### 1 of 21

### Procedure to set up an HPIB 82350B card on an M57. M58 or C20x PC

### **Parts required**

#### Table 1: Parts required

Part Number	Description	Qty
289000764	Kit, HPIB Card, Inter, PCI	1

### Procedure

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The procedure to set up this card consists of four sections:

- 1. Removing the National Instrument Drivers, VISA and NI Explorer Software and installing the 82350B card
- 2. Installing the drivers
- 3. Configuring IO interface of the card
- 4. Configuring GPIB addresses of the A1100/1200 modules

### Removing the National Instruments Drivers, VISA and NI Explorer Software

- 1. Click Start Control Panel. Click Add or Remove Programs.
- 2. Scroll down the list and Select the NI-VISA program for removal if it is listed
- Add/Remove Programs \_ 🗆 × Sort by: Name -Currently installed programs: 0 Change or Remove Programs -Java 3D(TM) 1.2.1\_03 Runtime (OpenGL Version) 0.97MB Size Micromass MassLynx V4.0 177MB Size Microsoft Internet Explorer 6 Size 14.2MB MyDVD Size 132MB 🛃 NI-488.2 1.70 Add New 32.7MB Size Programs ANI-VISA 2.5 Size 29.4MB Used rarely Click here fcr support information. To change this program or remove it from your Change Remove Add/Remove Windows Components computer, cick Change or Remove. PowerDVD Size 14.9MB 🚰 ScreenPrint Gold 2.01 Size 2.69MB Setup Compaq Software Size 11.9MB SoundMAX Size 10.5MB Windows 2000 Hotfix (Pre-SP3) [See Q305933 for more 15 information] Windows 2000 Hotfix (Pre-SP4) [See Q322359 for more 17 information] -Close
- 3. Click the Change Button

4. Click **Remove All**.

🕞 NI-VISA 2.5 Setup		
Add/Remove Application Select the operation to perfo	rm from the buttons below.	
	Add/Remove	
	<u>B</u> emove All	
	R <u>e</u> install	
	<u>S</u> elect reinstall mode	
	<u>K</u> Back <u>N</u> ext	Cancel

5. Click Next.



6. Verify that **Remove** is selected and click **OK**.

NI-VISA 2.5	
Shared features	
Some of the features that you have sele used by other products. Removing these the listed products.	cted for removal are marked as being e features will affect the performance of
NI-488.2 1.70	
Remove	
C Do Not Remove	
	Cancel

7. Click Finish.



8. If NI Measurement & Automation Explorer is listed, select it and click the Remove button. If NI-VISA it is not listed, go to Step 10.

🖬 Add/Remov	re Programs		
12	Currently installed programs:	Sort by: Name	
Change or	🛃 Intel(R) Graphics Media Accelerator Driver		
Remove Programs	🛃 InterVideo WinDVD	Size	19.1MB
	Java 2 Runtime Environment Standard Edition v1.3.1	Size	25.5MB
<u></u>	Java 3D(TM) 1.2.1_03 Runtime (OpenGL Version)	Size	0.98MB
Add New	🕮 Microsoft .NET Framework 1.1	Size	39.0MB
<sup>o</sup> rograms	Microsoft Data Access Components KB870669		
	Microsoft Internet Explorer 6 SP1	Size	15.3MB
	🛃 Mouse Suite		
Add/Remove	🕱 NI Measurement & Automation Explorer 2.2.0	Size	13.2MB
Components	Click here for support information.	Last Used On	4/13/2005
<u> (</u>	To change this program or remove it from your computer, click Change or Remove.	Change	Remove
Set Program	🍓 NI-488.2 2.10	Size	10.0MB

9. Click Yes at the warning message. The program will be uninstalled.



10. Back at the Add/Remove screen, select the **NI-488.2** program for removal. Click the **Change** Button.

🙀 Add/Remov	re Programs		
12	Currently installed programs:	Sort by: Name	•
Change or	🛃 Intel(R) Graphics Media Accelerator Driver		
Remove Programs	🛃 InterVideo WinDVD	Size	19.1MB
	Java 2 Runtime Environment Standard Edition v1.3.1	Size	25.5MB
<u>_</u>	Java 3D(TM) 1.2.1_03 Runtime (OpenGL Version)	Size	0.98MB
Add New	🗑 Microsoft .NET Framework 1.1	Size	39.0MB
Programs	Reference Microsoft Data Access Components KB870669		
2005 <b>(</b>	S Microsoft Internet Explorer 6 SP1	Size	15.0MD
<b>Q</b>	🛃 Mouse Suite		
Add/Remove	🍭 NI-488.2 2.10	Size	10.0MB
Components	Click here for support information.	Last Used On	4/13/2005
G	To change this program or remove it from your computer, click Change or Remove.	Change	Remove
	😭 Outlook Express Q823353		

11. Select Remove All and click Next.

NI-488.2 for Windows	
Add/Remove Application Select the operation to perform.	NI-488.2 <sup>™</sup> High Performance GPIB Software
Click an option and then click Next. Add/Remove Remove All Reinstall Description Remove all features of NI-488.2 for Windows	
< <u>B</u> ack	Next> Cancel

12. Click **Next**. Files are removed and ni-488.2 is uninstalled.

뤻 NI-188.2 for Windows Uninstall	- 🗆 🗵
	2.1
NI-488.2 <sup>™</sup>	
High Performance GPIB Software	
NI-488.2 for Windows Uninstall	
This will remove NI-488.2 for Windows from your machine. Are you sure you want to continue?	
Click Next to remove NI-488.2 for Windows.	
Click Cancel to exit the uninstaller.	
ni.com/gpib	
© 2003 National Instruments. All rights reserved.	NTS.
	el 🔤

13. Click Finish.

NI-488.2 for Windows	<u> </u>
<b>NI-488.2</b> <sup>™</sup>	
High Performance GPIB Software	
NI-488.2 for Windows has been successfully uninstalled.	a second
	-
© 2003 National Instruments. All rights reserved.	MATIONAL INSTRUMENTS
	Einish

- 14. Back at the Add/Remove Programs screen, Click the '**x**' to exit. Click the '**x**' to close Control Panel.
- 15. Click Start Shutdown. Select Shutdown and click OK.
- 16. **After the system has powered down, unplug** the system Power cord, and remove the side panel of the computer.
- 17. Remove the National Instruments GPIB adapter from its PCI slot in the workstation and install the Agilent (HP) 82350 PCI GPIB into the same PCI slot.
- IMPORTANT: Examine the Agilent 82350 card to determine whether it is a Revision A card (82350A) or a Revision B card (82350B). The 82350A card is on the left side in the picture below and the 82350B card is on the right side. The Revision A card (82350A) will not fit into the PCS slots of the M57 PC. Only the Revision B card (82350B) can be installed in this PC.



# Install the drivers and software for the Agilent (HP) 82350 PCI GPIB adapter.

- 1. Replace the computer side panel, plug in the power cord and power on the computer.
- 2. After the system has booted, logon as Administrator.
- 3 Wait for the **Welcome to the Found New Hardware Wizard** message to occur and click **Cancel**. This message occurs because the Agilent **82350 PCI GPIB** adapter has been detected and the driver has not been installed yet.

Note: The message below on the right side may also occur. Click Cancel in that case as well.



## 4. For the Agilent 82350B adapter, the Agilent Technologies I/O Libraries for Instrument Control should be used.

If the Operating system is Windows XP (On the M57/M58 PC from Waters), this is in the **Suite 15** subfolder in the **C:\Drivers\Agilent** directory.

If the Operating system is Windows 7 (On the M58 PC/C20x PC from Waters), this is in the **Suite 16** subfolder in the **C:\Drivers\Agilent** directory.

5. **Note:** All installation screenshots below are taken from those of the Suite 15 libraries. Similar screens will be displayed for the Suite 16 libraries.

To install the version you need, double click setup.exe in the appropriate driver folder in Windows Explorer

If you receive a dialog box informing you that other software needs to be installed prior to installing the Suite 15 (or Suite 16) libraries then install those first.

stallShie	eld Wizard	
	Agilent IO Libraries Suite 15.0 LXI Class B Update i be installed on your computer prior to installing this hese requirements:	requires that the following requirements application. Click OK to begin installing
Status	Requirement	
Pending	Microsoft Visual C++ 2005 Redistributable	
		Cancel

6. The InstallShield Wizard begins the I/O Libraries installation. Click **Next** at the first install screen.



7. Accept the Agilent License agreement on the next screen and click Next.

Agilent IO Libraries Suite 15.0 LXI Class B	Update - Install	Shield Wizard	×
License Agreement Please read the following license agreement	carefully.		
AGILENT TECHNOLOGIES	, INC. SOFT EMENT	WARE LICE	NSE 🔺
ATTENTION: DOWNLOADING, C OR USING THIS SOFTWARE IS S FORTH BELOW. TO DOWNLOAD, STORE, INSTAL MUST FIRST AGREE TO A AGREEMENT BELOW. IF YOU	OPYING, PUBL SUBJECT TO T L, OR RUN TH GILENT'S SO HAVE READ,	ICLY DISTRIB HE AGREEMEN E SOFTWARE FTWARE LI UNDERSTAN	UTING, NT SET E, YOU CENSE D AND 🔽
I accept the terms of the license agreement     I do not accept the terms of the license a	ent igreement		Print
กระสิทธิภายน	< <u>B</u> ack	<u>N</u> ext >	Cancel

8. Select **Typical** as the setup type and click **Next**.

Agilent IO Libra	ries Suite 15.0 LXI Class B Update - InstallShield Wizard	×
Setup Type Choose the s	etup type that best suits your needs.	
Please select	a setup type.	
C Custom	Recommended features for your configuration will be installed. Choose the program features you want to install. Recommended for advanced users.	
InstallShield ——	<u>⟨Back</u> Next>	Cancel

### 9. Click **Install** at the final screen.

Start Copying Files		7
Review settings before copying files.		10
Setup has enough information to start change any settings, click Back. If yo copying files.	copying the program files. If you want to review o ou are satisfied with the settings, click Next to begi	r n
Current Settings:		
IO Libraries Suite Directories: Core Product Directory: C:\Prog IVIComponents Directory: C:\Pro VISA Directory: C:\Program File: Selected Features: Agilent VISA as primary	ram Files\Agilent\IO Libraries Suite ogram Files\IVI Foundation\IVI s\IVI Foundation\VISA	
Manuals		-
Manuals		₹
Manuals ItaliShield		•

10. The Agilent SICL and VISA IO Libraries files are installed. When the file install is complete, Click blue **Finish** button.



 Verify that the drivers have been installed correctly by checking "Agilent Technologies 82350B PCI GPIB" is listed under "GPIB Interfaces" in Device Manager (Right click My Computer >Manage).



12. Close the Computer Management window.

### Configuring the IO Interface of the card

1. Click the blue and white "IO" icon in the task bar to run the Agilent Connection Expert



- 2. Close the welcome screen
- 3. For the **82350B** card, the **SICL Interface ID** must be changed to **hpib7**. To do this click the "Change Properties" button, click in the **SICL Interface ID** and remove the **gpib0** name and replace it with **hpib7** so the screen appears as below. Click **OK**.



### Configuring GPIB addresses of the A1100/1200 modules

1.Attach IEEE cables from the 82350B card to the all A1100/1200 System modules. Cycle power on all the HP modules.

2. Confirm that the module that the IEEE connection is going through (detector, autosampler or pump) can be seen on the bus in the Connection Expert window. If the device cannot be seen on the bus it may indicate that the module requires powering down and then powering back up again.

Agilent Connection Expert  File Edit View I/O Configuration Tools Help	
🎅 Refresh All 🧭 Undo 📝 Properties 📦	Interactive ID 📲 Add Instrument 涛 Add Interface 🗙 Delete
Task Guide X Instrument 1/D on this PC	GPIB Instrument - GPIB0::28::INSTR
Tasks for This Instru	An instrument on a GPIB bus
Refresh this instrument Structure properties Communication (ASRL1)	A listener responds, but no identification query was done Change Properties
Send commands to this instrument Send commands to	VISA address: GPIB0::28::INSTR
Change the label Add a programming alas	IDN string: <the available="" idn="" is="" not="" string=""></the>
GPIB Instrument - GPIB0::28::INSTR	Less <<
CPIB address: 28	GPIB address: 28 SICL address: hpib7.28
Check for an instrument at this GPIB address	Address check: Yes
Auto-identify this instrument	Auto-identify: No
programming samples?	
	ni
	Agilent VISA: The primary VISA library

**Note:** In the screenshot above the cable from the 82350B card is going to the pump and the pump has an address of 28. This is just for illustrative purposes. Normally the connection should be made through the detector.

- 3. Set the IEEE addresses of the module (obtained through the "game boy" controller on the stack) by double clicking on the specific module listed under the "HPIB7" interface.
- 4. Launch MassLynx. In the MassLynx Inlet Editor, select Tools Instrument Configuration and select the appropriate Agilent 1100/1200 modules communication.
- 5. On the Configure HPIB page, set the IEEE addresses for the modules at the Configure HPIB communication tab, set the appropriate addresses for each module and the corresponding PC connection.

Configure HPIB communications		na Naut ta aastisua	÷
	zations, and then pre	ISSINEX TO CONTINUE.	
HP 1100	Inlet	PC Connection	
HP 1100	AutoSampler	с	
HP 1100 UV	Detector	e	
Use HP-	IO libraries for comm	unications.	

**Note:** As stated earlier, normally the PC connection should be made through the detector using either the UV or the DAD. The IEEE addresses can be obtained through the "game boy" controller on the stack.

- 6. On this same page, click the checkbox next to **Use HP-IO libraries for communications** to select it (the default state is **non-selected**), click **Next**
- 7. Click **Finish** to complete inlet configuration

Inlet Configuration						
	Pump	Autosampler	Detector 1	Detector 2		
	HP 1100	HP 1100	HP 1100 UV	Not Configured		
(C.						
E.						
V						
	Selected Configuration Addresses					
	Pump	Autosampler	Detector 1	Detector 2		
	hpib7,22	191				
the presence of						
Inlet			Setup Instrument	Configure		
Configuration	L					
GLASS	Click a line in the list above to select an inlet channel. Click "Configure" to configure currently selected inlet channel					
Click "Events & Trigger", to set triggering method and events. Events & Triggering Finish						

**Note:** In the "Select Configuration Addresses box you may see that only one of the modules has an address which may be displayed as something similar to "hpib7,22".

This is a bug related to displaying the addresses and can be ignored.

7. You should now have successful communications with your system