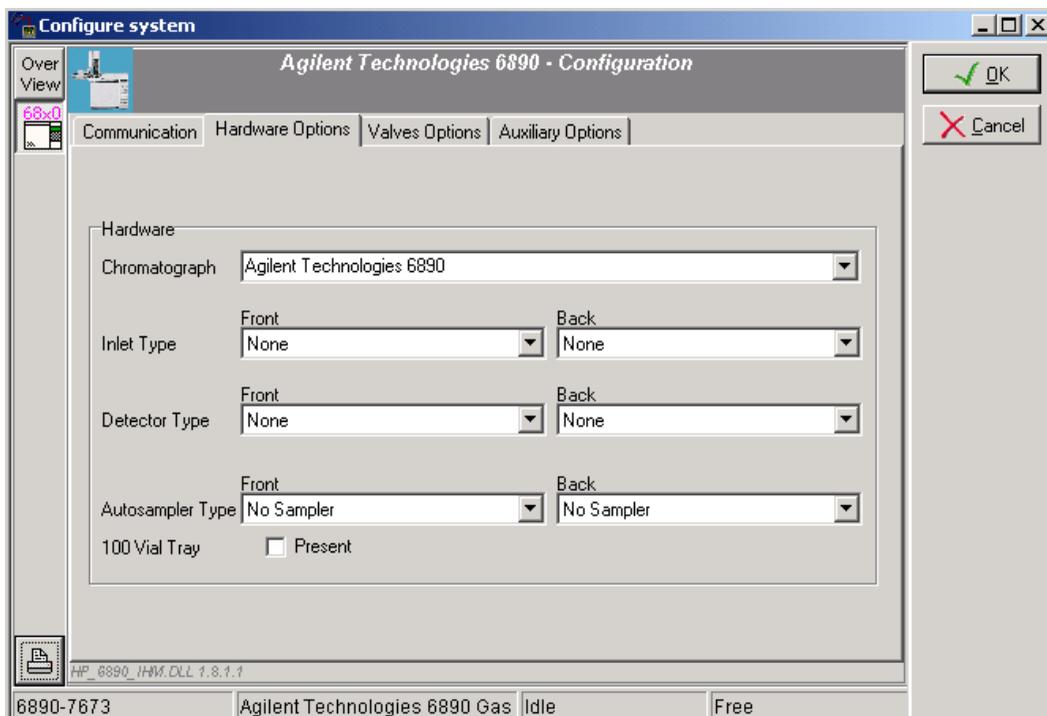


6. Press the 68x0 icon and click on the *Communication* tab, the following screen will be displayed.



9. Select *800 MIB serial port* and in the dropdown list, select the MIB Interface previously configured. Set the communication *Bauds Rate* and enter in the *Port Number* field, the port number of the where the 6890 is connected to. To find the baud rate of the GC refer to the *Agilent 6890 GC Control Manual*.

7. Click on the *Hardware Options* tab, the following screen will be displayed.

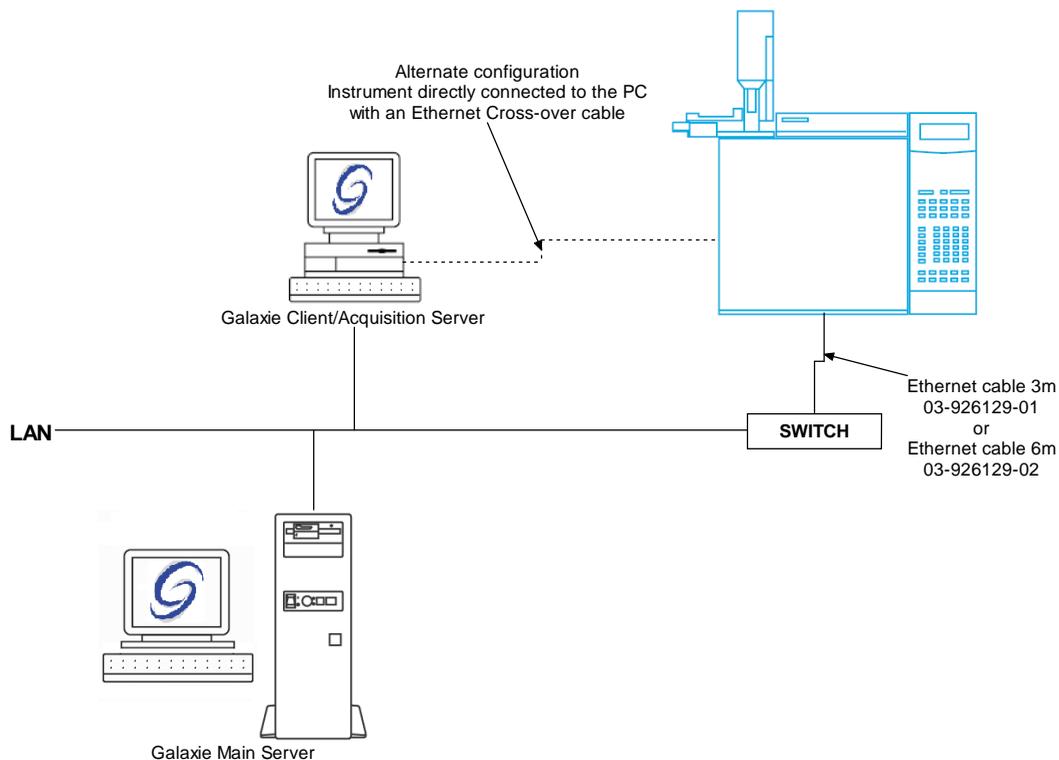


In this screen, select the *Chromatograph* model, the *inlet type*, the *detector type* and the *autosampler type* if present. If the GC is equipped with Valves or Auxiliary modules click on the appropriate tab to configure them (refer to the *Agilent 6890 GC control manual* for more details).

8. Click on the *OK* button to finish the configuration of the system.
9. Finally stop the system by right clicking on its name in the organization view. Then right click again and press start.



Example 3: Agilent 6890 GC with 7673 Autosampler in Ethernet communication mode



To configure the system shown above please do the following steps:

1. Setup the BOOTP server to give the Agilent 6890 GC an IP address (refer to section *BOOTP Configuration* of this manual). It is possible to give a fixed IP address to the GC, for more information, refer to the *Agilent 6890 GC Control Manual*.
2. In the **Galaxie Configuration Manager**, create a new system. The following screen will be displayed.

Edit System

System (Creating a new item)

Name: 6890-7673

Description:

Laboratory: [Dropdown] Laboratories ...

Description:

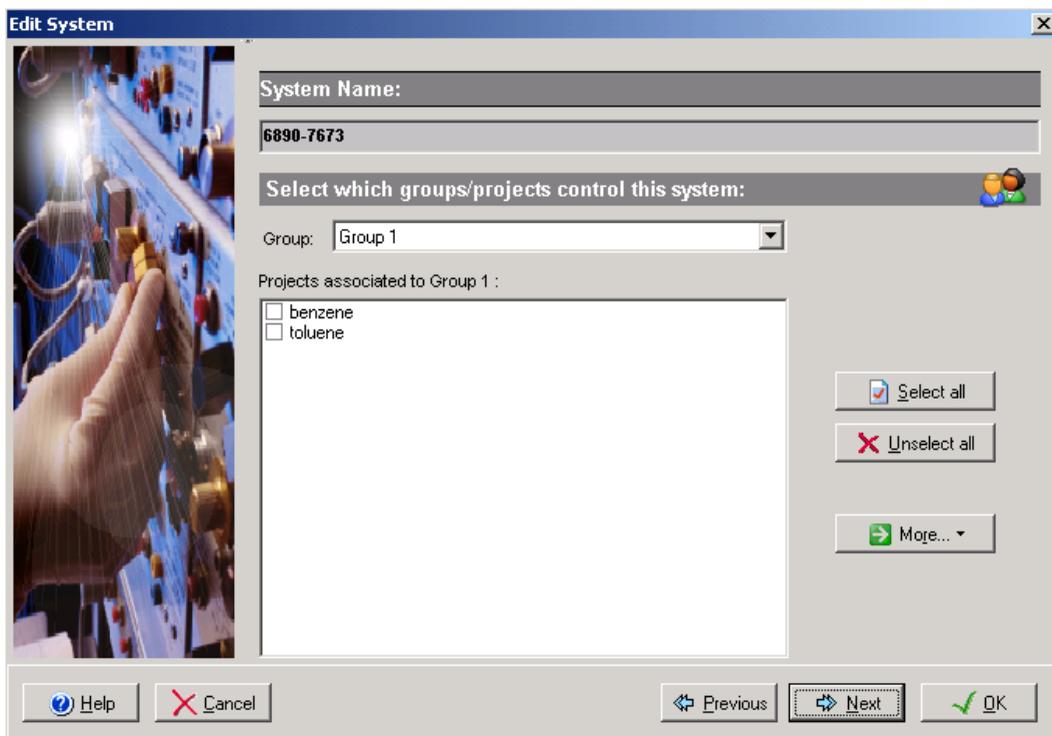
Acquisition server: SANTAMARIA Sequence server: SANTAMARIA

System locked

Help Cancel Previous Next OK

Enter the *Name* of the system, select in the *Acquisition server* and *Sequence server* the name of the acquisition server and the name of the sequence server. Then click on *Next*.

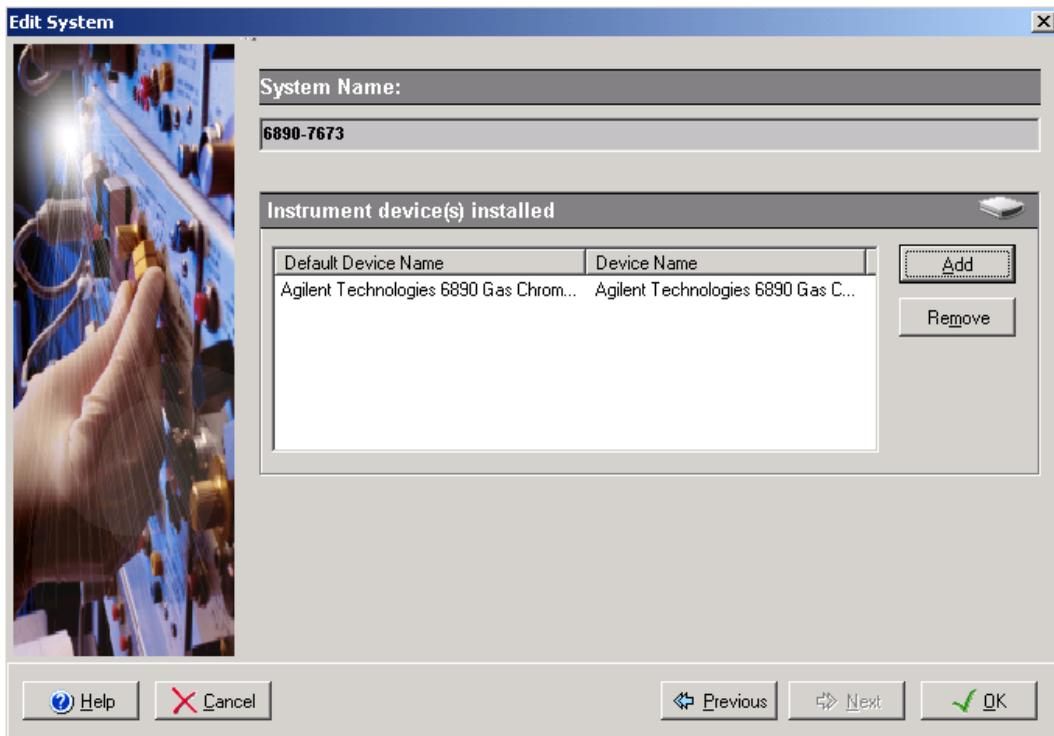
3. In the following screen associate one or more project(s) to the system and click on *Next*. If no groups/projects are defined, click on *Next*.



4. To configure that system, it is mandatory to install one device:

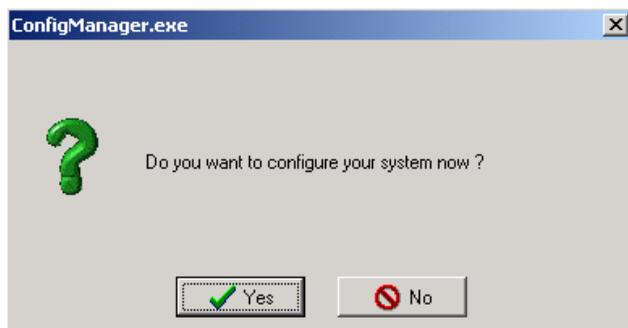
1. Agilent Technologies 6890 Gas Chromatograph

Click on the *Add* button, select in the *Device Type* list Agilent Technologies 6890 Gas Chromatograph and press *OK*. When the device has been added the screen should be as below.

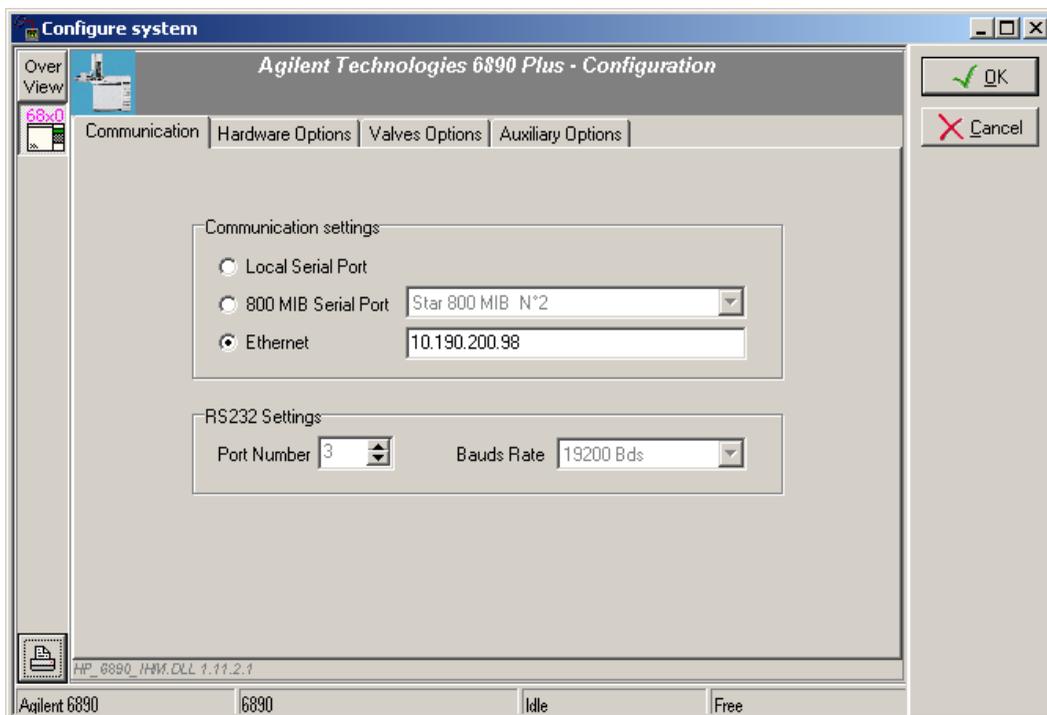


Please note that even if the GC is equipped with a 7673 autosampler, only the 6890 device must be added as the 6890 gas chromatograph controls the autosampler.

- Click on the *OK* button and answer *Yes* to the question: "Do you want to configure your system now?"

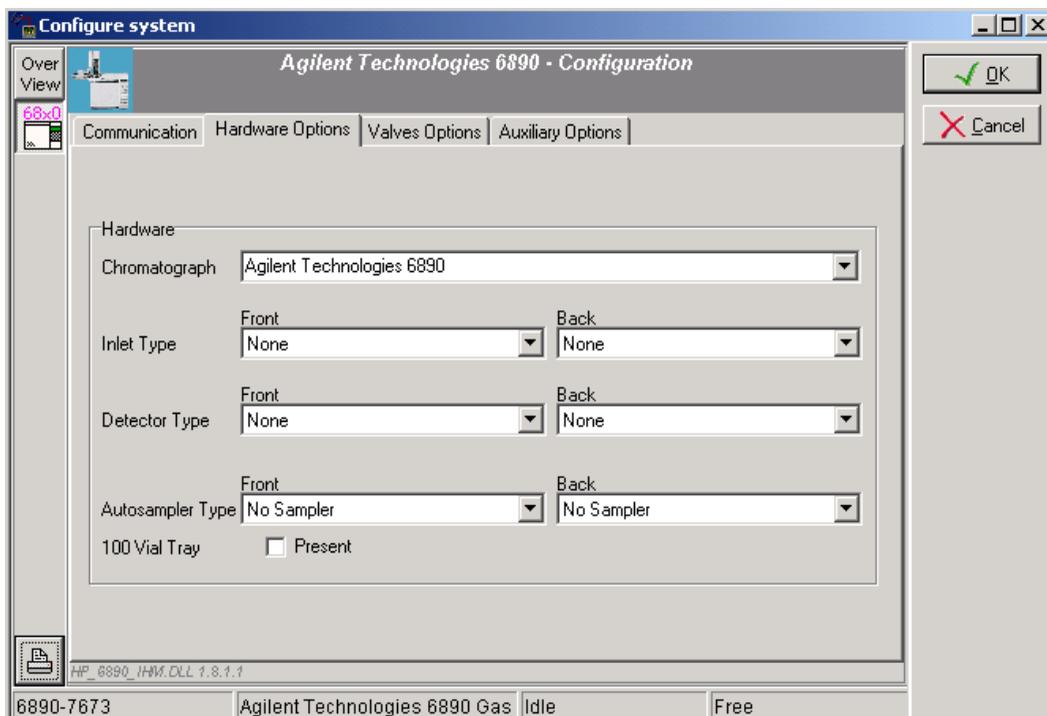


- Press the 68x0 icon and click on the *Communication* tab, the following screen will be displayed.



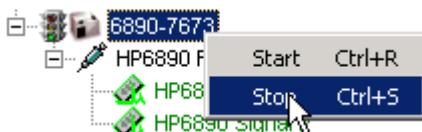
Select *Ethernet* and type the IP address of the GC in the corresponding field.

7. Click on the *Hardware Options* tab, the following screen will be displayed.

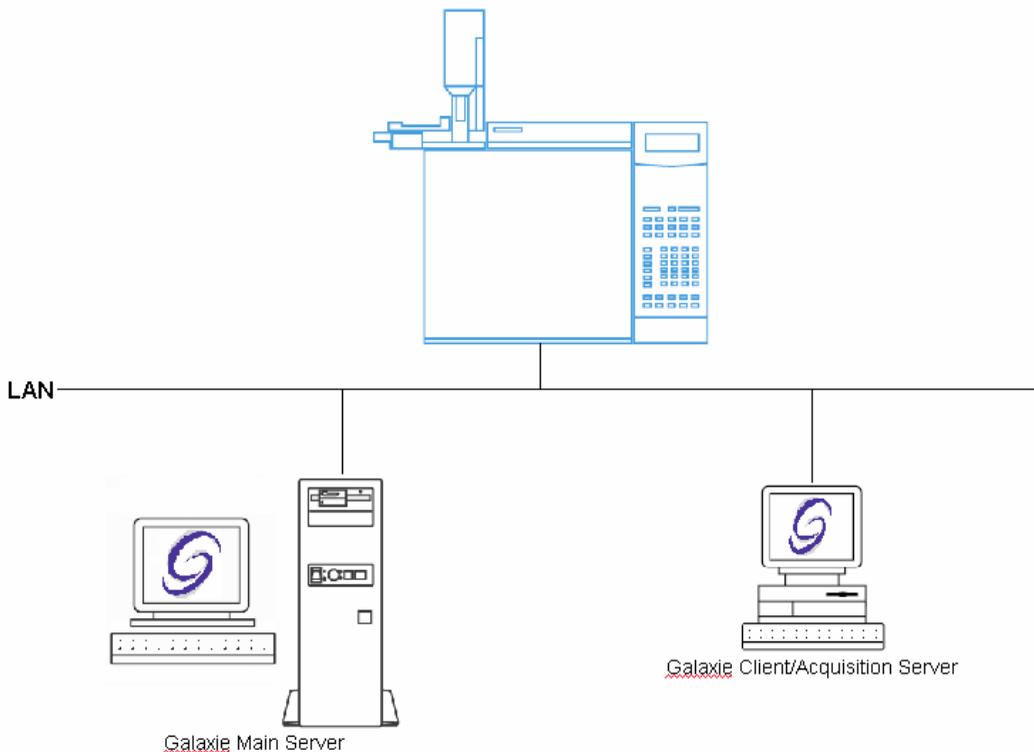


In this screen, select the *Chromatograph* model, the *inlet type*, the *detector type* and the *autosampler type* if present. If the GC is equipped with Valves or Auxiliary modules click on the appropriate tab to configure them (refer to the *Agilent 6890 GC Control Manual* for more details).

8. Click on the *OK* button to finish the configuration of the system.
9. Finally stop the system by right clicking on its name in the organization view. Then right click again and press start.



Example 4: Agilent 7890 GC with 7683 Autosampler in Ethernet communication mode



To configure the system shown above please do the following steps:

1. Setup the BOOTP server to give the Agilent 7890 GC an IP address (refer to section *BOOTP Configuration* of this manual). It is possible to give a fixed IP address to the GC, for more information, refer to the *Agilent 7890 GC Control Manual*.
2. In the **Galaxie Configuration Manager**, create a new system. The following screen will be displayed.

Edit System

System (Properties edition)

Name: 7890-7683

Description: [Empty text area with cursor]

Laboratory: [Dropdown menu] Laboratories ...

Description: [Greyed-out field]

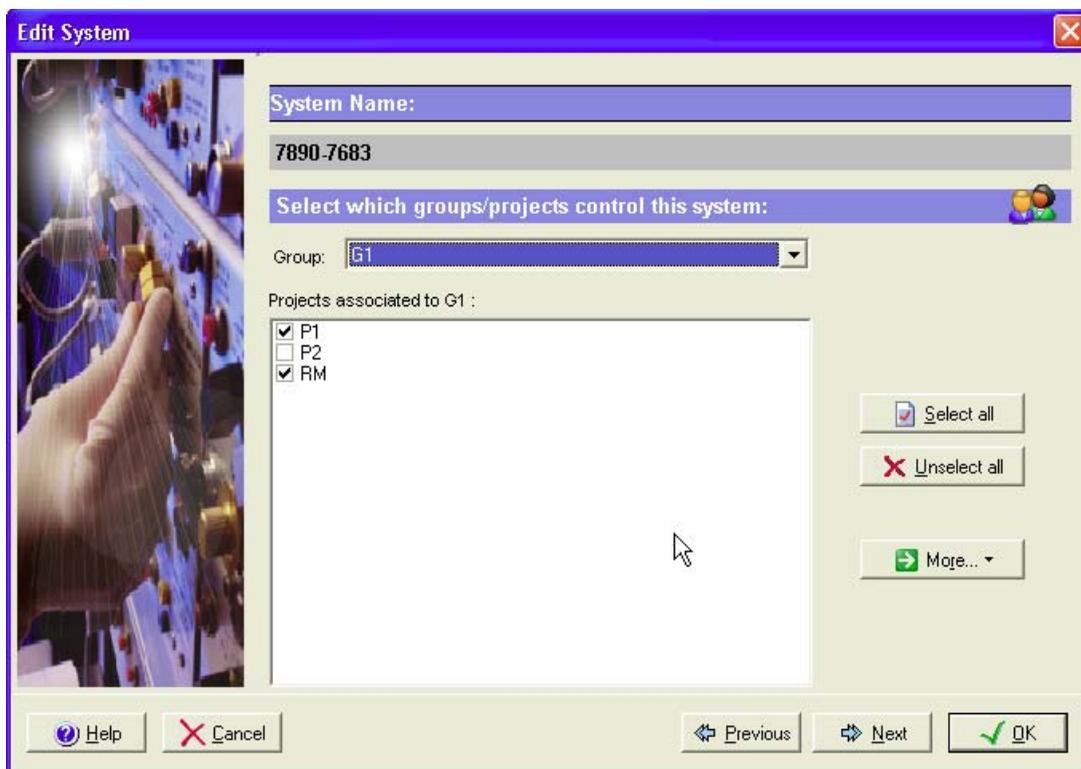
Acquisition server: FRFONw000008 Sequence server: FRFONw000008

System locked

Help Cancel Previous Next OK

Enter the *Name* of the system, select in the *Acquisition server* and *Sequence server* the name of the acquisition server and the name of the sequence server. Then click on *Next*.

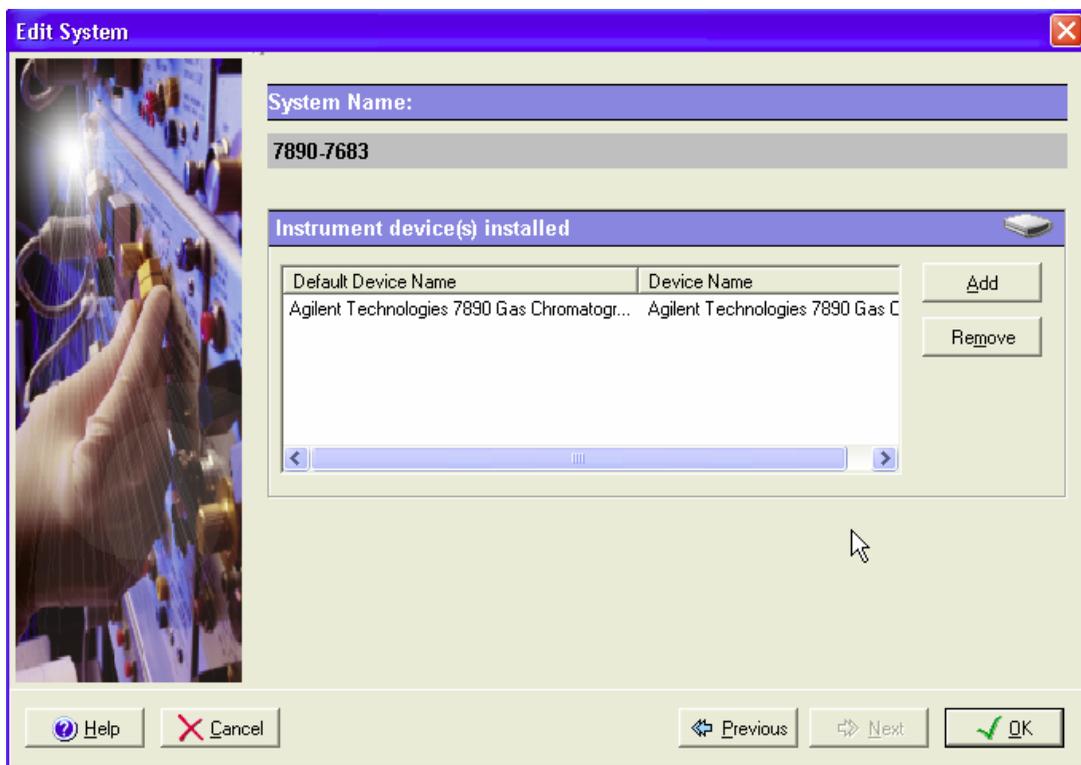
3. In the following screen associate one or more project(s) to the system and click on *Next*. If no groups/projects are defined, click on *Next*.



4. To configure that system, it is mandatory to install one device:

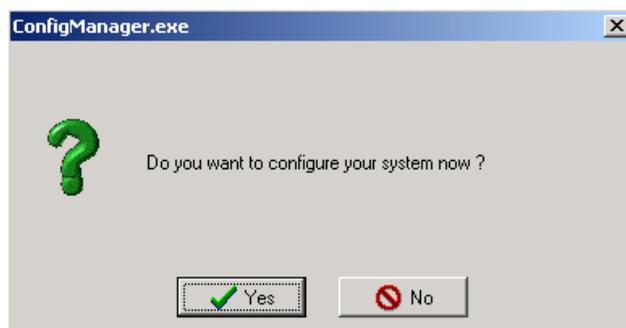
Agilent Technologies 7890 Gas Chromatograph

Click on the *Add* button, select in the *Device Type* list Agilent Technologies 7890 Gas Chromatograph and press *OK*. When the device has been added the screen should be as below.

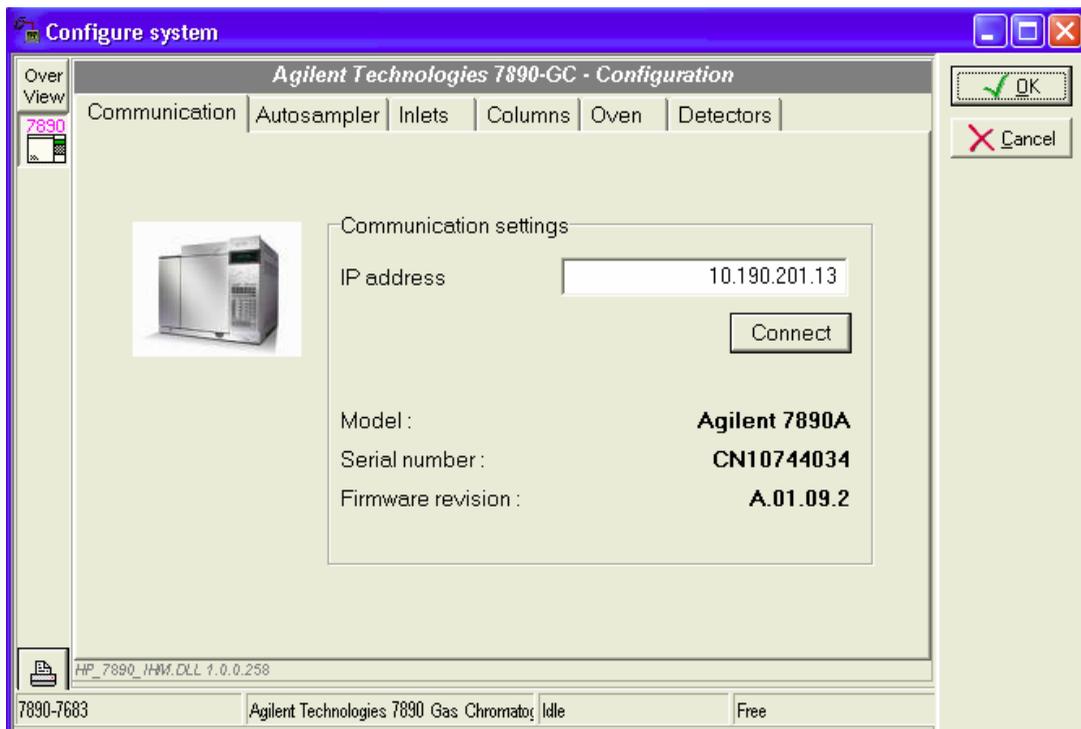


Please note that even if the GC is equipped with a 7683 autosampler, only the 7890 device must be added as the 7890 gas chromatograph controls the autosampler.

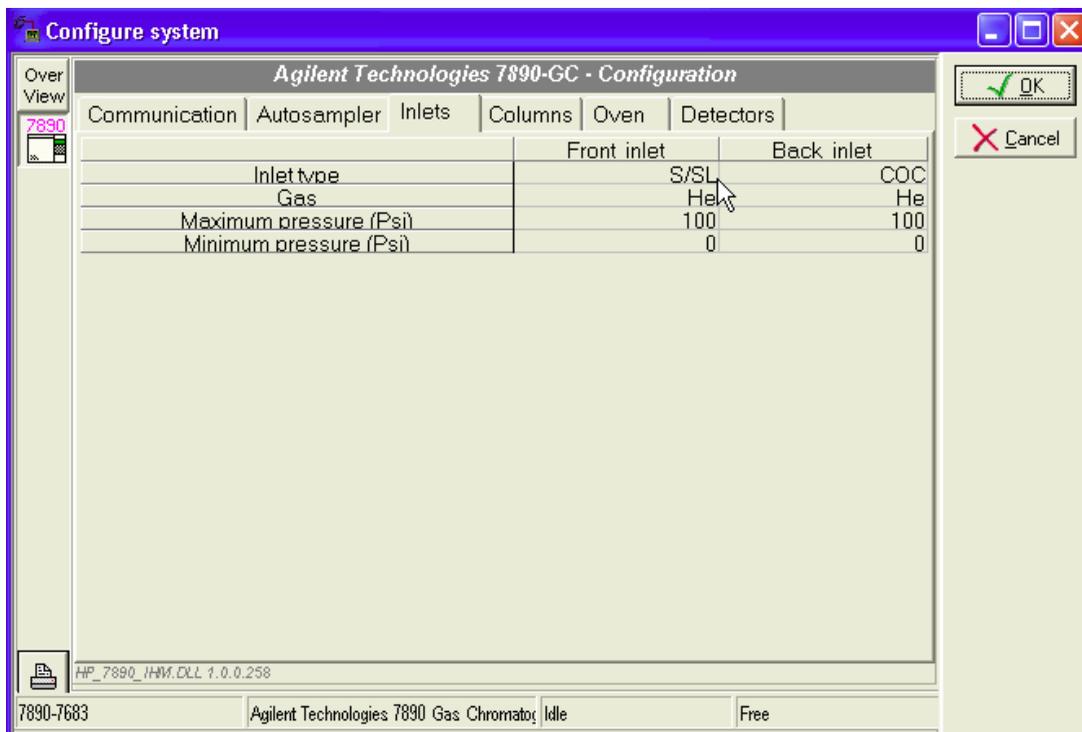
5. Click on the *OK* button and answer *Yes* to the question: "Do you want to configure your system now?"



6. In the *Communication* tab, define the GC IP address and press *Connect*:



7. The GC configuration (inlet types, detector types ...) is automatically uploaded from the instrument.

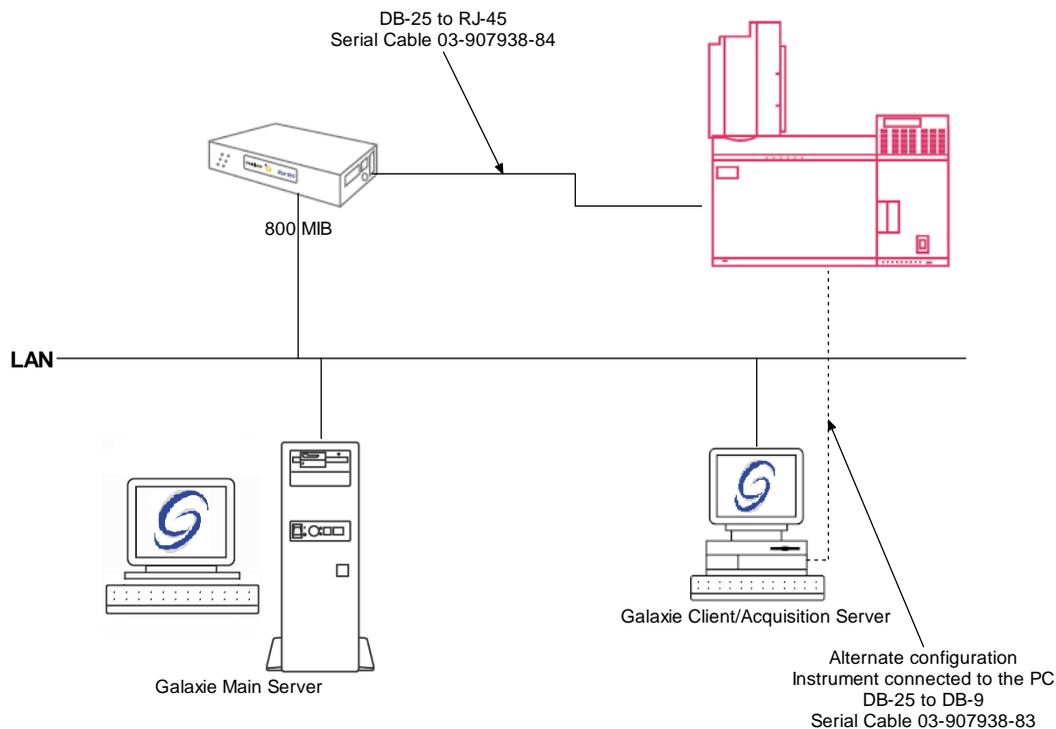


8. Click on the *OK* button to finish the configuration of the system.
9. Finally stop the system by right clicking on its name in the organization view. Then right click again and press start.



PerkinElmer GC Systems

Example 1: PerkinElmer Autosystem with Autosampler



To configure the system shown above, please do the following steps:

1. Configure the MIB Interface on the acquisition server (refer to section *MIB Interface Configuration* of this manual).
2. In the **Galaxie Configuration Manager**, create a new system. The following screen will be displayed.

Edit System

System (Creating a new item)

Name: PE Autosystem

Description:

Laboratory: [] Laboratories ...

Description:

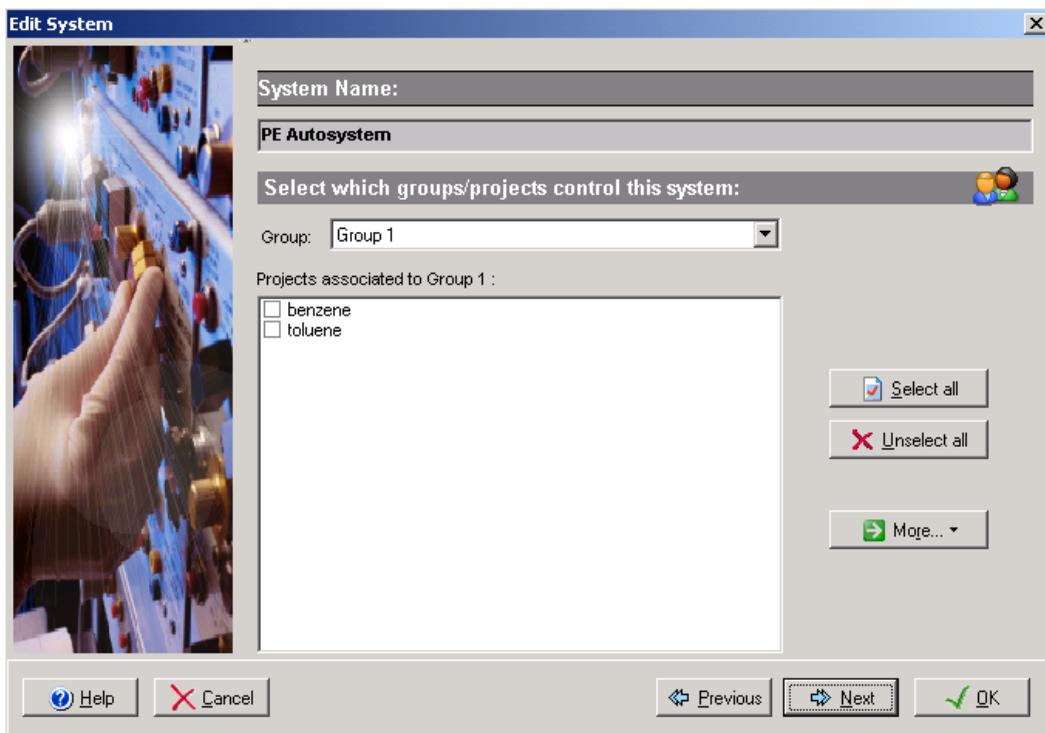
Acquisition server: SANTAMARIA Sequence server: SANTAMARIA

System locked

Help Cancel Previous Next OK

Enter the *Name* of the system, select in the *Acquisition server* and *Sequence server* the name of the acquisition server and the name of the sequence server. Then click on *Next*.

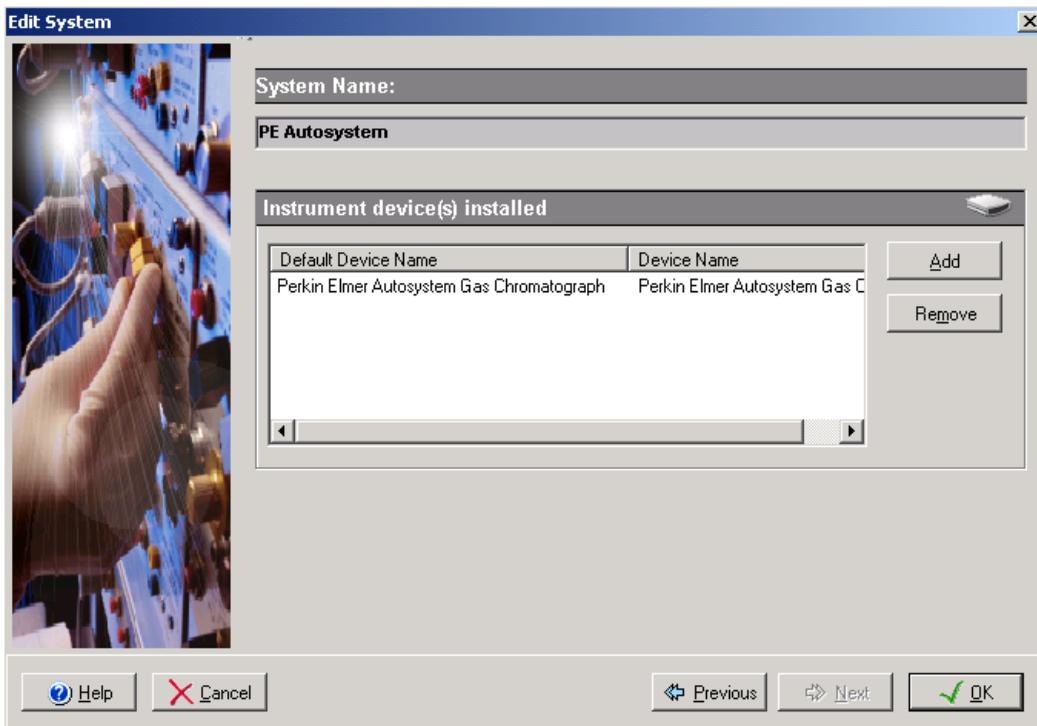
3. In the following screen associate one or more project(s) to the system and click on *Next*. If no groups/projects are defined, click on *Next*.



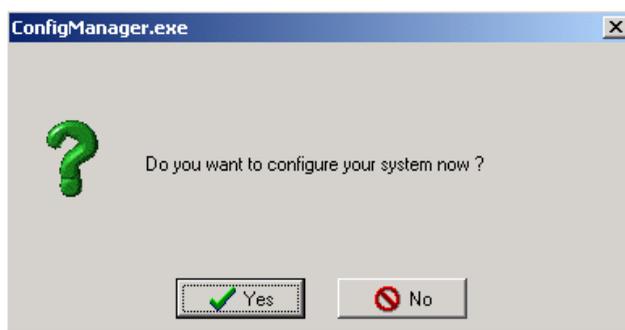
4. To configure that system, it is mandatory to install one device:

1. PerkinElmer Autosystem Gas Chromatograph

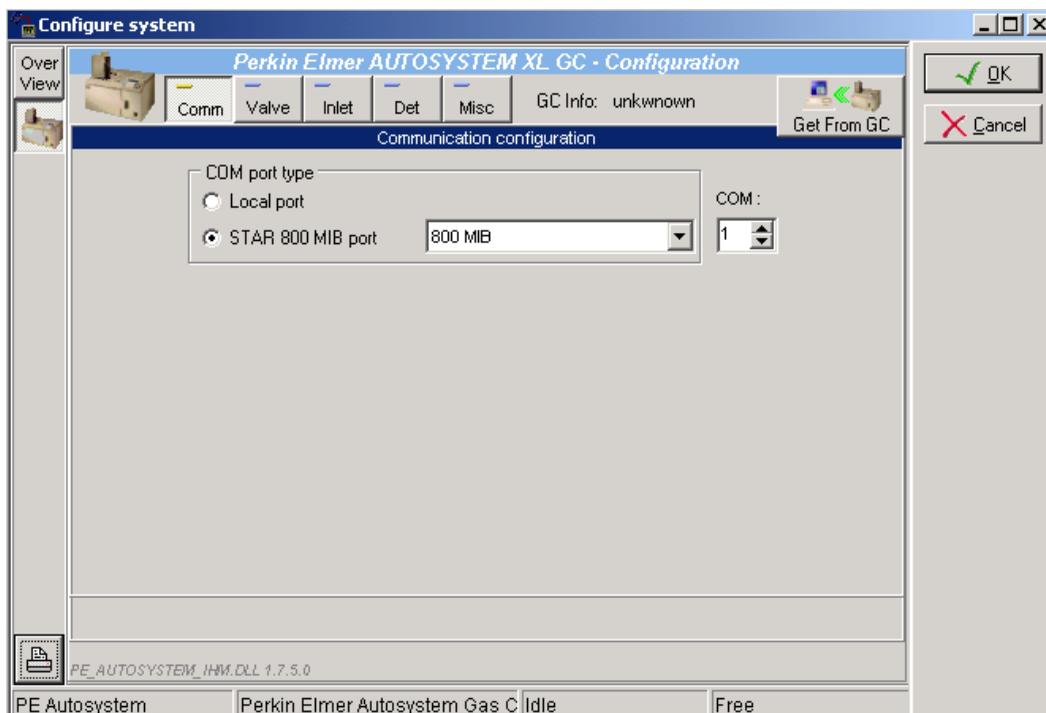
Click on the *Add* button, select in the *Device Type* list PerkinElmer Gas Chromatograph and press *OK*. When the device has been added the screen should be as below.



5. Click on the *OK* button and answer *Yes* to the question: "Do you want to configure your system now?"



6. Press the PerkinElmer Autosystem icon, the following screen will be displayed.



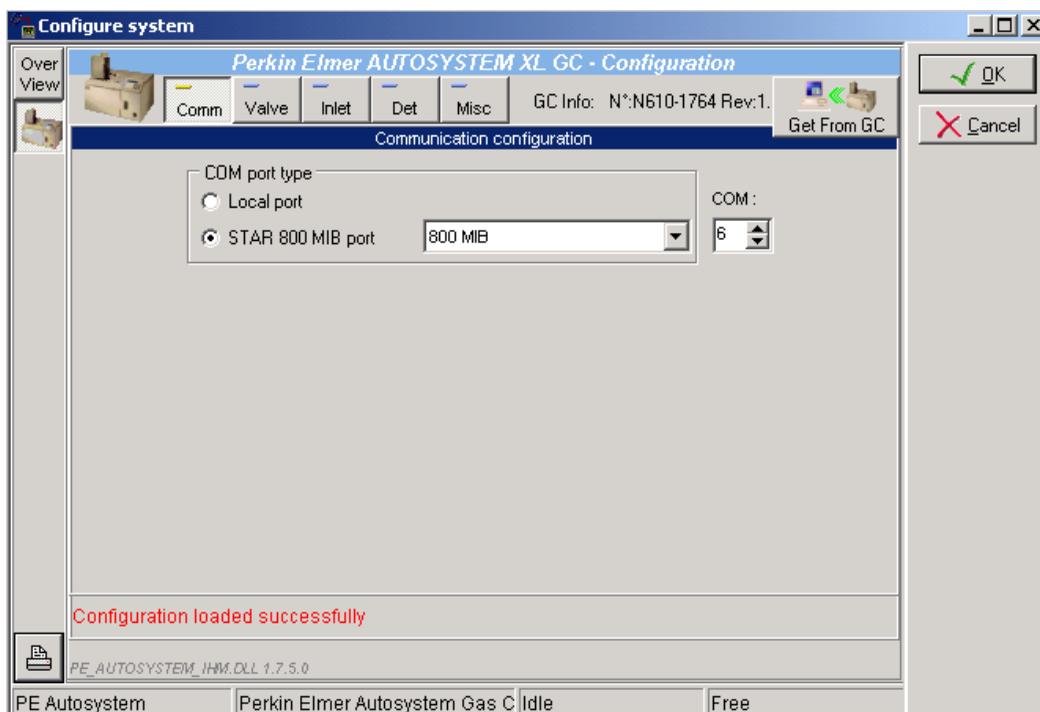
Select *STAR 800 MIB port* and in the dropdown list select the MIB Interface previously configured. Enter in the *COM* field, the port number of the MIB Interface where the autosystem is connected to. Do not press the *Get from GC* button now.

7. Click on the *OK* button to close the configuration of the system.
8. Stop the system by right clicking on its name in the organization view.



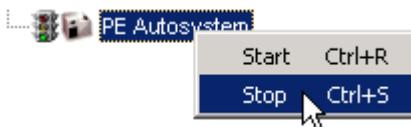
9. Edit the system again and click *Ok* to configure it. Then click on the autosystem icon.

Press now the *Get from GC* button. This will upload the configuration of the GC. When it is done, the firmware revision of the GC and a message "Configuration loaded successfully" will be displayed (see following screen).

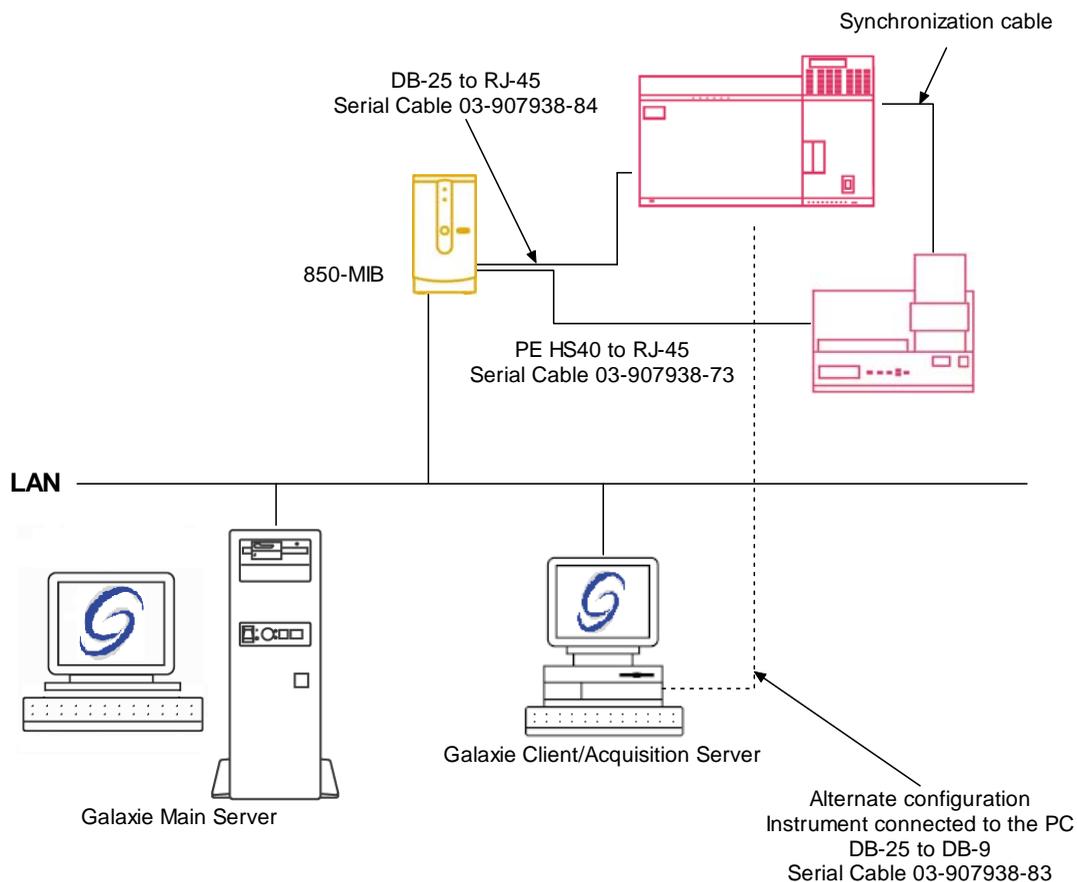


10. Click on the *OK* button to finish the configuration of the system.

11. Finally stop the system by right clicking on its name in the organization view. Then right click again and press start.



Example 2: PerkinElmer Autosystem with HS40

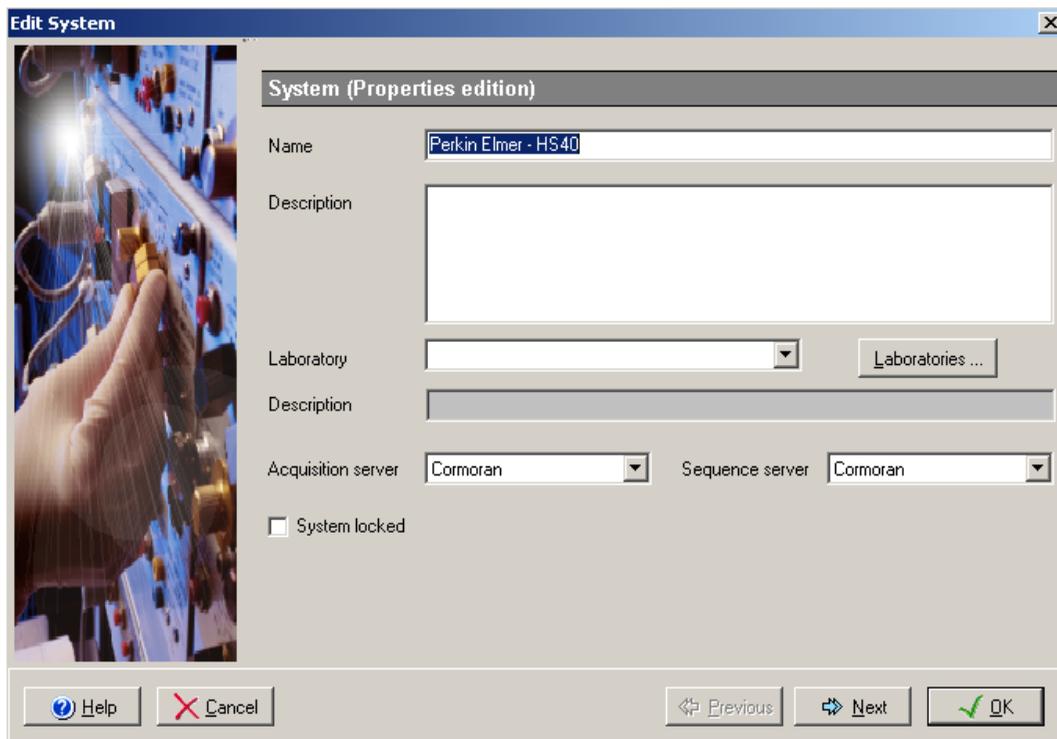


To configure the system shown above, please do the following steps:

1. Configure the MIB Interface on the acquisition server (refer to section *Star 800J MIB configuration* of this manual).
2. In the **Galaxie Configuration Manager**, create a new system. The following screen will be displayed.

Enter the *Name* of the system, select in the *Acquisition server* and *Sequence server* the name of the acquisition server and the name of the sequence server. Then click on *Next*.

3. In the following screen associate one or more project(s) to the system and click on *Next*. If no groups/projects are defined, click on *Next*.



Edit System

System (Properties edition)

Name:

Description:

Laboratory:

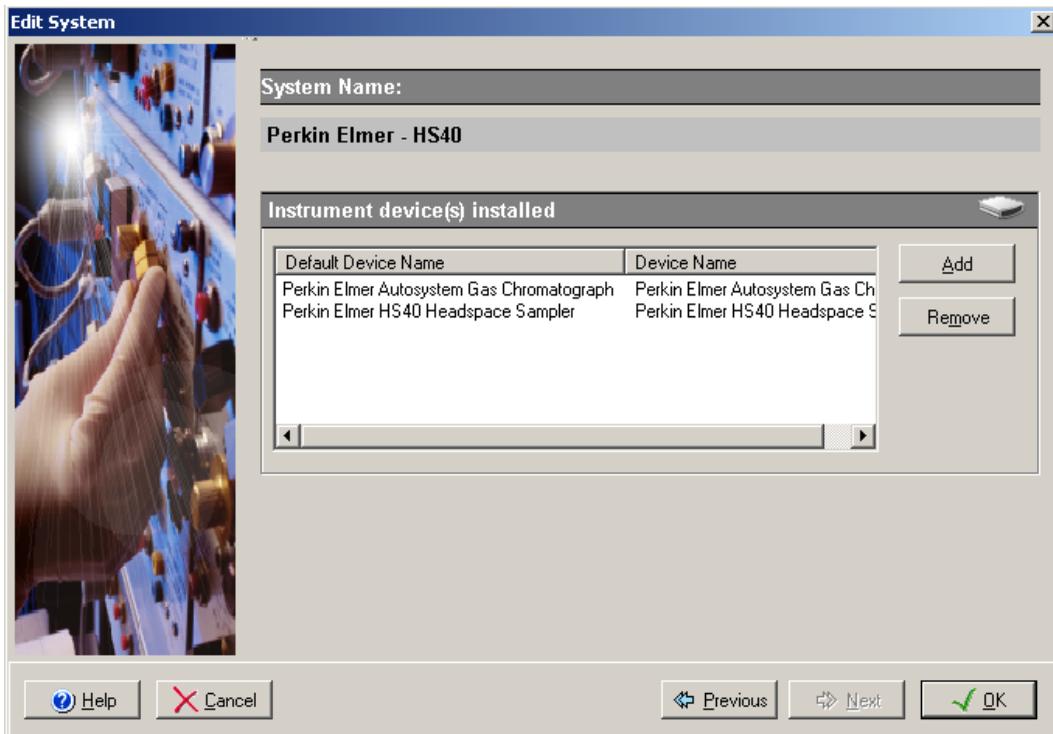
Description:

Acquisition server: Sequence server:

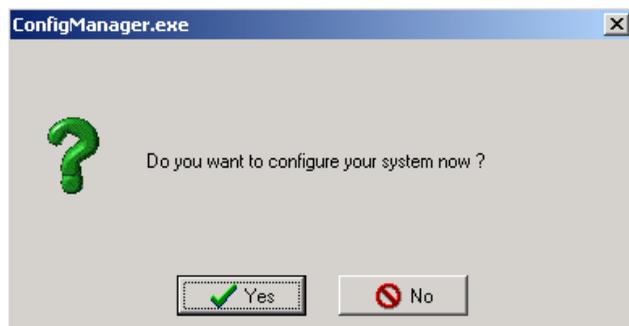
System locked

4. To configure that system, it is mandatory to install 2 devices:
 2. PerkinElmer Autosystem Gas Chromatograph
 3. PerkinElmer HS40 Headspace sampler

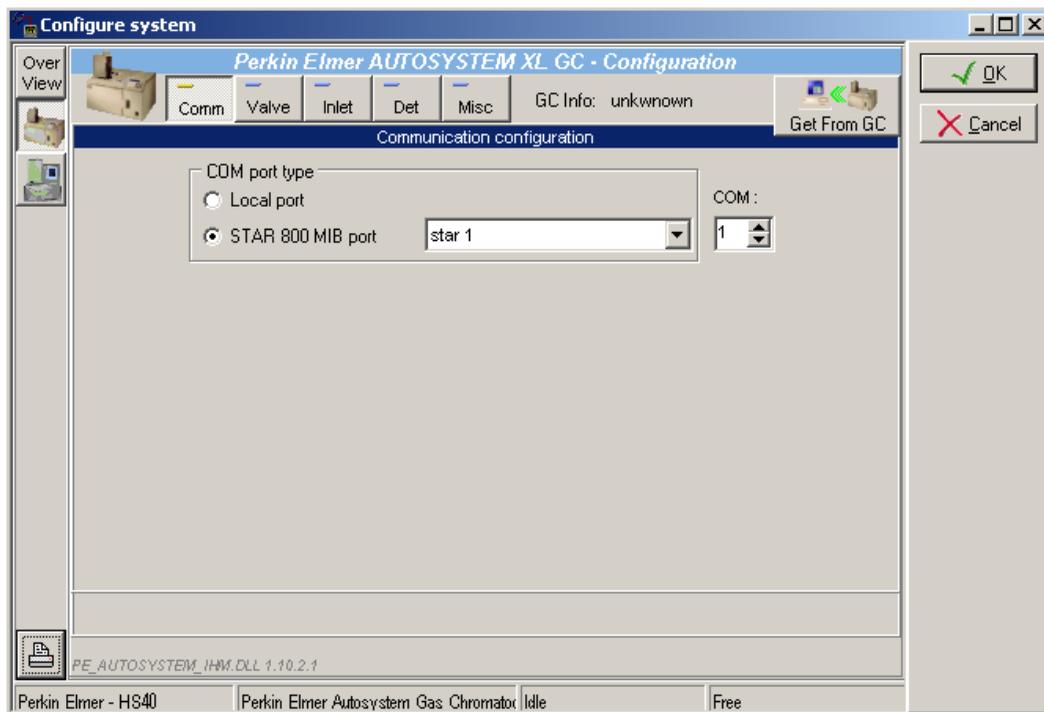
Click on the *Add* button, select in the *Device Type* list PerkinElmer Gas Chromatograph and PerkinElmer HS40 Headspace sampler then press *OK*. When the devices have been added the screen should be as below.



5. Click on the *OK* button and answer *Yes* to the question: "Do you want to configure your system now?"

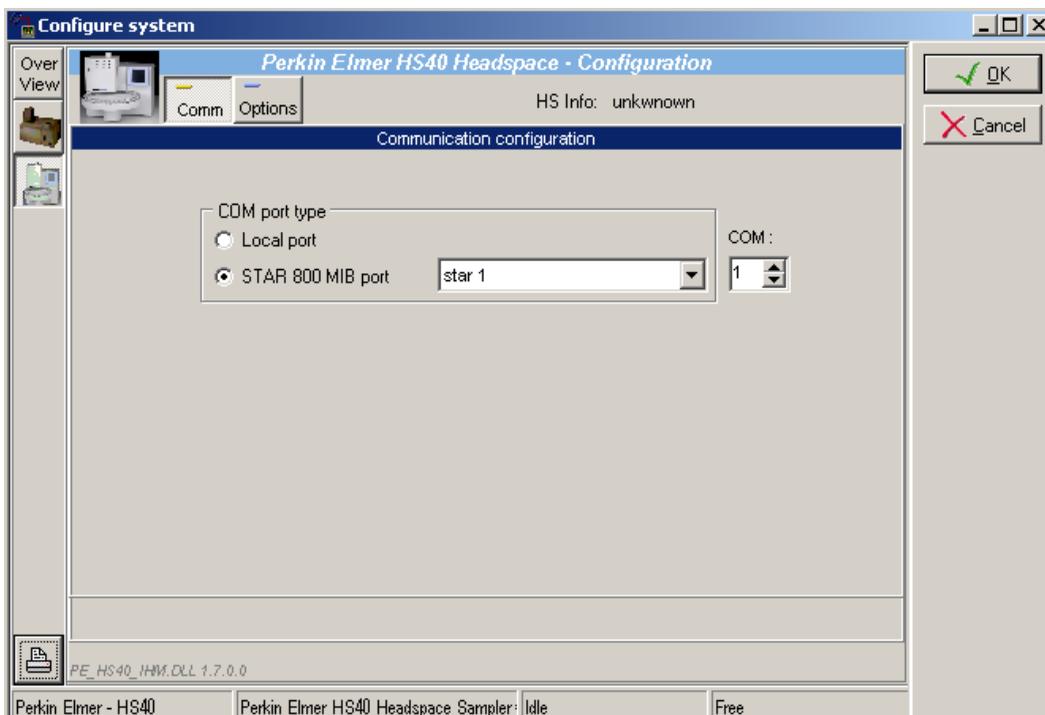


6. Press the PerkinElmer Autosystem icon, the following screen will be displayed.



Select *STAR 800 MIB port* and in the dropdown list select the MIB Interface previously configured. Enter in the COM field, the port number of the MIB Interface where the autosystem is connected to. Do not press the *Get from GC* button now.

7. Press the HS40 icon, the following screen will be displayed.



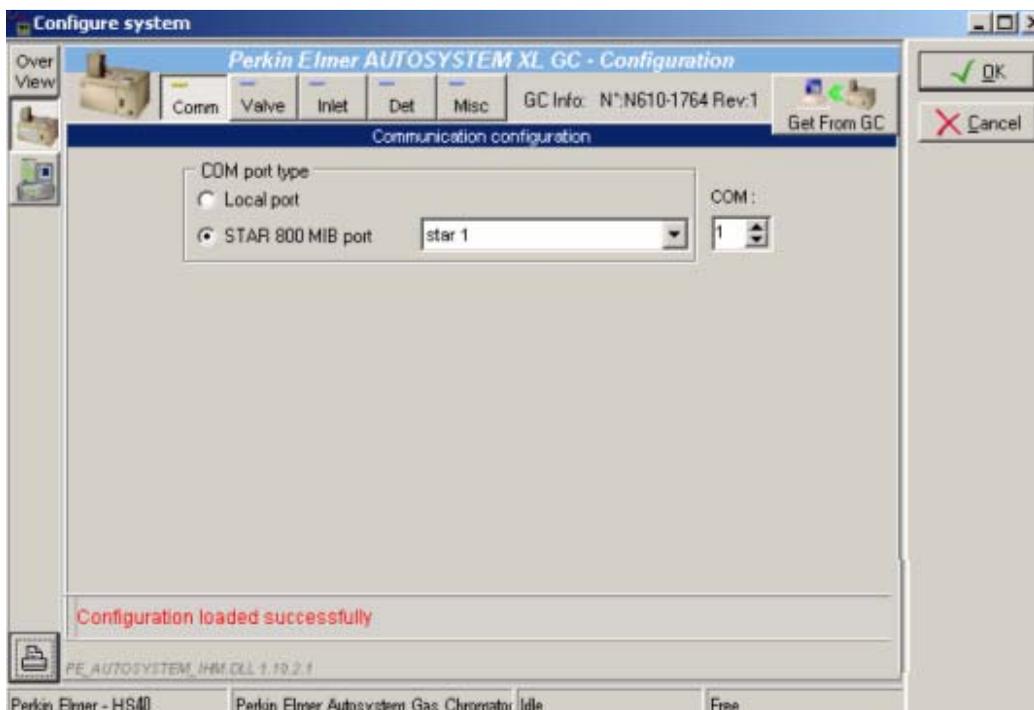
Select *STAR 800 MIB port* and in the dropdown list select the MIB Interface previously configured. Enter in the *COM* field, the port number of the MIB Interface where the HS40 is connected to.

8. Click on the *OK* button to close the configuration of the system.
9. Stop the system by right clicking on its name in the organization view.

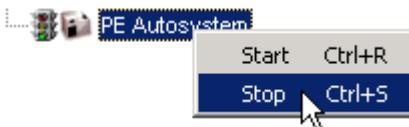


10. Edit the system again and click *Ok* to configure it. Then click on the autosystem icon.

Press now the *Get from GC* button. This will upload the configuration of the GC. When it is done, the firmware revision of the GC and a message "Configuration loaded successfully" will be displayed (see following screen).

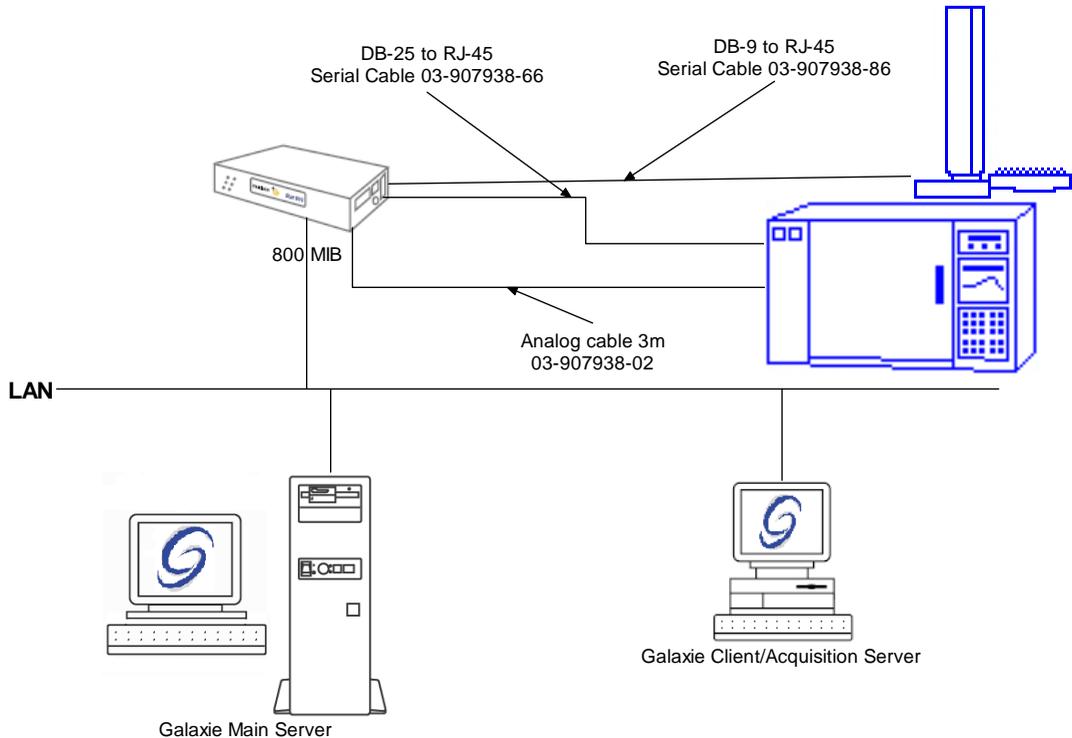


11. Click on the *OK* button to finish the configuration of the system.
12. Finally stop the system by right clicking on its name in the organization view. Then right click again and press start.



Thermo GC Systems

Example 1: Thermo GC 800 with Autosampler AS800



To configure the system shown above, please do the following steps:

1. Configure the MIB Interface on the acquisition server (refer to section *MIB Interface Configuration* of this manual).
2. In the **Galaxie Configuration Manager**, create a new system. The following screen will be displayed.

Edit System

System (Creating a new item)

Name: Thermo GC

Description:

Laboratory: [Dropdown] Laboratories ...

Description:

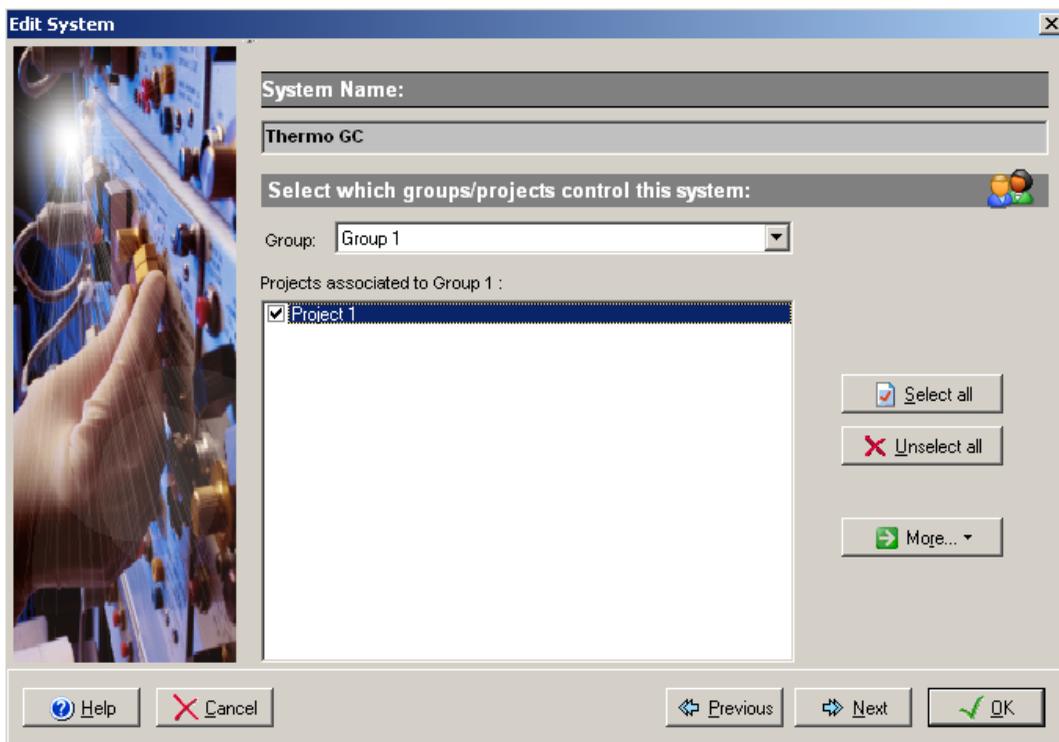
Acquisition server: HAVORN Sequence server: HAVORN

System locked

Help Cancel Previous Next OK

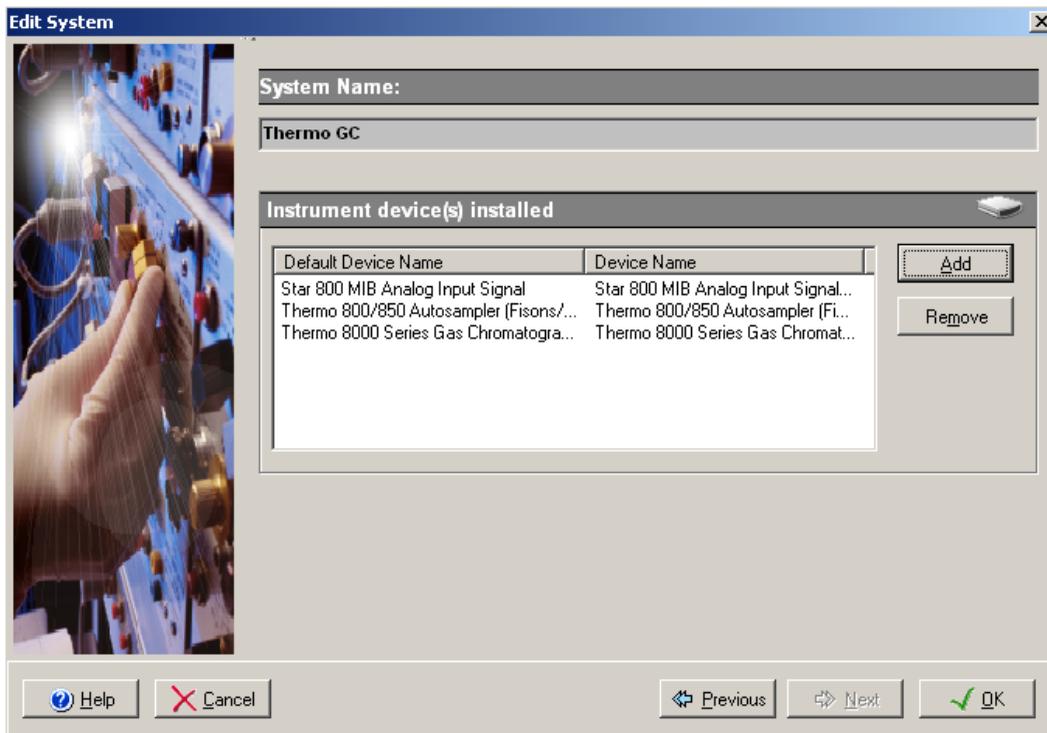
Enter the *Name* of the system, select in the *Acquisition server* and *Sequence server* the name of the acquisition server and the name of the sequence server. Then click on *Next*.

3. In the following screen associate one or more project(s) to the system and click on *Next*. If no groups/projects are defined, click on *Next*.

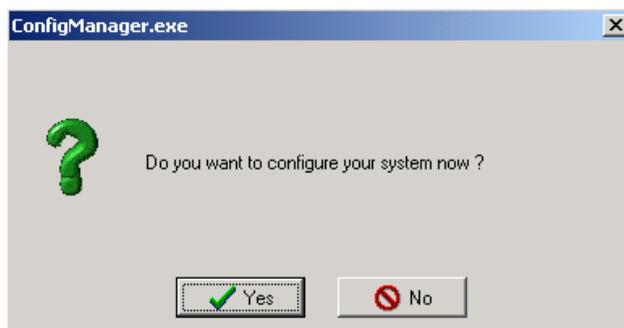


4. To configure that system, it is mandatory to install one device:
 1. Thermo 8000 Series Gas Chromatograph
 2. Thermo 800/850 Autosampler
 3. Star 800 MIB Analog Input signal

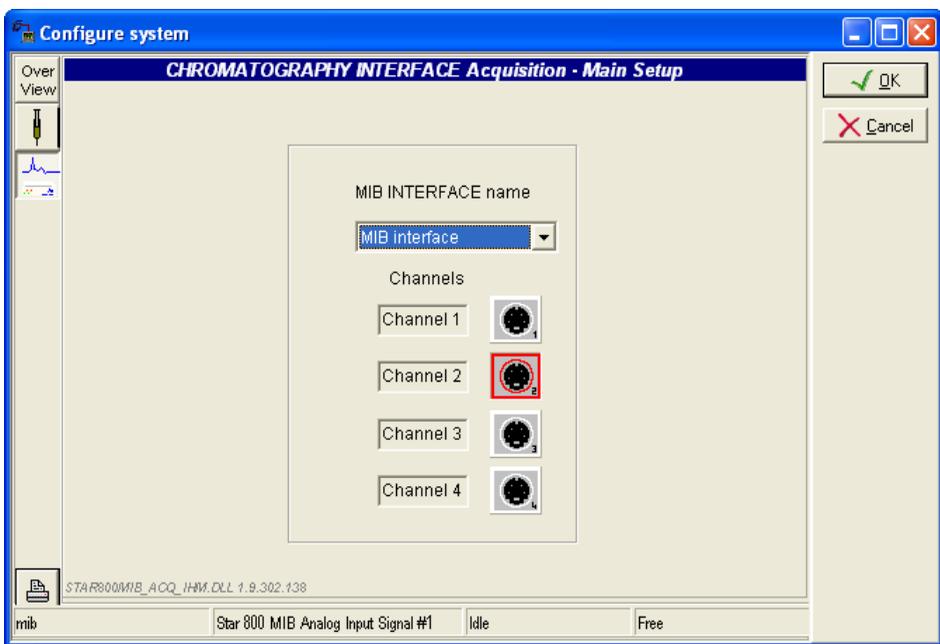
Click on the *Add* button, select in the *Device Type* list Thermo 8000 Series Gas Chromatograph and press *OK*. When the device has been added the screen should be as below.



5. Click on the *OK* button and answer Yes to the question: "Do you want to configure your system now?"



6. Press the MIB Interface icon, the following screen will be displayed.



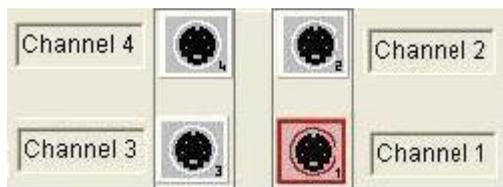
In the dropdown list *MIB Interface name* select the MIB interface previously configured. Then select to which *Channel*, the GC detector is connected.

Correspondence between channel number and connector on the MIB Interface:

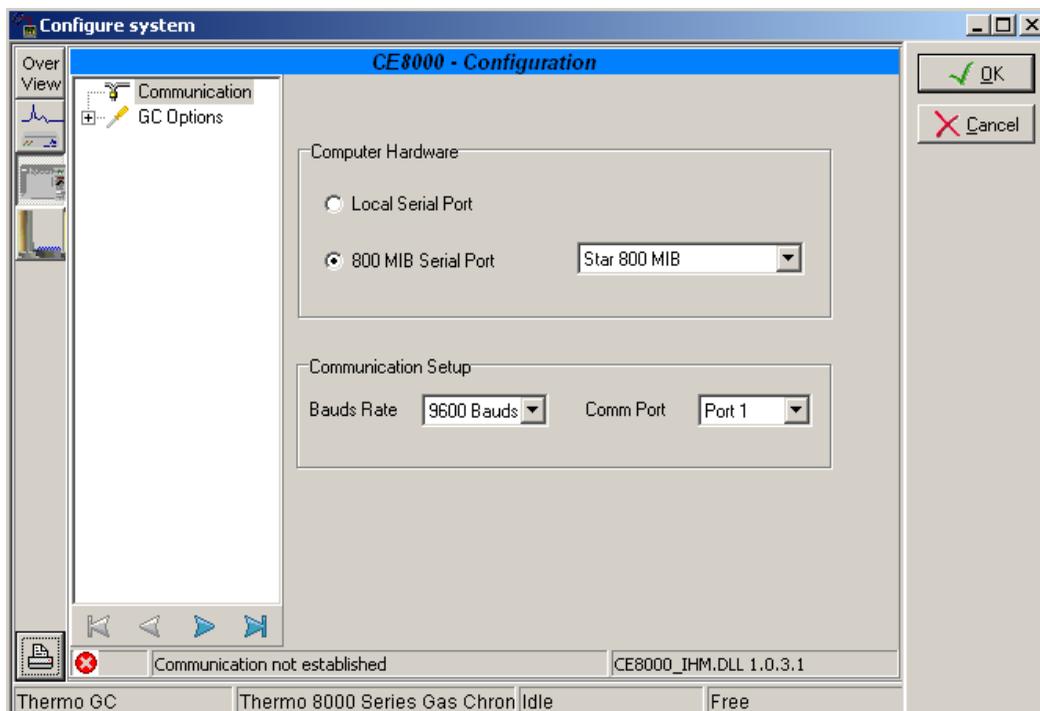
800 MIB Interface:



850 MIB Interface:

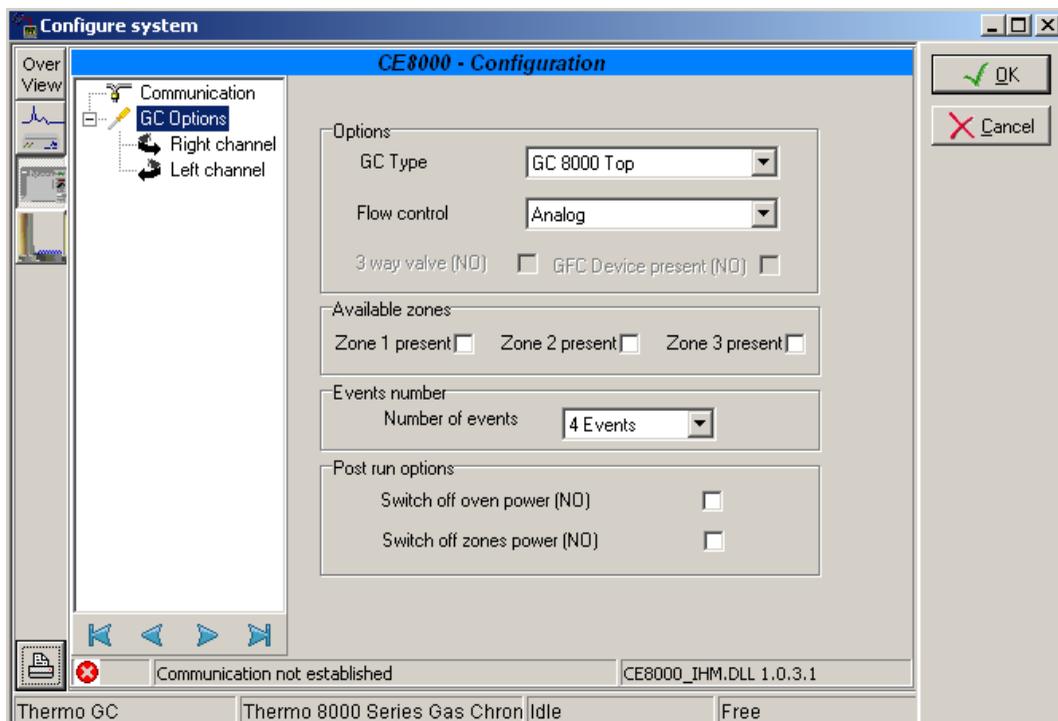


7. Press the Thermo 8000 GC icon, the following screen will be displayed.



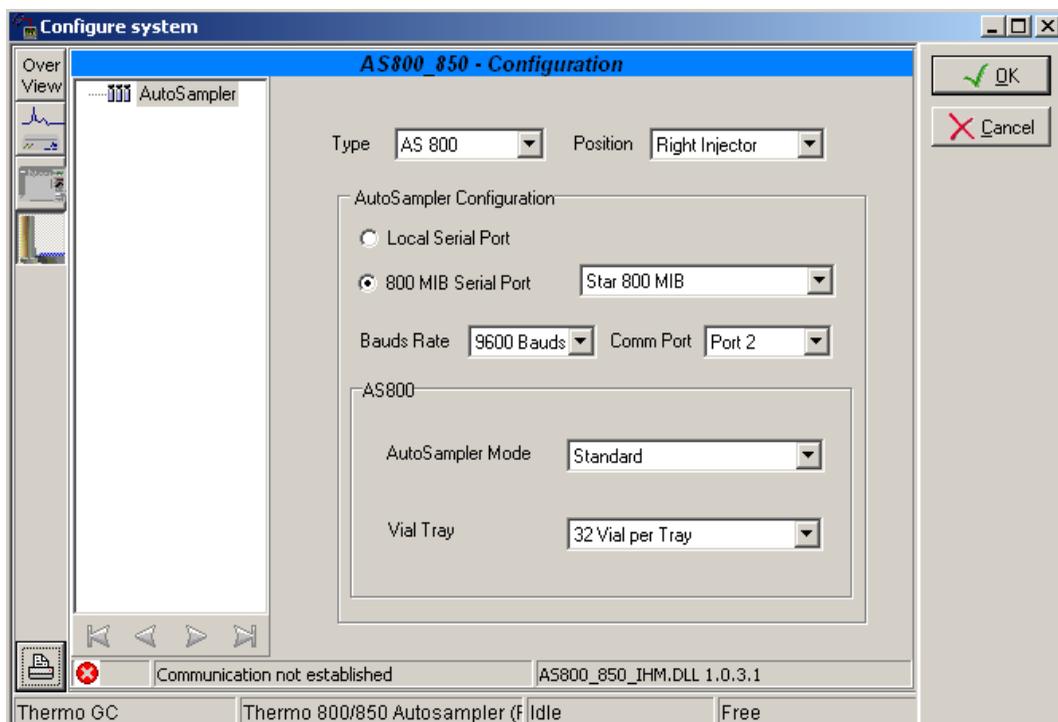
Select *800 MIB Serial Port* and in the dropdown list select the MIB Interface previously configured. Then enter in the *Comm port* field, the port number of the MIB Interface where the autosystem is connected to and in the *Bauds Rate* field select 9600 bauds.

8. Click on the *GC Options* tab. The following screen will be displayed.



In this screen, configure the *GC Type*, the type of the *Flow control* and all the others options if they are present on the GC. To configure the detector installed click on the right or left channel tab and select the detector type.

9. Press the Thermo 800/850 AS icon, the following screen will be displayed.



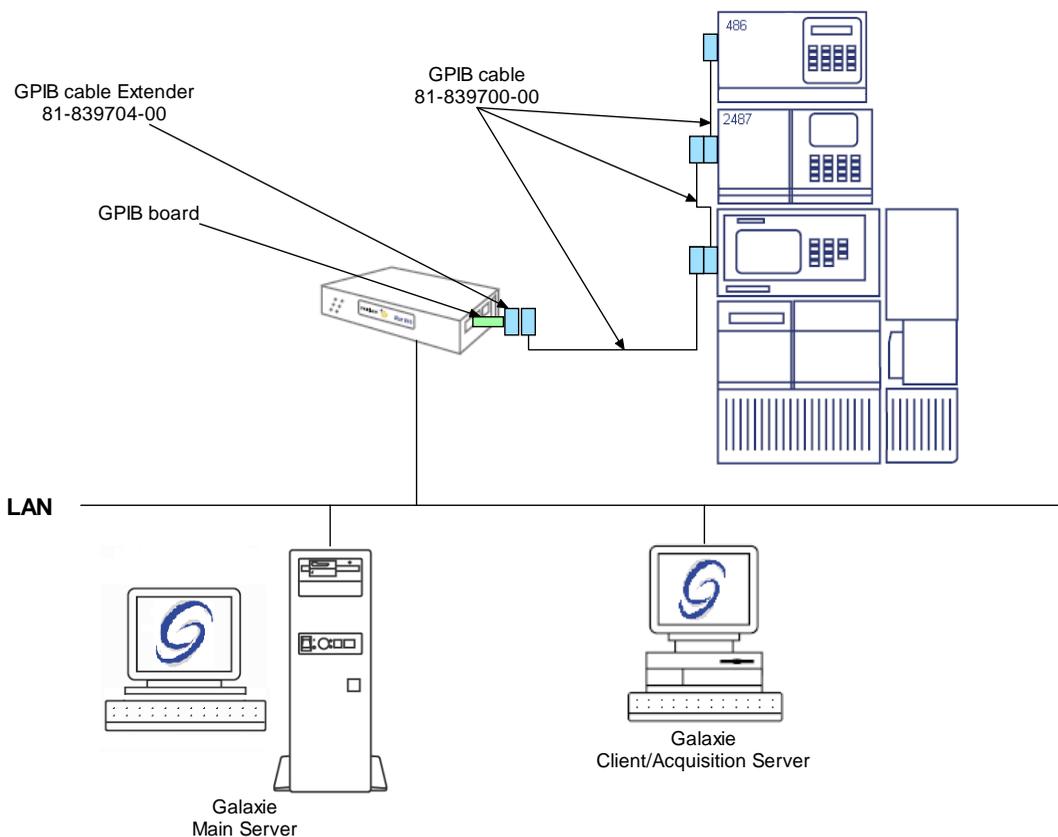
First select the *Type* of the autosampler and its *Position* on the GC. Then select *800 MIB Serial Port* and in the dropdown list select the MIB Interface previously configured. Enter in the *Comm port* field, the port number of the MIB Interface where the autosystem is connected to and in the *Bauds Rate* field select 9600 bauds. Finally, select the *Autosampler Mode* and the *Vial Tray* type.

10. Click on the OK button to finish the configuration of the system.
11. Finally stop the system by right clicking on its name in the organization view. Then right click again and press start.



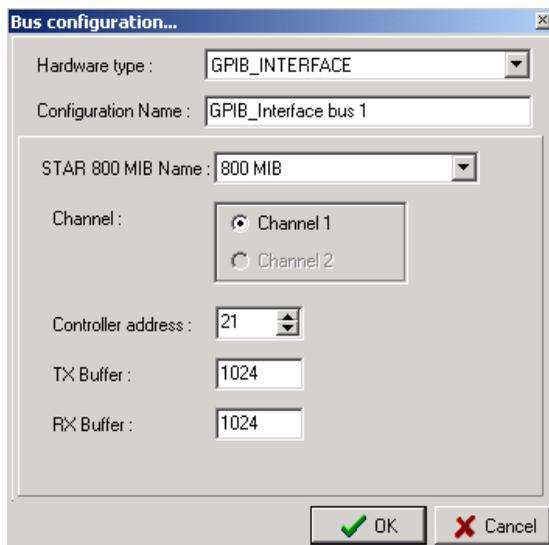
Waters LC Systems

Example 1: Waters LC1 2690-2487-486

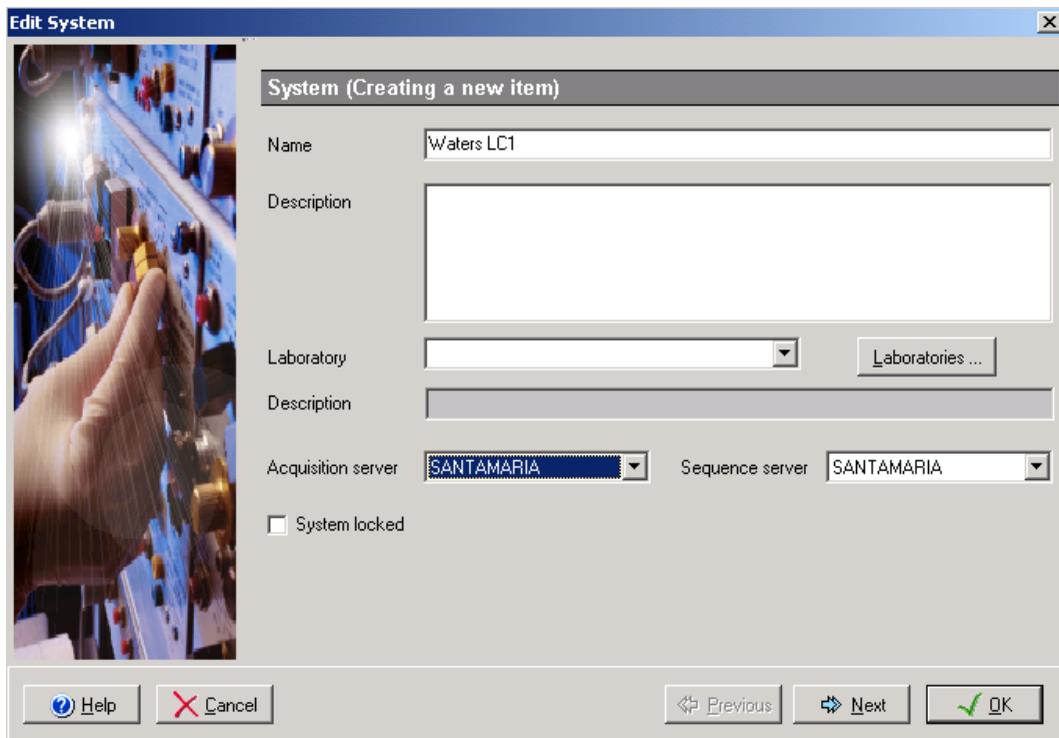


To configure the system shown above, please do the following steps:

1. Configure the MIB Interface on the acquisition server (refer to section *MIB Interface Configuration* of this manual).
2. Create one **GPIB_Interface** communication bus on the acquisition server (refer to section *Communication engine configuration* of this manual). This communication bus is mandatory to control the Waters modules. It will be called GPIB_Interface bus 1.

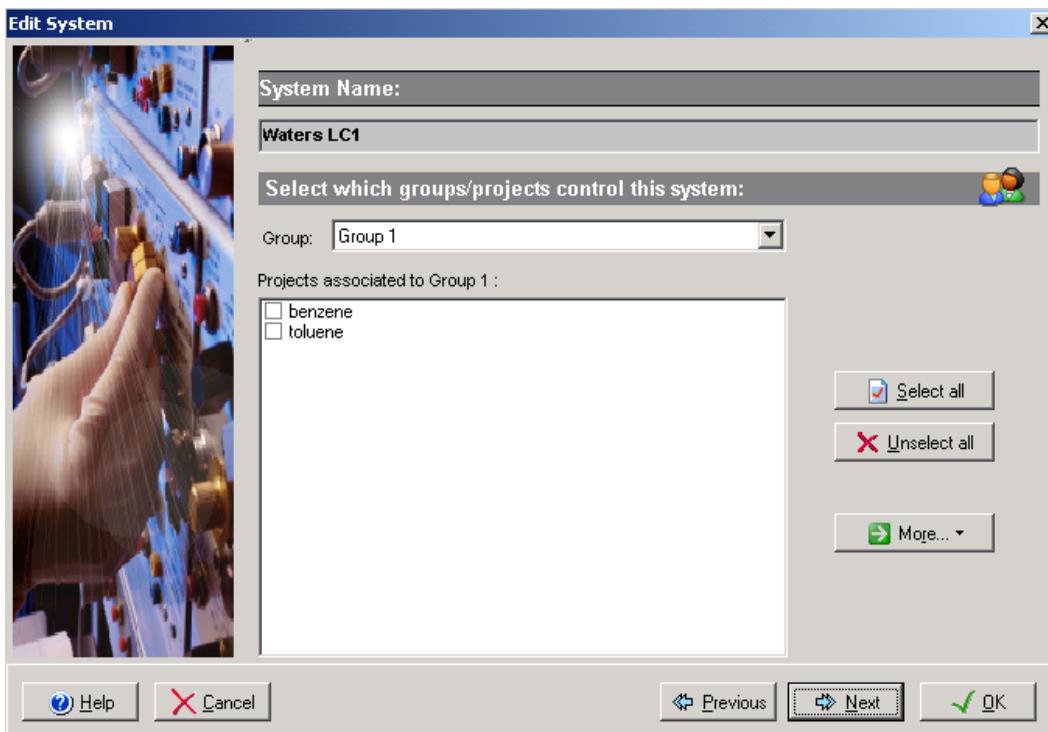


3. In the **Galaxie Configuration Manager**, create a new system. The following screen will be displayed.



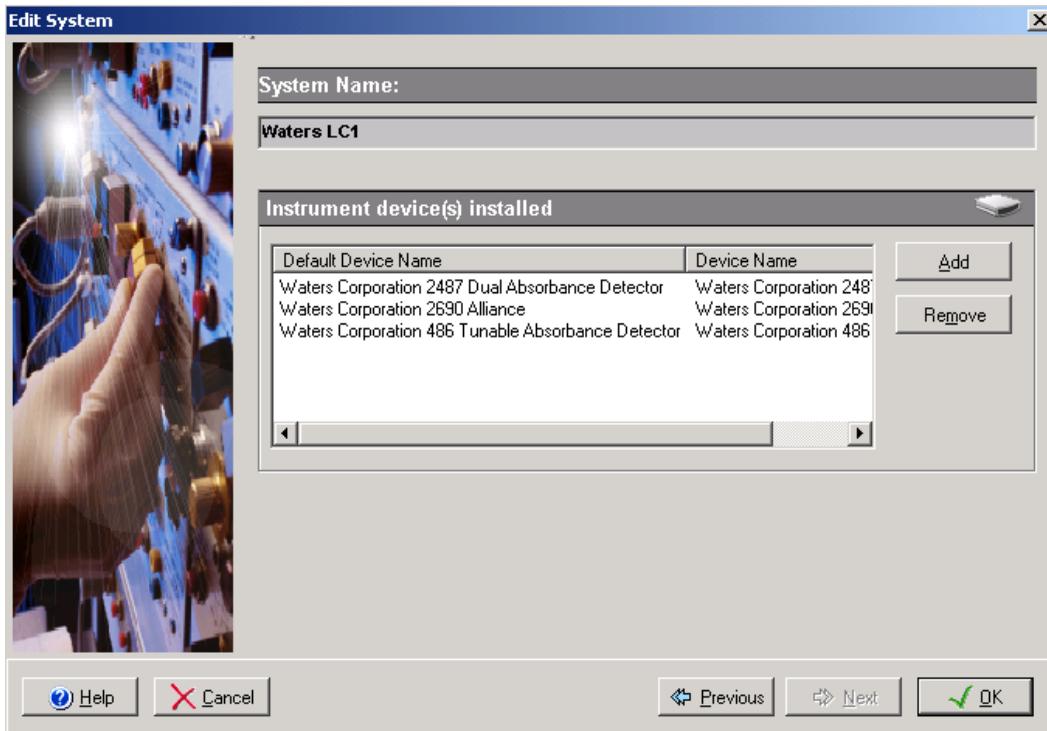
Enter the *Name* of the system, select in the *Acquisition server* and *Sequence server* the name of the acquisition server and the name of the sequence server. Then click on *Next*.

4. In the following screen associate one or more project(s) to the system and click on *Next*. If no groups/projects are defined, click on *Next*.

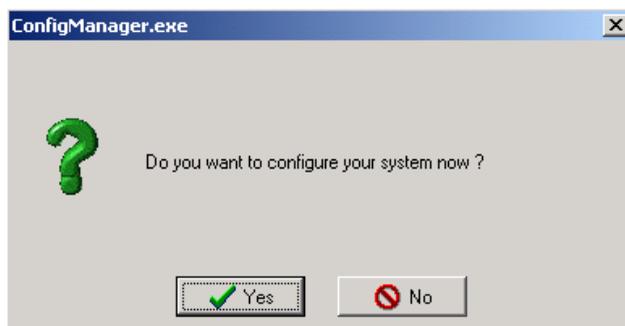


5. To configure that system, it is mandatory to install three devices:
 1. Waters 2690 Alliance
 2. Waters 2487 Dual Absorbance Detector
 3. Waters 486 Tunable Absorbance Detector

Click on the *Add* button, select in the *Device Type* list Waters 2690 Alliance and press *OK*. Repeat the same operation for the rest of the required devices. When the three devices have been added, the screen should be as below.

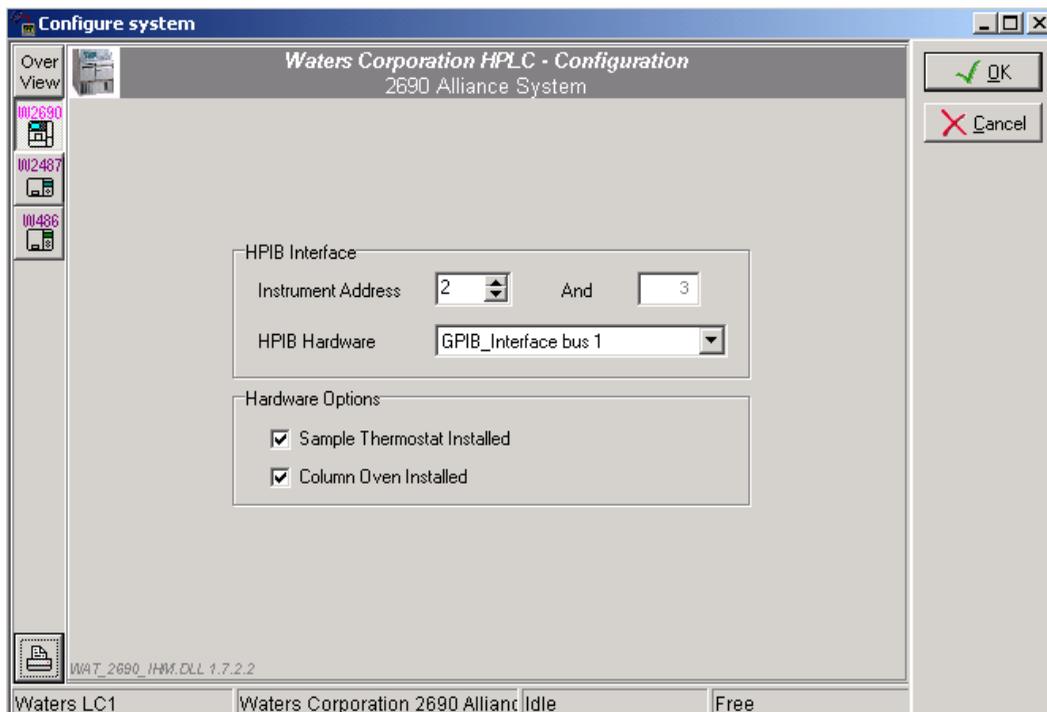


- Click on the **OK** button and answer **Yes** to the question: "Do you want to configure your system now?"

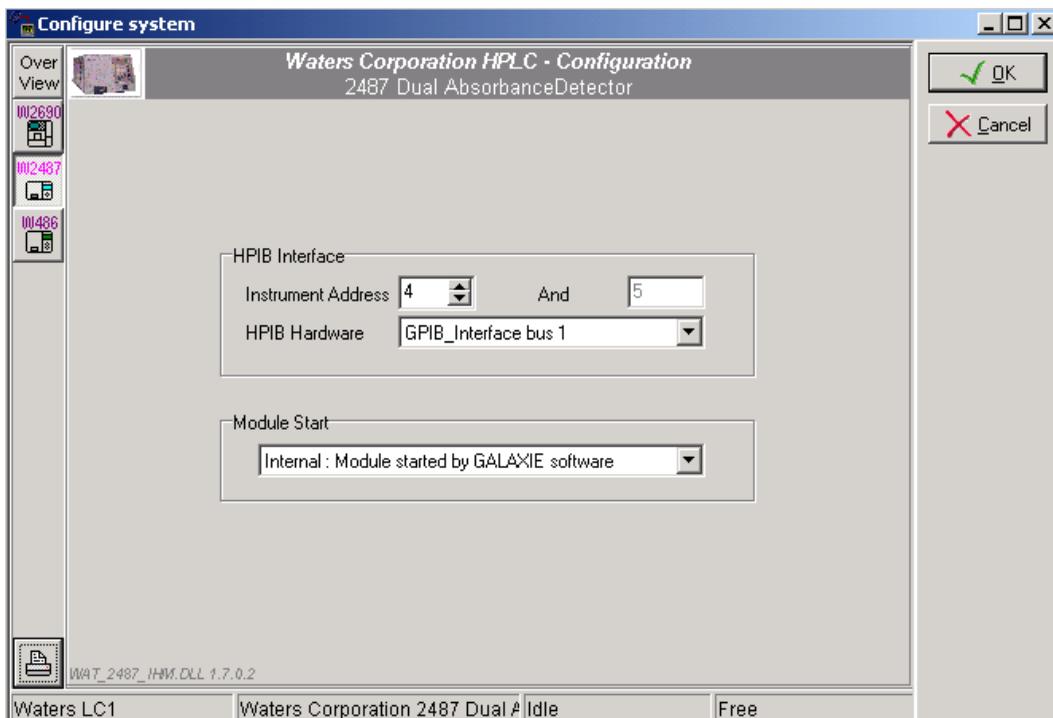


- Press the **W2690** icon. Select in the **HPIB Hardware** field the name of the GPIB Bus previously configured to which the Alliance is connected (GPIB_Interface bus 1). Configure the *Instrument address* number of the module. This GPIB unit ID must be unique to each module connected to the GPIB bus and must match the one configured in the module (refer to the Waters 2690 Alliance User's manual to configure the GPIB unit

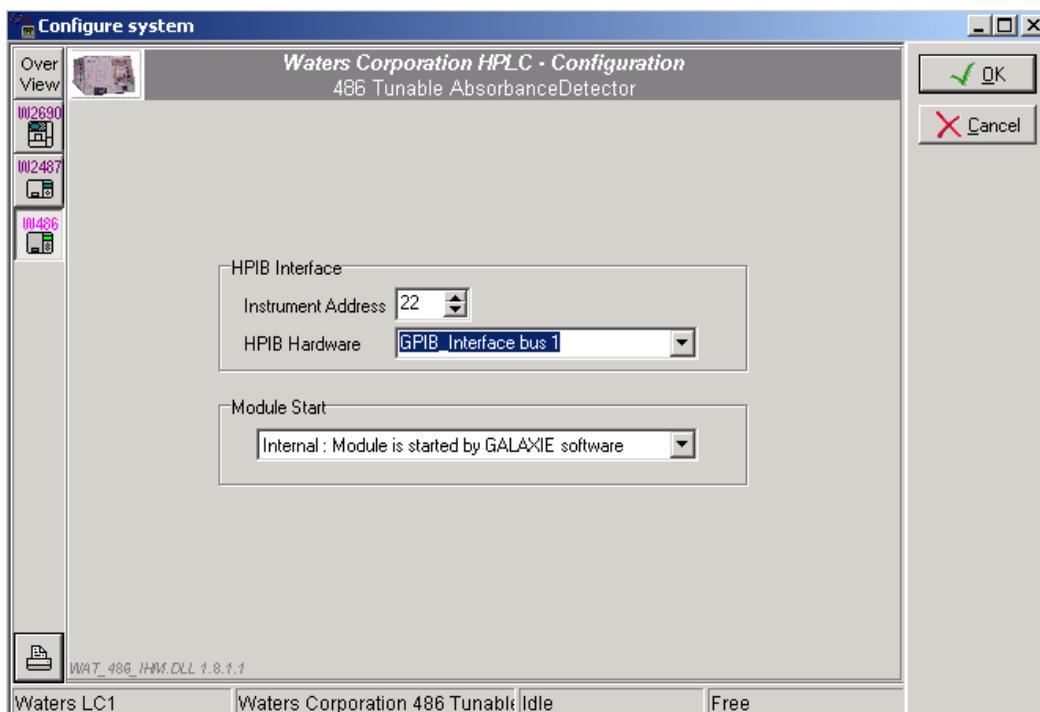
ID number). The GPIB unit must also be different from the GPIB unit ID controller. Finally check *Sample Thermostat Installed* and/or *Column Oven Installed* if those options are present in the module.



8. Press the W2487 icon. Select in the *HPIB Hardware* field the name of the GPIB Bus previously configured to which the detector is connected (GPIB_Interface bus 1). Configure the *Instrument address* number of the module. This GPIB unit ID must be unique to each module connected to the GPIB bus and must match the one configured in the module (refer to the Waters 2487 User's manual to configure the GPIB unit ID number). The GPIB unit must also be different from the GPIB unit ID controller. Finally in *Module Start*, select Internal: Module is started by GALAXIE software.

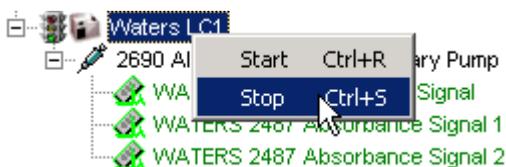


9. Press the W486 icon. Select in the *HPIB Hardware* field the name of the GPIB Bus previously configured to which the detector is connected (GPIB_Interface bus 1). Configure the *Instrument address* number of the module. This GPIB unit ID must be unique to each module connected to the GPIB bus and must match the one configured in the module (refer to the Waters 486 Users manual to configure the GPIB unit ID number). The GPIB unit must also be different from the GPIB unit ID controller. Finally in *Module Start*, select Internal: Module is started by GALAXIE software.



10. Click on the *OK* button to finish the configuration of the system.

11. Finally stop the system by right clicking on its name in the organization view. Then right click again and press start.



Appendix

Check list for Galaxie installation

The following list guides you into Galaxie installation. It lists the pre-requirements (firewall, anti virus...) that are needed to install Galaxie Software, and the actions to perform after the installation to set correct configuration (DCOM...)

Before launching Galaxie installation:

- Enter the PC in the domain. For a Client/Server configuration, all computers must be in the same domain. For a standalone configuration, do not let it in a workgroup, enter it in a domain, in order to access all the folder options.
- Let only one network card activated. However, make sure one is activated.
- De-activate all Firewalls.
- De-activate the Automatic Windows updates, in order to avoid the automatic reboots during a sequence, or a single acquisition.
- Set "Windows only" for the DEP (Data Execution Prevention) for PC under XP SP2 (and SP3), Windows 2003 Server (SP1 and SP2)
- De-activate all Power saving (Hard drive, Wait, Disable Hibernate)
- De-activate the network card power saving.

De-activate the Anti-Virus just before launch the Galaxie installation, and just during the Galaxie Installation.

Install Galaxie

After Galaxie installation:

Set DCOMs (recommended with the Diagnostic tool)

Set the Directory rights (the Diagnostic tool does not do it) according to the Installation guide.

Activate the Anti-virus, but exclude the Galaxie folder for the scan and the on-line protection. **(This is mandatory)**

Set all the setting that needs to be done according the Hints ans Tips of the Installation guide.

Reconnect the other network card if there are.

Reboot the computer.

Cabling guide

Varian HPLC

Instrument	Cable Type	Part number
Polymer-Labs ELS 2100	RS232 Serial Cable	
ProStar 210	RS422 serial communication ribbon	03-935462-91
ProStar 215	RS422 serial communication ribbon	03-935462-91
ProStar 218	RS422 serial communication ribbon	03-935462-91
ProStar SD-1	RS422 serial communication ribbon	03-935462-91
ProStar 220	GPIB cable 1 m GPIB cable 10 m GPIB cable 18 m	81-839700-00 81-839701-00 81-839702-00
ProStar 230	GPIB cable 1 m GPIB cable 10 m GPIB cable 18 m	81-839700-00 81-839701-00 81-839702-00
ProStar 240	GPIB cable 1 m GPIB cable 10 m GPIB cable 18 m	81-839700-00 81-839701-00 81-839702-00
ProStar 310	GPIB cable 1m GPIB cable 10 m GPIB cable 18 m	81-839700-00 81-839701-00 81-839702-00
ProStar 320	Analog cable to Star 800 MIB 3 m Analog cable to Star 800 MIB 5 m Analog cable to CIM	03-907938-02 03-907938-03 03-935220-01
ProStar 325	Ethernet cable 3 m Ethernet cable 6 m	03-926129-01 03-926129-02
ProStar 335	Ethernet cable 3 m Ethernet cable 6 m	03-926129-01 03-926129-02
Varian 356-LC	RS232 Serial Cable	

Instrument	Cable Type	Part number
ProStar 363	RS422 serial communication ribbon control cable Analog Cable Star 800 MIB to ProStar 363 , 3 m Analog cable to CIM	03-935462-91 03-907938-06 03-935220-01
ProStar 400	RS422 serial communication ribbon	03-935462-91
ProStar 410	RS422 serial communication ribbon	03-935462-91
ProStar 420	RS422 serial communication ribbon	03-935462-91
ProStar 430	RS422 serial communication ribbon	03-935462-91
Prostar 500 CVM	RS422 serial communication ribbon	03-935462-91
ProStar 510	Serial cable to Star 800 MIB comm. port 3 m Serial cable to PC comm. port 3 m	03-907938-61 03-907938-62
ProStar 520	Ethernet cable 3 m Ethernet cable 6 m	03-926129-01 03-926129-02
ProStar 701	RS422 serial communication ribbon Shielded cable to Varian Prostar detectors	03-935462-91 R007200141
ProStar 9001/9002 9010/9012/9012-Q	GPIB cable 1 m GPIB cable 10 m GPIB cable 18 m	81-839700-00 81-839701-00 81-839702-00
ProStar 9050	GPIB cable 1 m GPIB cable 10 m GPIB cable 18 m	81-839700-00 81-839701-00 81-839702-00
ProStar CIM	RS422 serial communication ribbon	03-935462-91

Varian GC

Instrument	Cable Type	Part Number
CP-3400/3600	Analog/sync. cable (one per detector) Serial control cable	03-907938-04 03-907938-13
CP-3800	Communication kit	03-907892-91
3900 GC	Ethernet cable 3 m Ethernet cable 6 m	03-926129-01 03-926129-02
CP-4900	Ethernet cable 3 m Ethernet cable 6 m	03-926129-01 03-926129-02
CP-8200	Serial Cable to Star 800 MIB from 8200 (9 pin D shell)	03-907938-12
Combi PAL CTC	Serial cable supplied by CTC	-----

Agilent GC

Instrument	Cable Type	Part number
5890	Serial cable to Star 800 MIB comm. port 3 m	03-907938-61
	Serial cable to PC comm. port 3 m	03-907938-62
6890	Serial cable to Star 800 MIB comm. port 3 m	03-907938-71
	Serial cable to PC comm. Port 3 m	03-907938-72
7890	Ethernet cable 3 m	03-926129-01
	Ethernet cable 6 m	03-926129-02
7673 with old controller	Serial cable to Star 800 MIB comm. port	03-907938-81
	Serial cable to PC comm. port	03-907938-82
7673 with G1512A controller	Serial cable to Star 800 MIB comm. port 3 m	03-907938-71
	Serial cable to PC comm. port 3 m	03-907938-72
Sync. cable between 5890 and G1512A controller	Synchronization cable	03-907938-63
Sync. cable between 5890 and 7673 old controller	Synchronization cable	03-907938-64

Agilent/Waters LC

Instrument	Cable Type	Part number
Agilent 1100/1200 LC	GPIB cable 1 m	81-839700-00
	GPIB cable 10 m	81-839701-00
	GPIB cable 18 m	81-839702-00
Agilent 1050 or 10190/1040 LC	GPIB cable 1 m	81-839700-00
	GPIB cable 10 m	81-839701-00
	GPIB cable 18 m	81-839702-00
All Waters controlled by GPIB	GPIB cable 1 m	81-839700-00
	GPIB cable 10 m	81-839701-00
	GPIB cable 18 m	81-839702-00

PerkinElmer GC

Instrument	Cable Type	Part number
PerkinElmer Autosystem	Serial Cable to PC comm port	03-907938-83
	Serial Cable to 800MIB comm port	03-907938-84

Thermo GC

Instrument	Cable Type	Part number
Thermo 8000 GC	Serial Cable to 800MIB comm port	03-907938-66
Thermo 800/850 AS	Serial Cable to 800MIB comm port	03-907938-86

Star 800 MIBs

Star 800 MIB description	Part number
Star 800 MIB with 2 ADC Channels	03-907937-01
Star 800 MIB with 4 ADC Channels	03-907937-02
Star 800 MIB with 2 ADC Channels & 64 Mb Flash Memory	03-907937-06
Star 800 MIB with 4 ADC Channels & 64 Mb Flash Memory	03-907937-07
Star 800 MIB with 4 Serial Ports	03-907937-10
Star 800 MIB with 4 Serial Ports & 2 ADC Channels	03-907937-11
Star 800 MIB with 4 Serial Ports & 4 ADC Channels	03-907937-12
Star 800 MIB with 4 Serial Ports, 2 ADC Channels & 64 Mb Flash Memory	03-907937-16
Star 800 MIB with 4 Serial Ports, 4 ADC Channels & 64 Mb Flash Memory	03-907937-17
Star 800 MIB with 32 Relays	03-907937-20
Star 800 MIB with 32 Relays & 2 ADC Channels	03-907937-21
Star 800 MIB with 32 Relays & 4 ADC Channels	03-907937-22
Star 800 MIB with 32 Relays, 2 ADC Channels & 64 Mb Flash Memory	03-907937-26
Star 800 MIB with 32 Relays, 4 ADC Channels & 64 Mb Flash Memory	03-907937-26
Star 800 MIB with GPIB	03-907937-30
Star 800 MIB with GPIB & 2 ADC Channels	03-907937-31
Star 800 MIB with GPIB & 4 ADC Channels	03-907937-32
Star 800 MIB with GPIB, 2 ADC Channels & 64 Mb Flash Memory	03-907937-31
Star 800 MIB with GPIB, 4 ADC Channels & 64 Mb Flash Memory	03-907937-32
Star 800 MIB with 8 Serial Ports	03-907937-40
Star 800 MIB with 8 Serial Ports & 2 ADC Channels	03-907937-41
Star 800 MIB with 8 Serial Ports & 4 ADC Channels	03-907937-42
Star 800 MIB with 64 Relays	03-907937-50
Star 800 MIB with 64 Relays & 2 ADC Channels	03-907937-51
Star 800 MIB with 64 Relays & 4 ADC Channels	03-907937-52
Star 800 MIB with 2 GPIB	03-907937-60
Star 800 MIB with 2 GPIB & 2 ADC Channels	03-907937-61

Star 800 MIB description	Part number
Star 800 MIB with 2 GPIB & 4 ADC Channels	03-907937-62
Star 800 MIB with 4 Serial Ports & 32 Relays	03-907937-70
Star 800 MIB with 4 Serial Ports, 32 Relays & 2 ADC Channels	03-907937-71
Star 800 MIB with 4 Serial Ports, 32 Relays & 2 ADC Channels	03-907937-72
Star 800 MIB with 4 Serial Ports, GPIB & 2 ADC Channels	03-907937-81
Star 800 MIB with 4 Serial Ports, GPIB & 4 ADC Channels	03-907937-82
Star 800 MIB with GPIB & 32 Relays	03-907937-90
Star 800 MIB with GPIB, 32 Relays & 2 ADC Channels	03-907937-91
Star 800 MIB with GPIB, 32 Relays & 4 ADC Channels	03-907937-92

Star 800 MIBs / 850-MIB options and accessories

Options and accessories	Part Number
2 ADC Channel card (for existing Star 800 MIB)	03-907938-01
4-port serial card (for existing Star 800 MIB)	03-907938-11
IEEE-488 GPIB Card (for existing Star 800 MIB)	03-907938-31
32 Relay Module (for existing Star 800 MIB)	03-907938-91
64Mb Flash Memory Module (for existing Star 800 MIB)	03-907938-92
Serial Cable adaptor RJ45 to 9 Pin	03-907938-14
Analog Cable to Star 800 MIB, tinned ends , 3m	03-907938-02
Analog Cable to Star 800 MIB, tinned ends , 5m	03-907938-03
Analog Cable to Star 800 MIB, 3-Pin Molex , 3m	03-907938-04
Analog Cable Star 800 MIB to ProStar 363 , 3m	03-907938-06
GPIB Cable Extender	81-839794-00
Serial Cable for Star 800 MIB Firmware updates and to fix IP address	03-907938-42

850 MIBs

850 MIB description	Plug type	Part number
850 MIB interface (empty)	USA	03-950205-10
	European	03-950205-20
	GB	03-950205-30
850 MIB with 2 ADC Channels	USA	03-950205-11
	European	03-950205-21
	GB	03-950205-31
850 MIB with 4 ADC Channels	USA	03-950205-12
	European	03-950205-22
	GB	03-950205-32

850 MIB description	Plug type	Part number
850 MIB with 4 Serial ports	USA	03-950205-13
	European	03-950205-23
	GB	03-950205-33
850 MIB with 8 Serial ports	USA	03-950205-14
	European	03-950205-24
	GB	03-950205-34
850 MIB, with 4 Serial ports & 2 ADC Channels	USA	03-950205-15
	European	03-950205-25
	GB	03-950205-35
850 MIB, with 4 Serial ports & 4 ADC Channels	USA	03-950205-16
	European	03-950205-26
	GB	03-950205-36
850 MIB, with 4 Serial port s, 1 GPIB port & 2 ADC Channels	USA	03-950205-17
	European	03-950205-27
	GB	03-950205-37
850 MIB, with 1GPIB port	USA	03-950205-18
	European	03-950205-28
	GB	03-950205-38
850 MIB, with 1 GPIB port & 2 ADC Channels	USA	03-950205-19
	European	03-950205-29
	GB	03-950205-39