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#PS167 - Upgrading from Biopac Student Lab 2.XX to 3.0

Determining the ISA100A I/O address for the BSL Upgrade Procedure

The Upgrade Procedure assumes you already have a BIOPAC ISA100A card installed in your computer that has been successfully running the MP30 acquisition unit and requires that you know the I/O address for your ISA100A card. The following procedures will help you determine the I/O address for your ISA100A card. You need to determine the address prior to running the upgrade installation. The Upgrade Procedure follows the address determination options.

To begin, please answer the following question:

Is your computer also running a Biopac Student Lab *PRO* version 2.xx that is successfully connected to the MP30 unit?

- If the Biopac Student Lab *PRO* program is successfully connected to the MP30 unit (and assuming the unit is ON), you should not receive a "No Hardware" warning and the status indicator light in the lower right corner of the display window should be green.

If "Yes" use Option 1. If "No" try Option 2, then Option 3 if necessary.

OPTION 1

1. Read this entire section so you know what to expect before you begin installation.
 2. Turn your computer ON and start Windows 95.
- It is strongly recommended that you quit all Windows programs before

installing the Biopac Student Lab upgrade.

3. Activate version 2.xx of the Biopac Student Lab *PRO*.
4. Click on the MP30 menu and scroll to select Configuration.



5. This will generate the "Hardware Configuration" dialog.



- o The I/O address in this example is "0380" which is the default setting - your address may be different. You do not need to note the DMA channel.
6. Note your I/O address here for future reference:
 - o **IMPORTANT!** Write the I/O address for the ISA100A in the space above.
 7. Quit the Biopac Student Lab *PRO* V2.xx program and return to your desktop.
 8. Insert Installation Disk 1 and follow the entire Biopac Student Lab Upgrade Procedure.

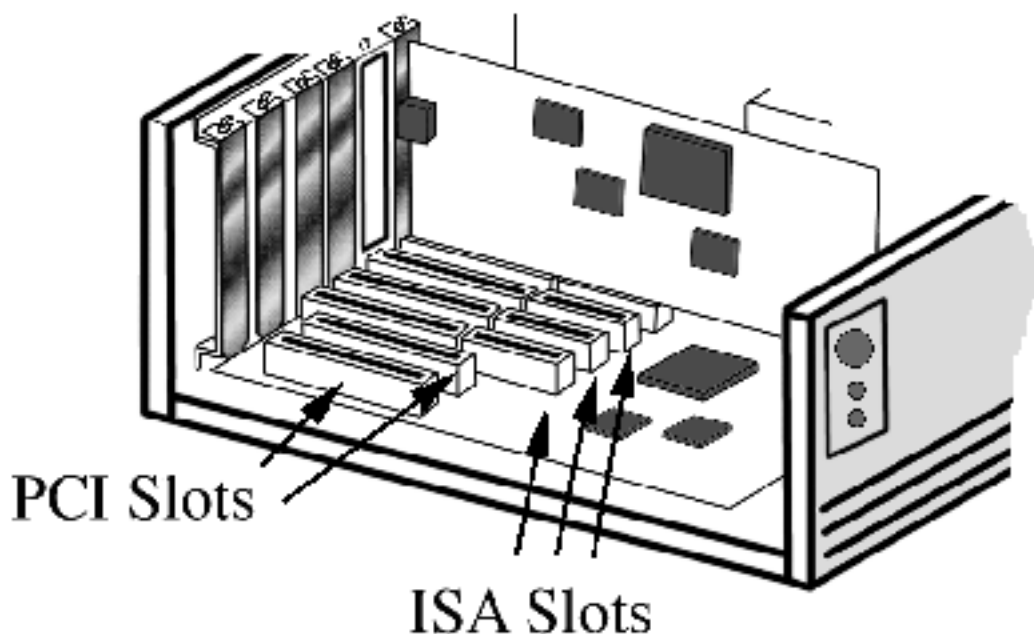
OPTION 2

1. Assume your card is set at 380.
 - A common default setting for the ISA100 card is "380" and before you move to the next option, which involves removing your computer cover and possibly your ISA100A card, we recommend that you try this setting.
2. Insert Installation Disk 1 and follow the entire Upgrade Procedure.

OPTION 3

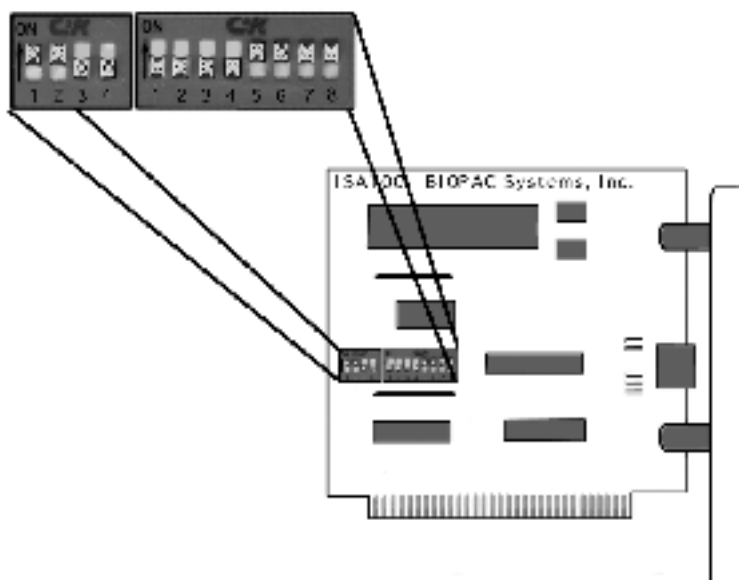
1. Read this entire section so you know what to expect before you begin installation.
 - For the following reasons, we recommend that an experienced person check the ISA100A card settings:
 - a. The voltages inside the computer can be lethal. Before you remove the cover of your PC, always make sure the power to the computer is OFF, and the Power Cord to the computer is disconnected from the computer.
 - b. The circuitry inside the computer is very delicate and can be damaged with simple jarring, or scratching, and even electrostatic discharge caused by "static electricity" on our bodies. A person familiar with this can take all the necessary precautions.
 - In addition it is a good idea to:
 - a. Remove any jewelry from your hands or wrist.
 - b. Never use excessive force when inserting the card into the ISA slot.
 - c. Make sure to use insulated (non-conducting) tools.
 - d. Don't eat or drink over the computer guts, or you may create a "Pepsi Syndrome."
 - e. Be careful not to lose any hardware, or screws, and if any cables need to be removed in order to access the ISA slots, make careful notes as to how they will need to be put back in place.
 - f. Be very careful not to bump any of the delicate cards, or other electronics inside the computer.
 - g. Be extra careful not to drop any tools inside the computer, which could damage the circuitry.

- h. Use a grounding strap when installing.
2. Eject all disks and Quit all programs.
 3. Shut Down the computer and disconnect the power cord from the computer (or unplug the power cord of the computer at the wall socket or power strip).
 4. Remove the computer cover (see manufacturer's guide if necessary).
- **IMPORTANT REMINDER** The voltages inside the computer can be lethal. Before you remove the cover of you PC, always make sure that the power to the computer is **OFF** and the power cord to the computer is disconnected from the computer.
5. Locate the ISA slot with the ISA100 inserted.
- The ISA/EISA slots are longer than PCMCIA slots.
 - Slots may be either vertical or horizontal.



6. Without removing the card, locate the banks of DIP switches on your ISA100A card.

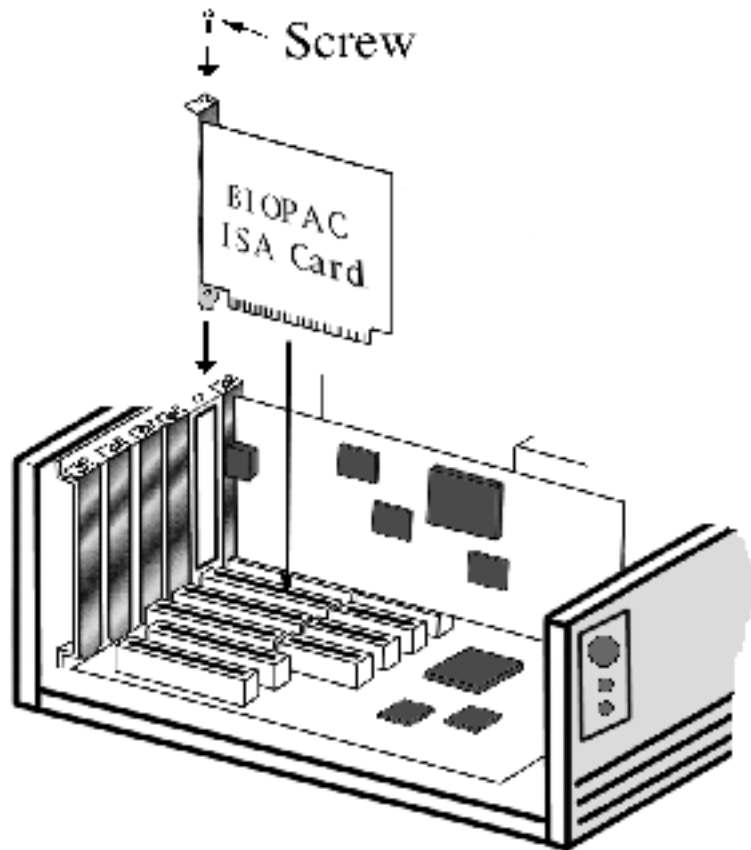
ISA100 Dip Switches



7. Note the switch positions below (make sure that you are oriented to match this blank before completing the switch settings).



8. If you can not read the switch settings while the card is inserted, remove the screw from top of the ISA card and pull the card out. Save the screw so you may secure the serial card again after you determine the settings.

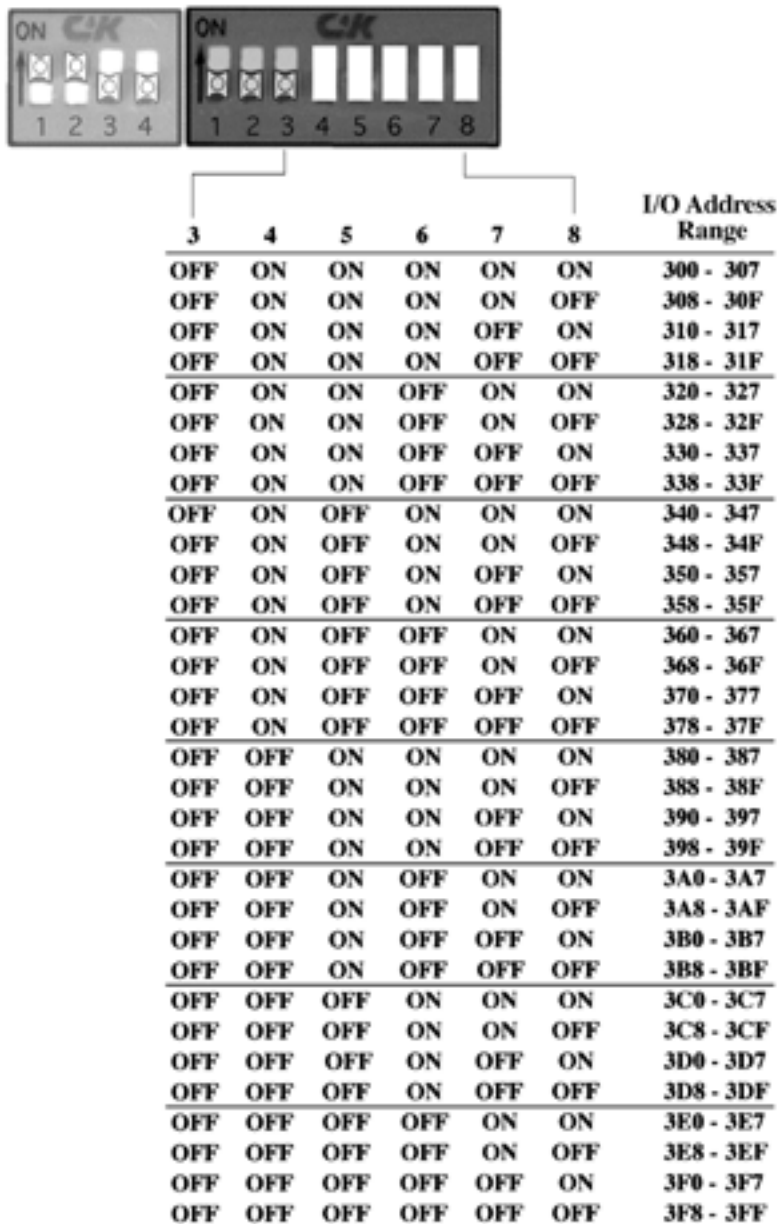


9. Note your ISA card switch settings in the space provided above.
 10. Determine the address for your settings.
- You do not need to pay attention to the first bank of four switches.
 - In the second bank of eight switches, the first two switches should always be in the down position.
 - The following charts convert the switch settings to a numeric or alpha-numeric address range. Use the first chart if Switch Three is in the ON position, and the second chart if Switch Three is in the OFF position.

Possible I/O address ranges if Switch Three is ON

3	4	5	6	7	8	I/O Address Range
ON	ON	ON	ON	ON	ON	200 - 207
ON	ON	ON	ON	ON	OFF	208 - 20F
ON	ON	ON	ON	OFF	ON	210 - 217
ON	ON	ON	ON	OFF	OFF	218 - 21F
ON	ON	ON	OFF	ON	ON	220 - 227
ON	ON	ON	OFF	ON	OFF	228 - 22F
ON	ON	ON	OFF	OFF	ON	230 - 237
ON	ON	ON	OFF	OFF	OFF	238 - 23F
ON	ON	OFF	ON	ON	ON	240 - 247
ON	ON	OFF	ON	ON	OFF	248 - 24F
ON	ON	OFF	ON	OFF	ON	250 - 257
ON	ON	OFF	ON	OFF	OFF	258 - 25F
ON	ON	OFF	OFF	ON	ON	260 - 267
ON	ON	OFF	OFF	ON	OFF	268 - 26F
ON	ON	OFF	OFF	OFF	ON	270 - 277
ON	ON	OFF	OFF	OFF	OFF	278 - 27F
ON	OFF	ON	ON	ON	ON	280 - 287
ON	OFF	ON	ON	ON	OFF	288 - 28F
ON	OFF	ON	ON	OFF	ON	290 - 297
ON	OFF	ON	ON	OFF	OFF	298 - 29F
ON	OFF	ON	OFF	ON	ON	2A0 - 2A7
ON	OFF	ON	OFF	ON	OFF	2A8 - 2AF
ON	OFF	ON	OFF	OFF	ON	2B0 - 2B7
ON	OFF	ON	OFF	OFF	OFF	2B8 - 2BF
ON	OFF	OFF	ON	ON	ON	2C0 - 2C7
ON	OFF	OFF	ON	ON	OFF	2C8 - 2CF
ON	OFF	OFF	ON	OFF	ON	2D0 - 2D7
ON	OFF	OFF	ON	OFF	OFF	2D8 - 2DF
ON	OFF	OFF	OFF	ON	ON	2E0 - 2E7
ON	OFF	OFF	OFF	ON	OFF	2E8 - 2EF
ON	OFF	OFF	OFF	OFF	ON	2F0 - 2F7
ON	OFF	OFF	OFF	OFF	OFF	2F8 - 2FF

Possible I/O address ranges if Switch Three is OFF

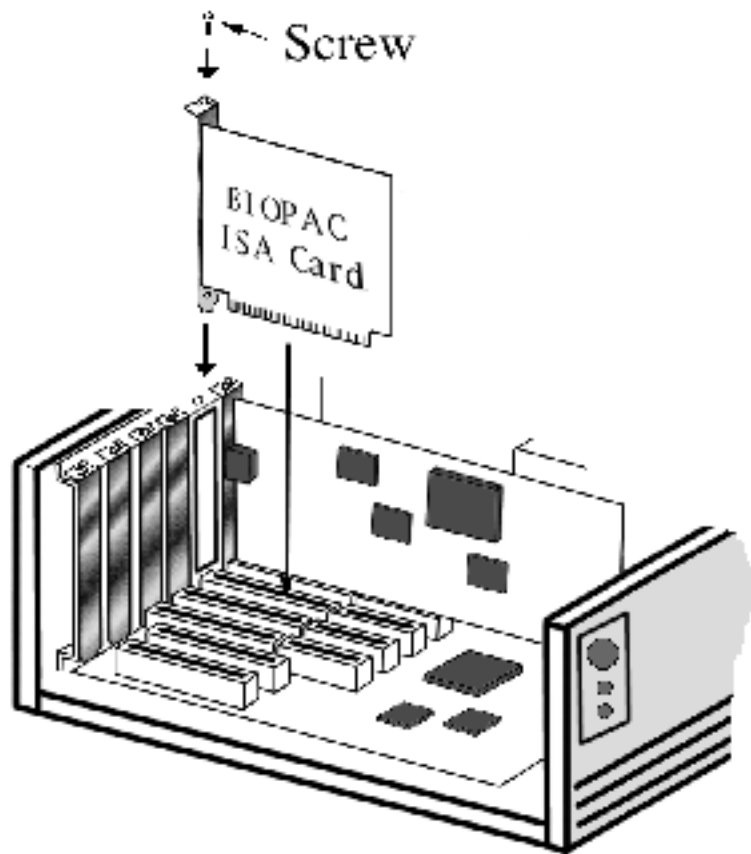


11. Note your I/O address here for future reference: _____

- **IMPORTANT!** Write the I/O address that matched your ISA100A settings in the space provided so that you won't have to check the card in the future.

12. Reinsert the BIOPAC ISA card.

- The serial card has a "tongue" on one side that fits into the socket on your computer. Make sure the card is aligned so that the tongue is lined up with the socket and the serial ports are facing the back of your computer.
- Fit the card into the socket located at the bottom of the slot and press down firmly.
- You may have to rock and push the card to get it to fit into place.
- You will feel it "click" into place when it's inserted correctly.



13. Secure the card in place with the screw.

- Do not use the screw to force the card into place. If the card is inserted correctly, the backplate should rest flush with the edge before you replace the screw.

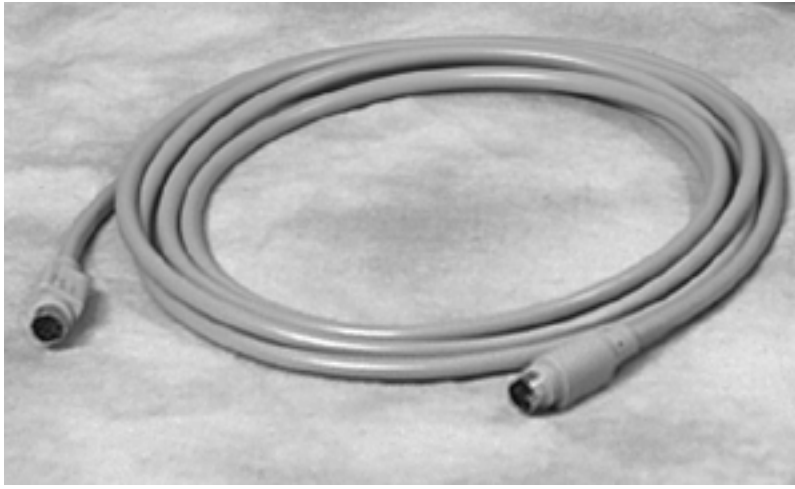
14. From the outside of your computer, locate the serial port on the ISA card.

- Make a note of which one it is so you can connect the MP30 to this socket later.

15. Replace the cover per the manufacturer's instructions.

16. Reconnect the power cord from the computer to the outlet.

17. Plug either end of the CBLSERA Serial cable into the proper serial port on the back of your computer.

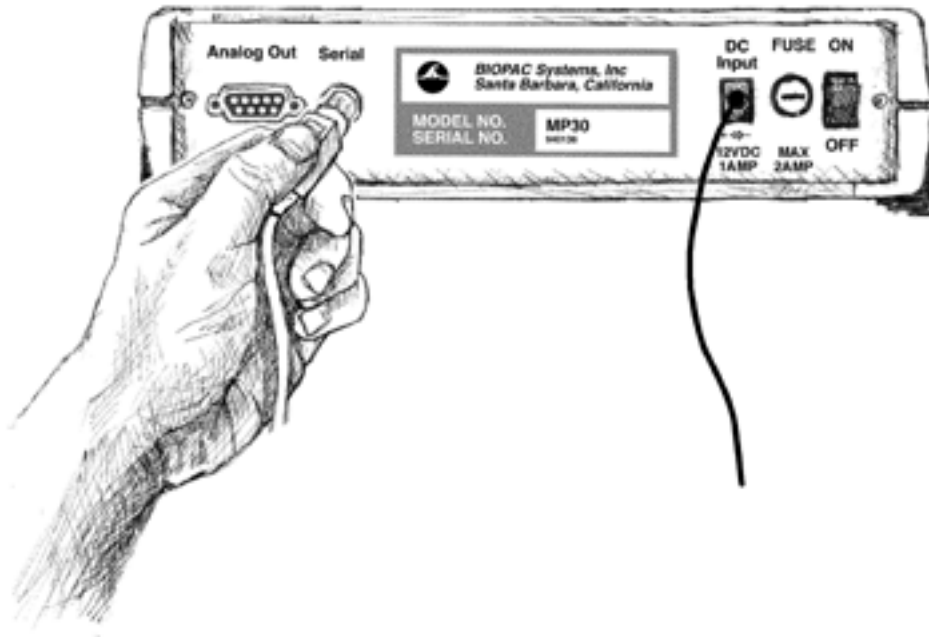


CBLSERA Serial Cable

- The MP30 Acquisition Unit connects to the computer via the two-meter CBLSERA Serial cable. One end of the cable attaches to the MP30 and the other end connects to the serial port you should have just installed.



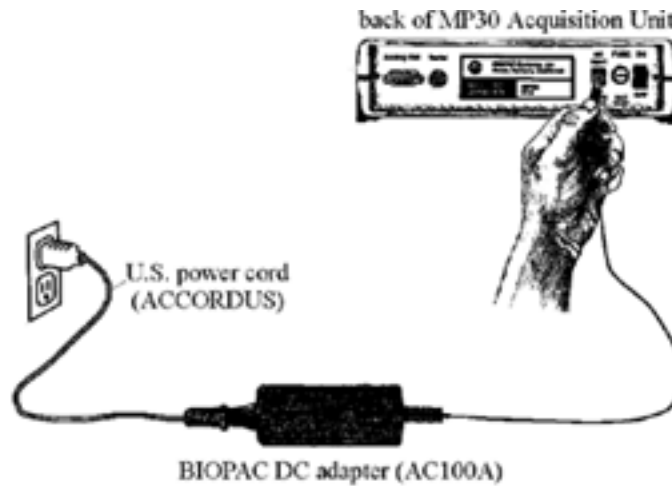
18. Make sure the MP30 is OFF and then plug the other end of the CBLSERA Serial cable into the back of the MP30 in the "Serial" port.



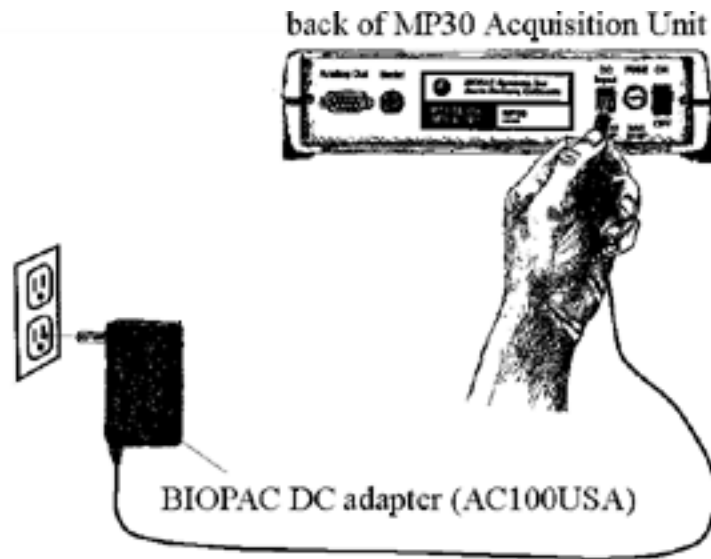
19. Confirm the MP30 unit power connections.

- The MP30 power connections should be established as shown below.

If using AC100A DC Adapter:



If using AC100USA or AC100EURO DC Adapter:

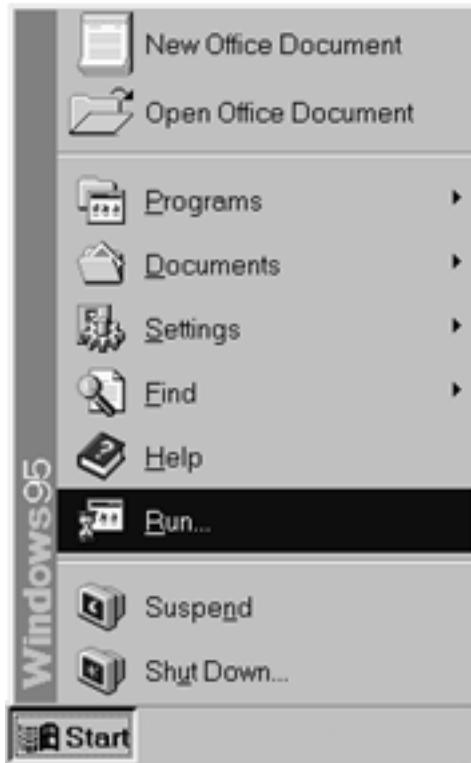


20. Turn the MP30 ON.
21. Turn your computer ON.
22. Insert Installation Disk 1 and follow the entire Upgrade Procedure.

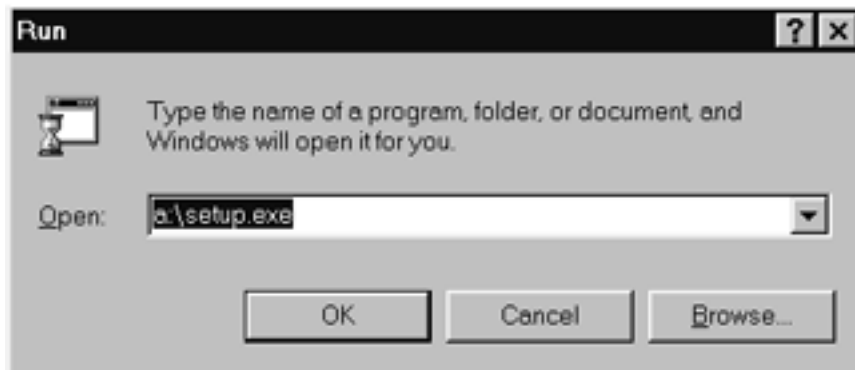
UPGRADE PROCEDURE

After you have determined your I/O address for the ISA100A:

1. Insert the Biopac Student Lab V3.0 Installation diskette (Disk 1 if two disks were provided).
2. Click on the **Start** menu and scroll to select the **Run** function.



3. This will generate a **Run** dialog. Type "**A:\SETUP.EXE**" (without the quotes) and click **OK**.



4. This will load the setup program. An "Installation Wizard" program will guide you through the installation process and prompt you with dialog boxes as required. Proceed with installation as prompted in the dialog boxes and accept the defaults except as noted in these instructions.

Not all the dialog boxes are shown here. Pay particular attention to the dialogs mentioned.

- This is the first screen you'll see when the Installation Wizard has been properly activated.

Click on the **Next** button to install the Biopac Student Lab software.

Clicking **Cancel** will terminate the installation process and exit Setup.



5. Do not have Windows search for your new hardware. The Wizard program defaults to "Yes" but you should click in the circle next to "No" so a dot appears and then click **Next**.

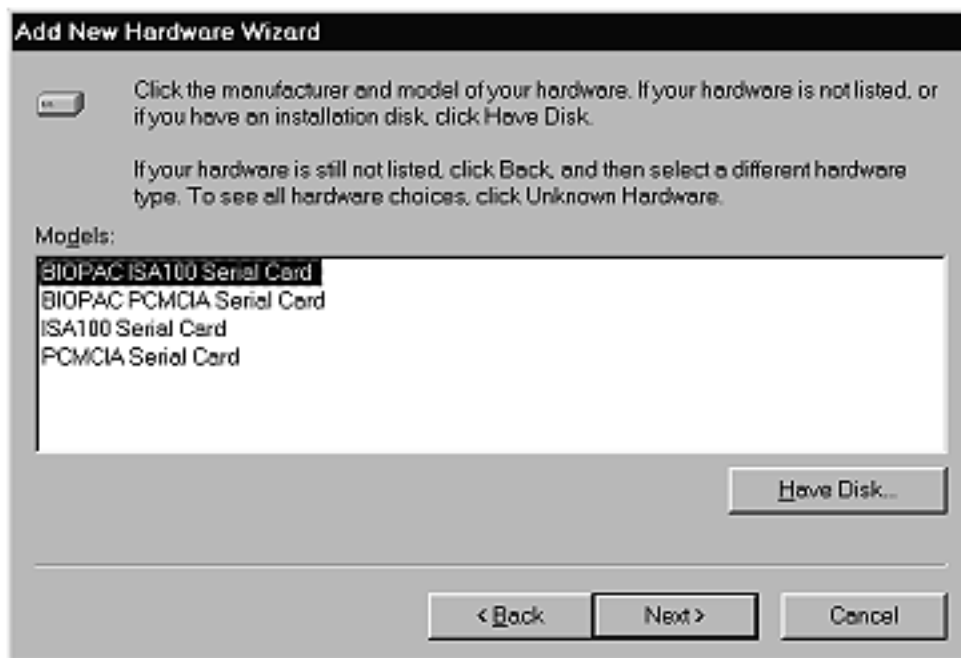


6. The type of hardware you want to install is the **Biopac Communications Adapter**. Select "Biopac Communications Adapter" and click **Next**.

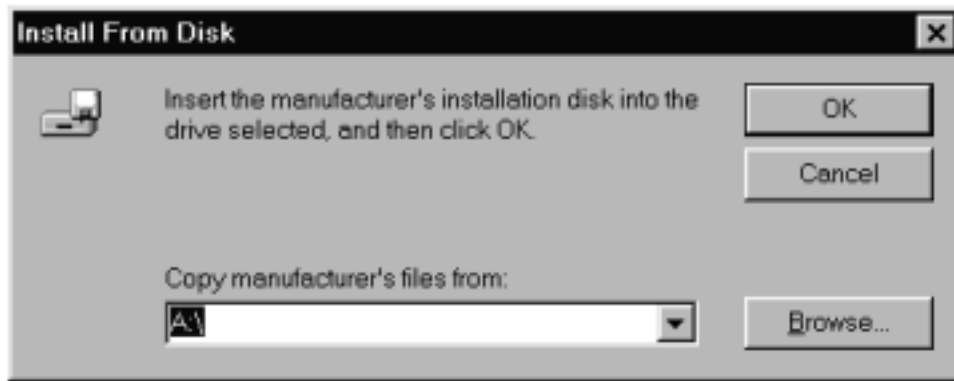


7. The following sequence identifies the manufacturer and model of your hardware. Your screen may not have any models listed, or may not include the BIOPAC ISA100 Card.

Click the **Have Disk** button.



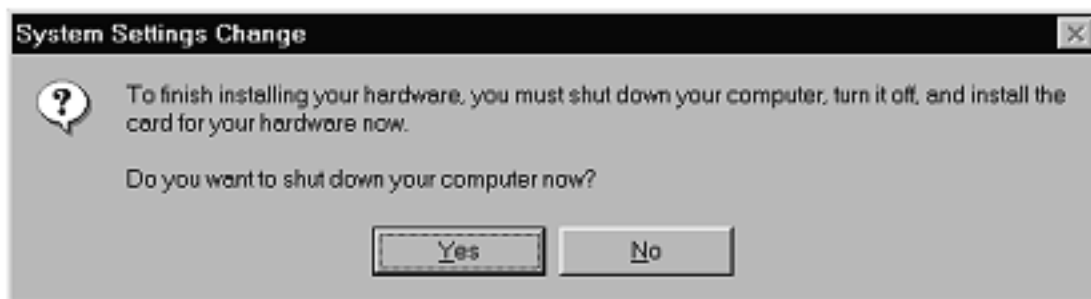
8. Your **Installation Disk** should still be in the drive. If necessary, use **Browse...** to redirect the Wizard to the Installation Disk. Then click **OK**.



9. Select ISA100 Serial Card and click Next.



10. Do **NOT** shut down your computer at this prompt. Click **No** and finish the Wizard prompts.



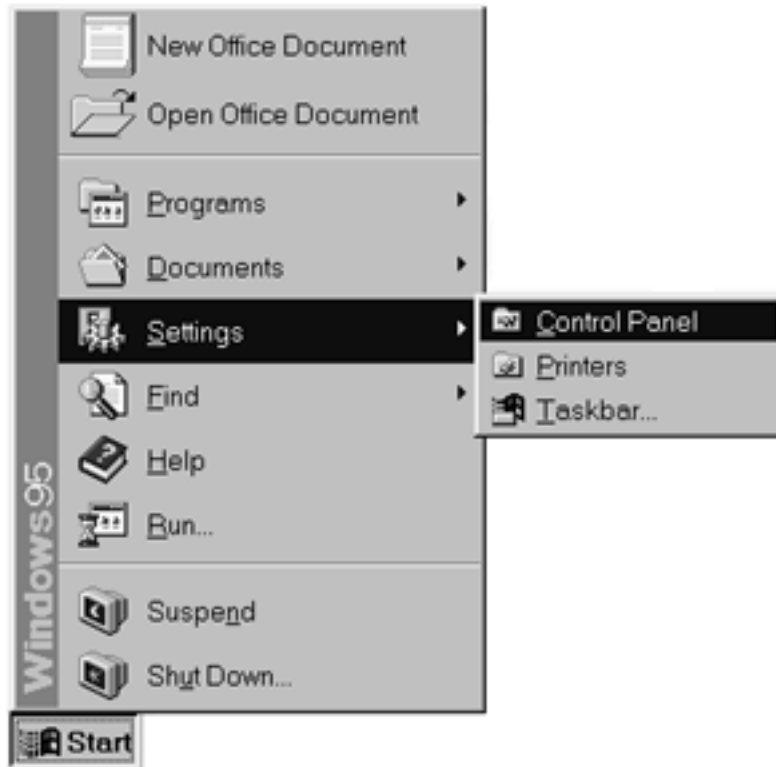
11. The Wizard will locate an available address and generate a schematic of the proper DIP switch settings for your ISA card. Ignore this schematic and click **Finish**.



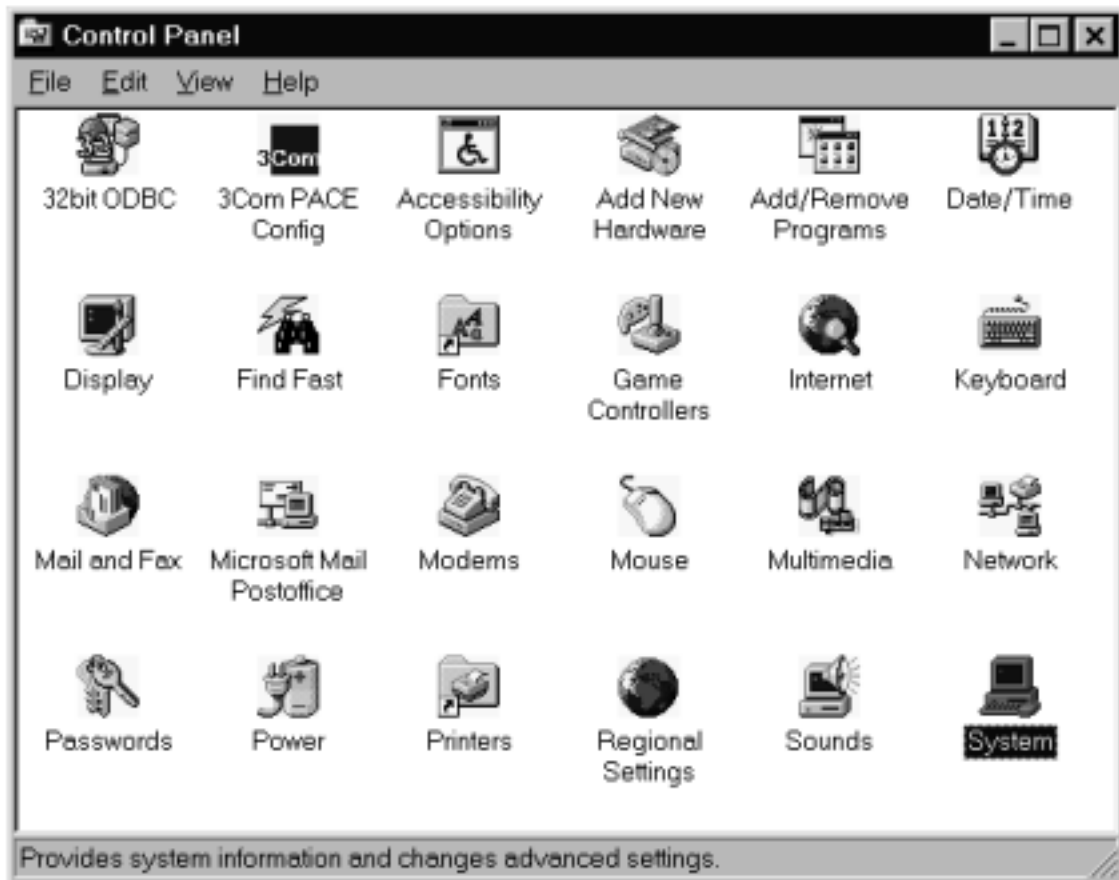
Do NOT restart your computer at this prompt. You need to use Device Manager to establish the proper I/O address for your ISA100A before restarting. Select the **No** option and click on **Finish**.



12. **Eject** the BSL Installation disk.
13. Click on the Windows **Start** menu, scroll to select **Settings**, and then drag to select **Control Panel**.

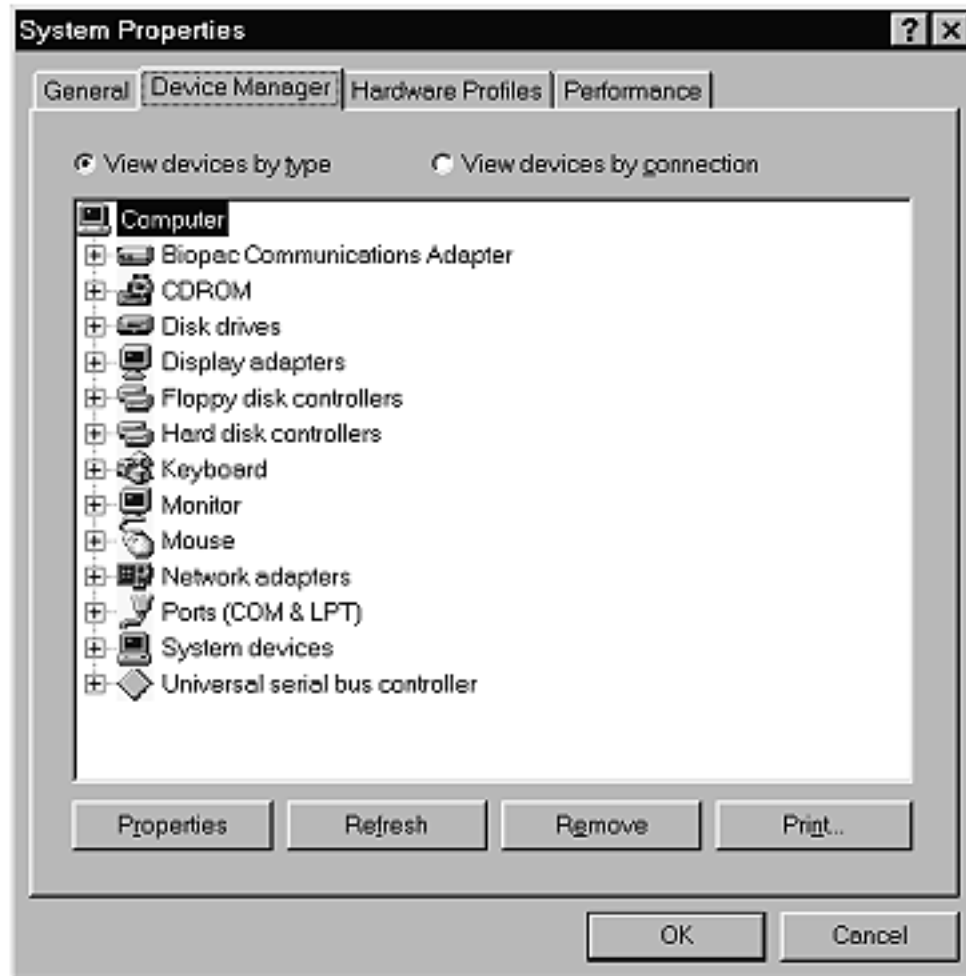


14. Double-click on the **System** icon in the "Control Panel" folder.



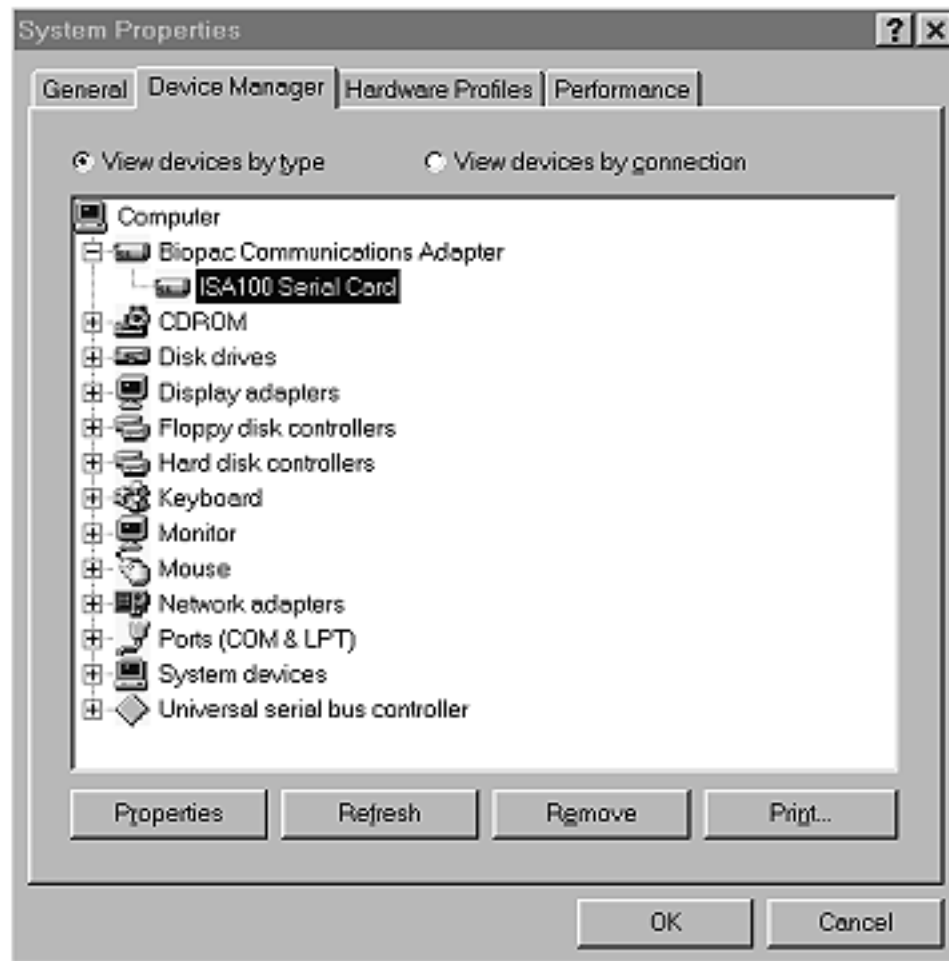
15. This will generate the **System Properties** window.

Click on the **Device Manager** tab to bring that screen to the front.



16. Double-click on the **Biopac Communications Adapter** option to select it.

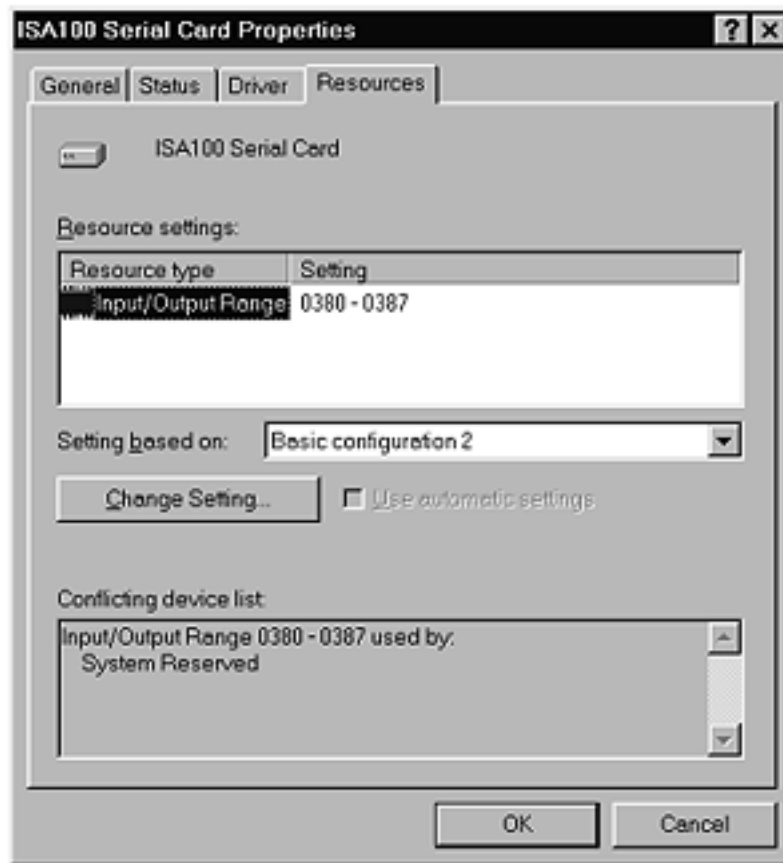
17. Double-click on the **ISA100 Serial Card** option to select it.



18. This will generate an "ISA100 Serial Card Properties" dialog box.

Click on the **Resources** tab to bring that screen to the front.

Then click on the **Change Setting** button (mid-screen).



19. This will generate an "Edit Input/Output" range dialog.

Locate the **V**alue box (mid-screen) and use the scroll arrows to locate the address for your ISA100A card.

20. Locate the I/O address you noted in Step 4 before you began the installation program.



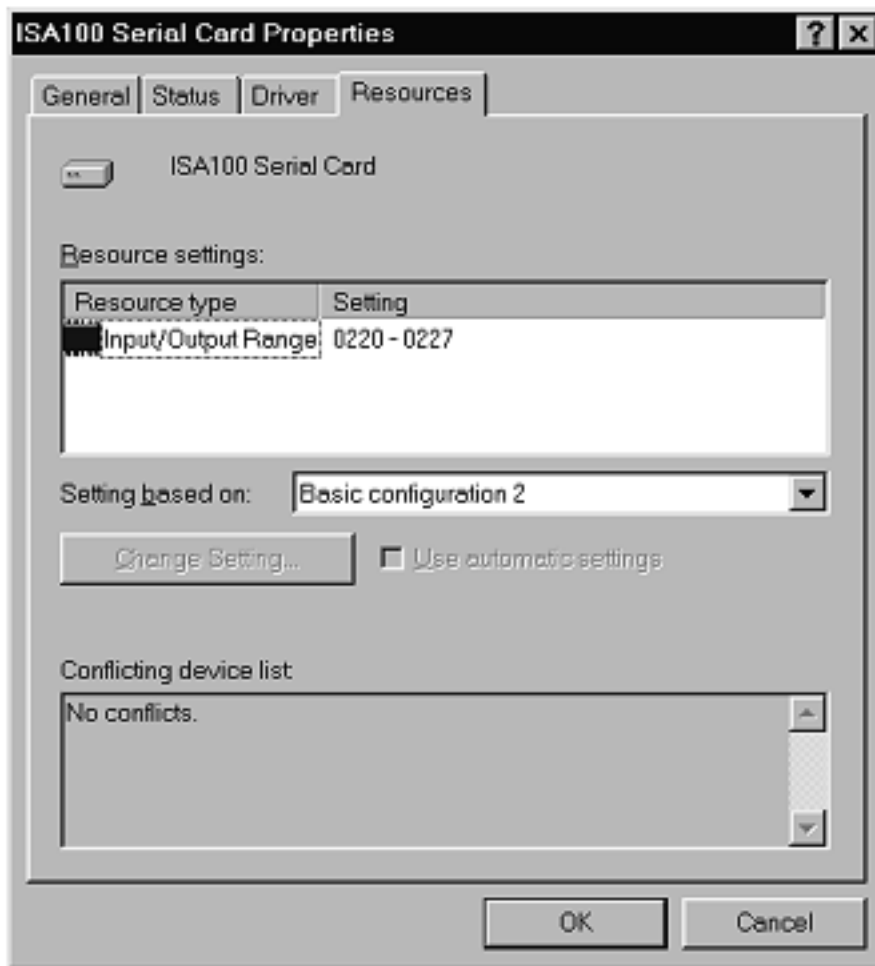
21. Review the "Conflict information" section (bottom of screen) to confirm that there is no conflict with your ISA100A address and click **OK**.



>>> **IMPORTANT NOTE** <<<

If your address does show a conflict, you may be using the ISA100 card for other or older BIOPAC programs or hardware. Complete this procedure and restart your computer. If the BSL will not run, see the "Trouble Shooting" section.

22. Review the **Resource settings** box (mid-screen) to confirm that the assigned address matches the I/O address you intended to assign and click **OK**.



23. Click **Yes** to shut down your computer. (You do not have to change the settings on your ISA card.)



24. **Restart** your computer. Turn your computer power on again.
25. Run the **Biopac Student Lab V3.0** program.

See "Part C - Beyond Basics" in your Biopac Student Lab Manual for detailed information about starting the software and associated warnings.

[Return To Application Note Menu](#)