

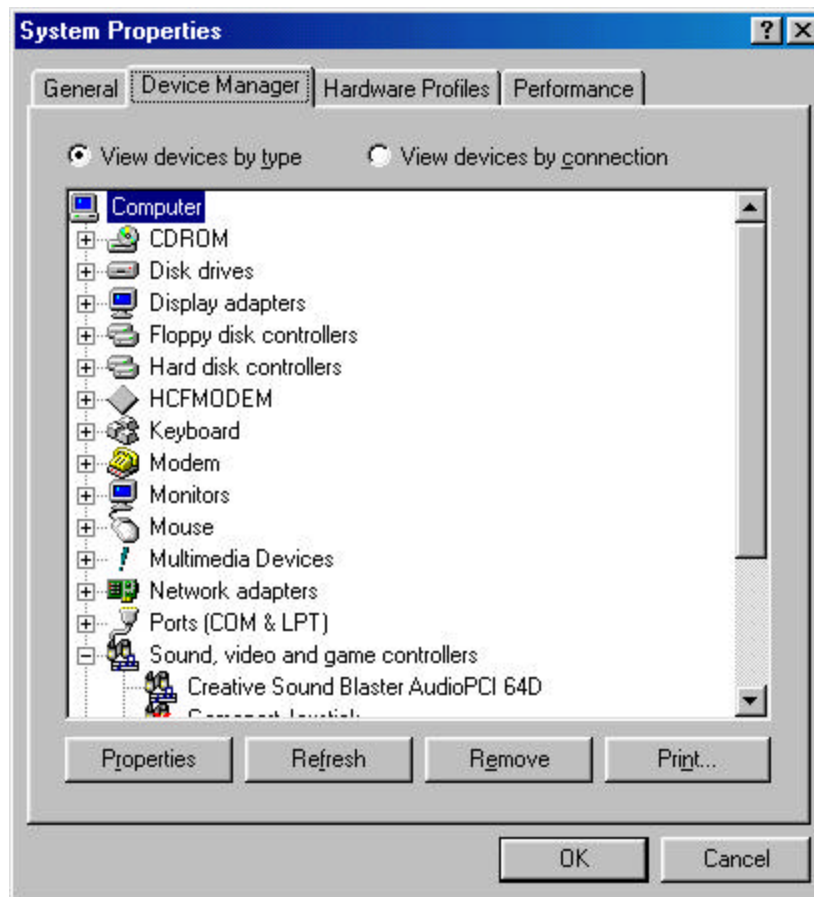


RITEC Application Note

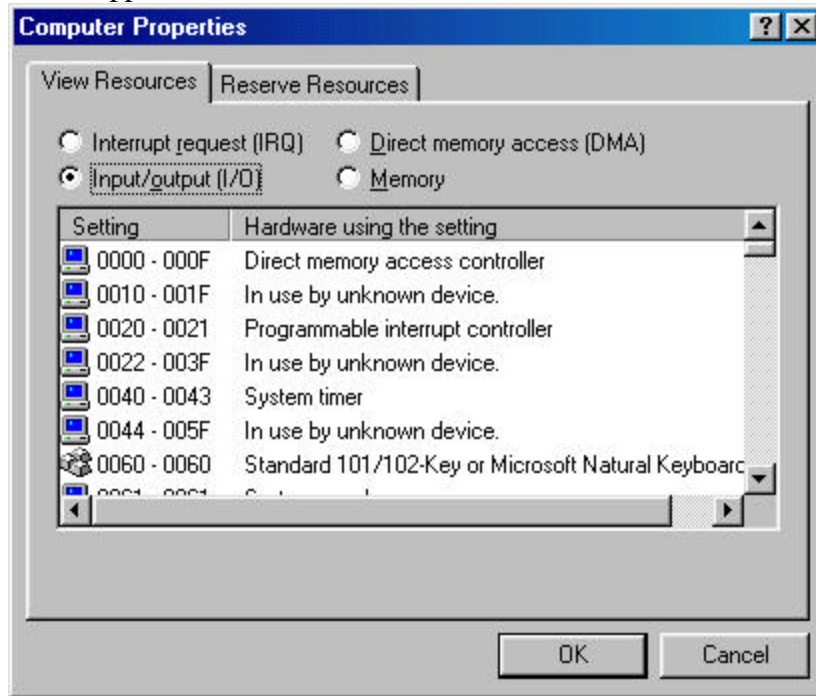
Installation of the ADAC-5525 Data Acquisition board

The ADAC card normally uses addresses 200 Hex through 217 Hex as a default. Because the ADAC card is not plug-and-play compatible, it is possible that a new plug-and-play peripheral can hijack these addresses and cause a conflict. Occasionally these addresses are used by multimedia plug-and-play peripherals such as a sound card or a game card. To properly install these cards without causing an address conflict, it is necessary to do the following:

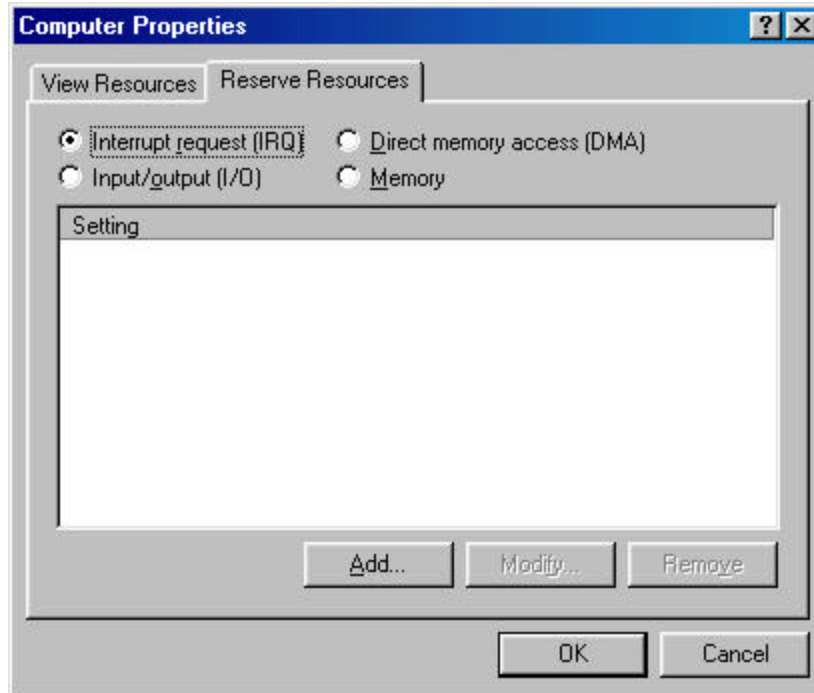
Open the device manager by clicking on the System icon in the Control Panel. You should get a picture like the following will appear:



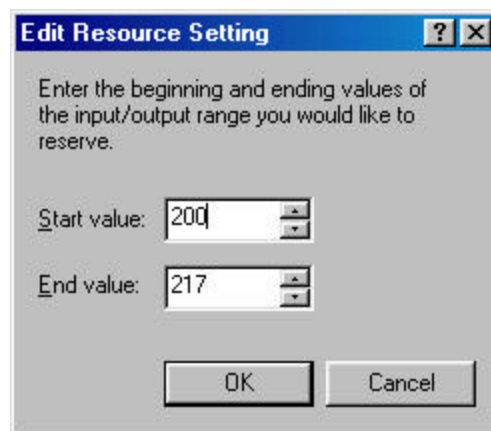
highlight on the Computer Icon as shown above and click on the properties button. The following screen will appear:



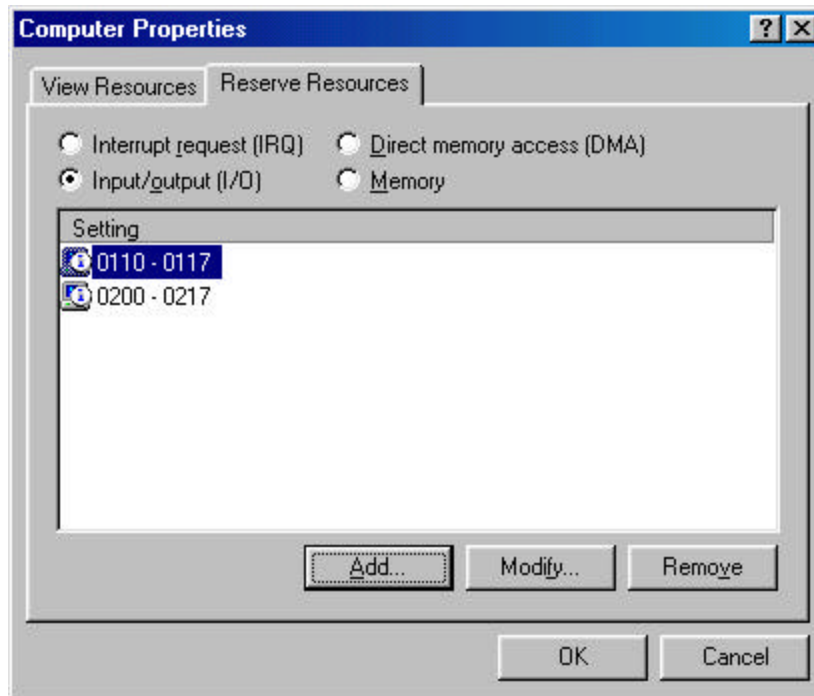
Click on the I/O button as shown above. The display will change to show the I/O addresses already in use in your computer. Usually the range of 200Hex to 220 Hex is open and can be used by the ADAC-5525 board without difficulty. If the addresses are open you can reserve them for the ADAC board by following the procedure outlined below. This will prevent future peripherals from hijacking the addresses. Click on the Reserve Resources Tab to obtain the following screen:



Click on the Add button and reserve from 200 to 217 Hex as shown below:



This will change the System Properties screen to look like:



Click OK to finish.

This should reserve the addresses which are required for the ADAC-5525 card. The procedure is identical to reserve addresses for the ADAC-5632 board which is used with the RAM-5000. The ADAC-5632 board uses address 110 through 117 Hex.

If the addresses are not open but there is a 20 Hex block of I/O addresses open at another location then it will be necessary to change the base address of the ADAC board to a range which does not conflict with other devices. To do this, you will need to move jumpers on the ADAC board. The instructions for changing the address is shown on pages 3-9 and 3-10 of chapter 3 of the ADAC manual. The factory default setting is to have jumper JP12 in the 9-10 location which corresponds to the base address of 200 Hex. The base address can be changed in 20 Hex increments from 100 Hex to 300 Hex. However several addresses in this range are reserved and cannot be used. Please see the table duplicated below from the ADAC manual.

JP 12								Hardware Fixed
15-16	13-14	11-12	9-10	7-8	5-6	3-4	1-2	
A12	A11	A10	A9	A8	A7	A6	A5	A4 A3 A2 A1 A0
---	---	---	IN	---	---	---	---	Factory Default 200 μ
0	0	0	1	0	0	0	0	0 0 0 0 0

Jumper Installed = 1, Out = 0

See the following page for a complete listing of possible Base Address Settings.

NOTE: I/O Address bits 10-15 are only valid for the PS/2 Model 30. Install W3, W4, W5 on PS/2 ONLY.

I/O Address bits 13-15 are fixed at 000. Configuration range is 000-3FF_H. (0000-1FFF_H on PS/2 Model 30)

OUT = --- = 0, IN = 1

Base Addr. (HEX)	JP 12							
	15-16 A12	13-14 A11	12-11 A10	9-10 A9	7-8 A8	6-5 A7	4-3 A6	2-1 A5
0100	---	---	---	---	IN	---	---	---
0120	---	---	---	---	IN	---	---	IN
0140	---	---	---	---	IN	---	IN	---
0160	---	---	---	---	IN	---	IN	IN
0180	---	---	---	---	IN	IN	---	---
01A0	---	---	---	---	IN	IN	---	IN
01C0	---	---	---	---	IN	IN	IN	---
01E0+	---	---	---	---	IN	IN	IN	IN
0200	---	---	---	IN	---	---	---	---
0220	---	---	---	IN	---	---	---	IN
0240	---	---	---	IN	---	---	IN	---
0260+	---	---	---	IN	---	---	IN	IN
0280	---	---	---	IN	---	IN	---	---
02A0	---	---	---	IN	---	IN	---	IN
02C0	---	---	---	IN	---	IN	IN	---
02E0+	---	---	---	IN	---	IN	IN	IN
0300	---	---	---	IN	IN	---	---	---
0320+	---	---	---	IN	IN	---	---	IN
0340	---	---	---	IN	IN	---	IN	---
0360+	---	---	---	IN	IN	---	IN	IN
0380+	---	---	---	IN	IN	IN	---	---
03A0+	---	---	---	IN	IN	IN	---	IN
03C0+	---	---	---	IN	IN	IN	IN	---
03E0+	---	---	---	IN	IN	IN	IN	IN

+NOTE: Reserved. DO NOT USE.

*NOTE: These jumpers are only effective on IBM PS/2 MODEL 30. DO NOT INSTALL for IBM PC and compatibles.

If you change the address of the ADAC board, then it will be necessary to change the lst.set file in the c:\ritec subdirectory to communicate this configuration change to the

RAM.EXE program. This can be accomplished by changing the last line of the lst.set file as follows. In the standard lst.set file as distributed, the lst.set file looks like the following:

```
Setup Parameters      LST.SET
```

```
13:39:46
```

```
12 Oct 2000
```

```
Transducer Information:
```

```
10.0199      MHz  Operating Frequency
.0001        MHz  Frequency setup step value
70           Cycles/Burst
6.986        Burst width in microseconds
0           Burst width constant in
2           Internal      Trigger source
8           100 Hz       Internal repetition rate
128          Single Cycle Divide by 4 circuit
1           No.1        Receiver input channel
1.08         Volts      -Gated amplifier control voltage
0           250 kHz     RF High-pass filter
3           20 MHz      RF Low-pass filter
7           2000 kHz    Video Low-pass filter
2           .4 MHz     IF Bandwidth
3           348 kHz    Integrate rate variable
9.95         MHz  Low Frequency Run Boundary
10          MHz  High Frequency Run Boundary
200         steps Number of Frequency Steps
9999        mm    Transducer Radius
1           1      Number of echoes measured
1           Number of points averaged
```

```
Leading
```

```
1           -Echo Number                      1
22 dB      -Receiver Gain                      1
60 us      - Integrator Gate Delay            1
20 us      - Integrator Gate Width           1
200 us     - RF Signal Gate Delay            1
10.4 us    - RF Signal Gate Width           1
1           -Receiver Input                    1
.01        Min. time between bursts (sec)
60         Measurement time (sec) for relative measurement
501        Min. number of points for relative measurement
190638.5   Timing Calibration
200        Base Address for ADAC-5525 board in Hexadecimal.
```

By changing 200 in the last line to the base address selected by the jumper changes in JP12. For example to change the base address of the ADAC board to 280 Hex, add a 2 pin jumper to the 6-5 location on JP12 and change the base address to 280 Hex by changing the last line to

```
280      Base Address for ADAC-5525 board in Hexadecimal
```