

Setting up the 104-COM-8S and 104-COM-8SM for use in a computer running Windows XP.

The installation of the 104-COM-8S and 104-COM-8SM can be broken up into 3 primary steps. Step 1 will be determining which resources are free for the ports to use. Step 2 will be creating the individual communications ports in Windows, and reserving the selected IRQ for the board. Step 3 will be programming the board to use those resources.

### **Step 1: Determining free resources.**

The communications ports provided by the 104-COM boards each require 8 bytes of I/O address space aligned on an 8 byte boundary. These addresses will be described using hexadecimal numbers. The I/O addresses that can be used by these ports must fall somewhere between 100 and 3F8 inclusive. In addition, the ports will require one IRQ that will be shared amongst the eight ports being created, but this IRQ cannot be shared with any other devices.

When the boards are shipped from the factory they are pre-loaded with addresses 300, 308, 310, 318, 320, 328, 330, and 338 with an IRQ of 5. If you are fortunate enough to have these addresses and IRQ available when you go into Device Manager you can use the default values and skip step 3.

In order to find these addresses and the IRQ it is necessary to open the Windows Device Manager. Right-click on the My Computer icon and go to properties. On the “Hardware” tab there will be a button labeled Device Manager. Clicking on this button will bring up the Device Manager.

On the Device Manager menu bar is an option labeled “View”. Click on View and select “View Resources by Type”. Expand the section labeled “Input/output (I/O)”. Starting at base address 100 begin looking for places that have 8 bytes of available space. These addresses must not be claimed by any device.

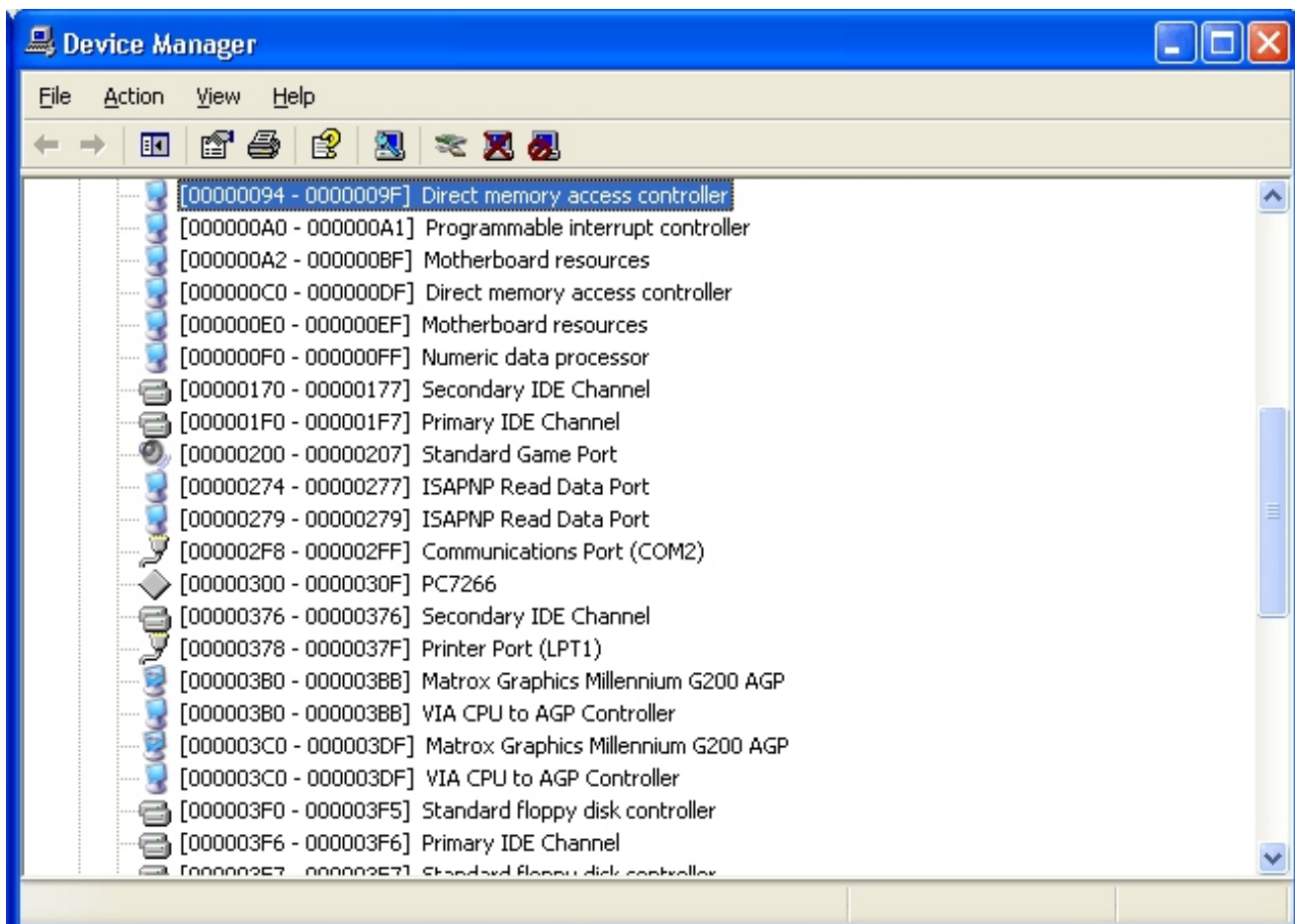
In the example shown here free addresses would include 100 to 170 hex. This means that communication ports could occupy addresses starting at 100, 108, 110, 118, 11F, etc. One could not be placed at 170 as that is claimed by the Secondary IDE Channel. It is necessary to find 8 addresses that will allow a communications port to be inserted.

A similar process is followed for determining an available IRQ. The 104-COM boards will accept any IRQ between 2 and F inclusive. Simply choose one that is available. (Writing all these numbers down would be a really good idea.)

## Step 2 Creating the communications ports in Windows and reserving the IRQ:

For this step click on Start and Control Panel. If your Control Panel is not already in “Classic View” click on the “Switch to Classic View” that is underlined on the left hand side of the window. Once you are in classic view double click on Add Hardware icon.

You will be presented with dialogue box welcoming you to the “Add Hardware Wizard”. Click on Next. The wizard will go through a process of searching for new hardware. This process should eventually fail and you will be asked if you have already connected the hardware. Select “Yes, I have already connected the hardware” and click Next. It does not matter if you have actually placed the 104-COM board in your computer at this time.

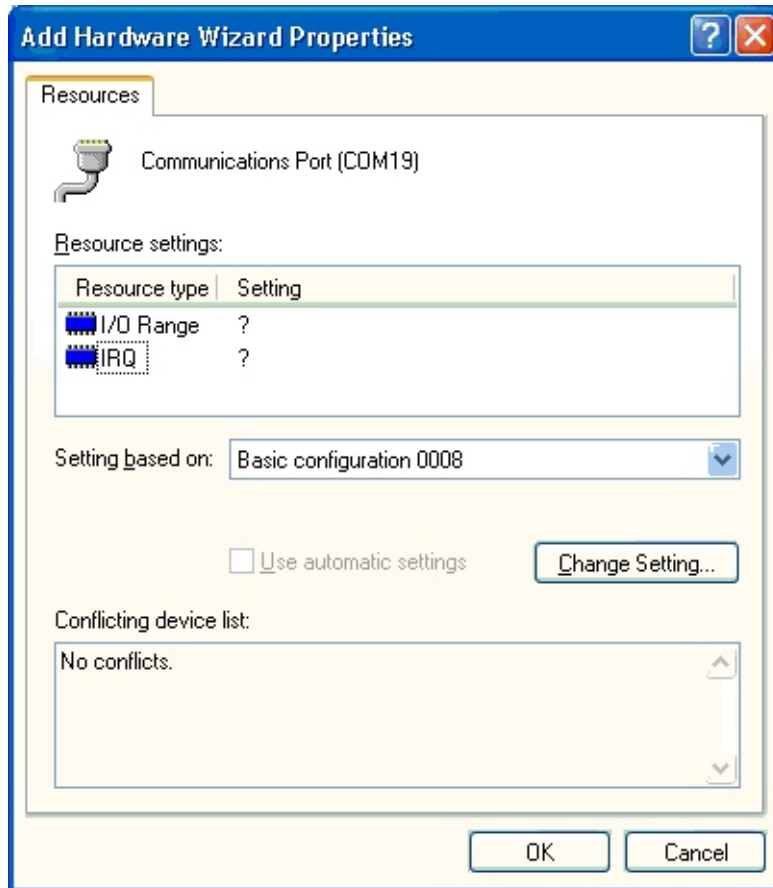


You will be presented with list of hardware already installed on your computer. Scroll to the bottom of this list and select “Add a new hardware device” then click Next. On the following screen select “Install the hardware that I manually select from a list (Advanced)” and click Next.

You will now be presented with list of hardware types. Scroll the list down to “Ports (COM & LPT)” then click Next. You should now see a list titled “Manufacturer” and a list titled “Model”. For Manufacturer choose “(Standard Port Types)” and for Model choose “Communications Port” then click Next. You will be shown which hardware the wizard is ready to install. All you have to do is click Next, and you should see the following screen.



Click on “View or change resources for this hardware (Advanced).” You will then see a screen telling you the communications port that was created with a message that the device is not using any resources because it had a problem. Click on the button that says “Set Configuration Manually.” You should see the following screen.



Drop down the list next to Setting based on and choose the last item in the list. This will *usually* result in question marks next I/O Range and IRQ. Keep selecting Basic configurations until you get the question marks. Once you have them you can set the I/O Range and IRQ for this particular comm port.

It will be necessary to run the Add Hardware wizard eight times. Once for each comm port. It is not necessary to restart the computer after each time you run the wizard. So, do not allow the wizard to reboot the computer until you have run it once for each of the eight ports.

Reserving the IRQ for the 104-COM board will vary by computer. It is necessary to go into the computers BIOS settings. On many machines there will be an option to “enable legacy ISA support” on certain IRQs. Enable the IRQ you chose for the board. On other machines it may be phrased as “Disable PNP support by IRQ”. In this case you would disable that particular IRQ. Either way the proper IRQ will have to be available to the ISA bus.

### **Step 3 Programming the board to use the selected resources:**

In order to setup the board open the setup program for your product, and follow the onscreen instructions. When you enter the base addresses and IRQ be sure to enter the ones you have been using throughout this process.