

# IRQ's and DMA's

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One of the major difficulties people have in installing their PAS sound card and/or CD-ROM is conflicts with interrupts (IRQ) and Direct Memory Access (DMA).

## IRQ Conflicts

Interrupt conflicts can be generally recognized by sound that continues to skip like a broken record or a small portion will play and your computer will lock up.

There are several points to remember with IRQ's and your soundcard:

1. The PAS is like two cards, each needing its own IRQ and DMA. If possible, leave the Sound Blaster portion at its default of IRQ5 and DMA 1. Many games look for these settings and if yours are different it won't play correctly or at all. Carmen Santiago (CD and disk) is known for this.
2. Select a different IRQ and DMA between the Sound Blaster portion and the PAS portion of the card. You can usually share a DMA but not the same IRQ.

## DMA Conflicts

DMA conflicts generally show up as no sound, a loud hissing or lockup of your computer especially when trying to access a disk..

## Finding Conflicts

There is no easy trick for finding conflicts in your IRQ's and DMA's. The only way is to make a list of all your DMA's and IRQ's in use.

Here is a list of common IRQ and DMA assignments for a standard AT computer. Your machine MAY be different:

Interrupt	Assignment
1	Keyboard
2	Int 8-15 (your mouse may be assigned this, especially an ATI video card with on-board mouse)
3	COM2 (2nd serial port - usually available if not assigned to the mouse)
4	COM1 (1st serial port - most modems have taken this)
5	Generally available (SoundBlaster default)
6	Floppy Disk Controller
7	LPT1 (1st parallel port - usually shareable with your printer)
8	Real time clock (generally usable)
10	Available
11	Available
12	Available
13	Math coprocessor (available if none installed)
14	Hard Disk controller
15	Available
DMA	Assignment
0	Available (on some machines)
1	Available (SoundBlaster default)
2	Floppy Disk
3	Available

- 4 Memory Refresh
- 5 Available
- 6 Available
- 7 Available

### Getting Down to Business

First, make note of what you have installed in your machine: Scanner, tape backup, modem, SCSI cards, Network and so forth. Then, backup your Autoexec.Bat, Config.Sys, Win.Ini and System.Ini files.

Now, go through your documentation and your existing Autoexec.Bat, Config.Sys, Win.Ini and System.Ini files and write down the IRQ's and DMA's that have been assigned to each card. It's also not a bad idea to also note any memory address they happen to use. Using the lists above write in what has been assigned to what IRQ and DMA. What's left over can be used (if marked available).

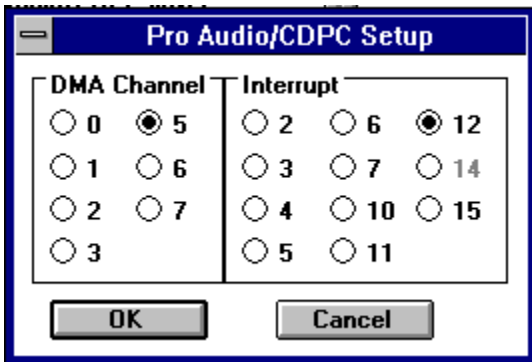
Remember, many games expect to see IRQ5 - DMA1 for Sound Blaster so you may have to move something so you can keep the SB there. It's easier to move the SB defaults to other numbers, but you will end up having troubles with some programs not producing sound.

### Windows Setup

If you are running windows, install the drivers from the master floppy disk. Then open the Control Panel, double click on DRIVERS, and you should see something like this:



Highlight the line that is highlighted above, then click on SETUP. The following screen should look like this:



You can set your IRQ and DMA for the MV portion of the card here. This setting is saved to your

System.ini file.

You should also have the following line in your Config.Sys file if you want sound in DOS:

**device=C:\PROAUDIO\MVSOUND.SYS D:5 Q:12 T:1**

Note that your subdirectory may be different. In this case, the DMA (D:) is set to 5, the interrupt (Q:) is 12 and the on board timer is used (T:1). Windows does not need MVSOUND.SYS but it is needed for playing sound from DOS.

You should have the following in your Autoexec.Bat file:

**SET BLASTER=a220 D1 I5 T3**

(a) is memory location, (D) is DMA 1. (I) is IRQ 5 and T3 is needed.

Check to see that you have the following sections in your System.ini file:

[boot]

sound.driv=mmsound.driv

[drivers]

midimapper=midimap.driv

timer=timer.driv

MIDI=opl3.driv

MIDI1=mvproaud.driv

Wave=mvproaud.driv

Aux=mvproaud.driv

Mixer=mvmixer.driv

[mci]

Sequencer=mciseq.driv

WaveAudio=mciwave.driv

CDAudio=mcicda.driv

Mixer=mcimixer.driv

[Multimedia.Setup]

audio=mvproaud.driv,0,0,0

[mvproaud.driv]

dma=5

irq=12

buffer=64

NOTE: It is recommended you also get the file MIXER.ZIP to understand how the Pocket Mixer and Pro Mixer work. You must use one or the other to get sound in Windows.

## DOS Setup

If you are having problems getting sound from your card, check that you have the following line in your Autoexec.Bat file:

**SET BLASTER=a220 D1 I5 T3**

a=port address D=DMA I=IRQ

It is also helpful to have the following:

**PAS set sb to 85**

This sets the volume to 85% and makes sure you get something. If the Proaudio files are not in your path statement, then add the path to the line above.

Note: Most DOS programs can only use DMA1 and 3 and IRQ2, 3, 5 and 7.

You will need to use the PAS utility to set volume etc. This is covered in the manual.

You must also have the following line in your Config.Sys file to get sound:

**device=C:\PROAUDIO\MVSOUND.SYS D:5 Q:12 T:1**

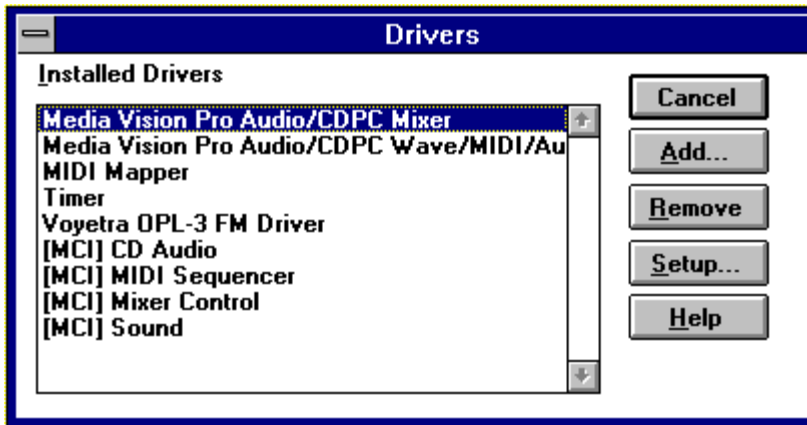
Note that your subdirectory may be different. In this case, the DMA (D:) is set to 5, the interrupt

(Q:) is 12 and the on board timer is used (T:1).

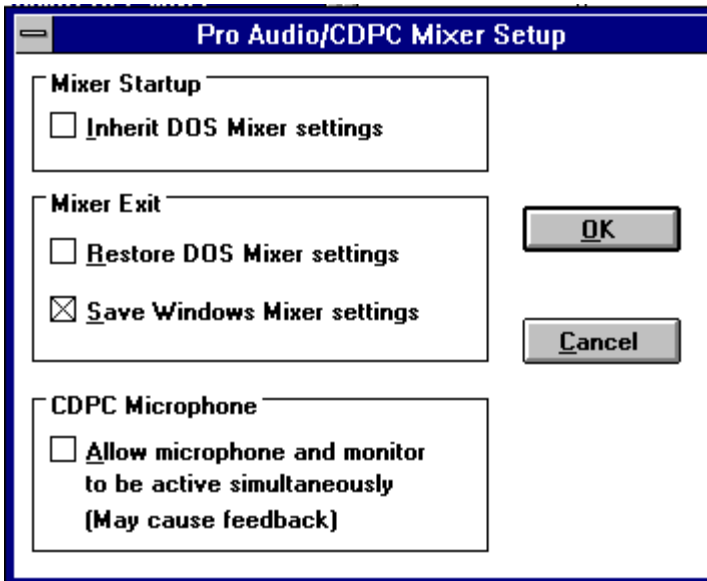
### If you are using the 1.44 drivers for windows:

What follows taken borrowed from the documentation that comes with the 1.44 drivers. These drivers are different from earlier versions in that they have settings that affect your Mixer. These settings are accessed from the Control Panel as follows:

- a) Start the Control Panel
- b) Double click on Drivers Icon
- c) Select the entry "Pro AudioSpectrum/CDPC Mixer"



- d) Press the "Setup" button.



You have the following options:

#### Inherit DOS settings

Selecting this directs the Windows audio mixer driver to use the mixer settings that were being used in DOS at the time Windows was started. For example, if you set the record

level for the microphone at 100% in DOS using the PAS.EXE program, the same record level will be retained by the Windows mixer driver when Windows starts.

### **Restore DOS Mixer settings**

If this option is selected, when you exit from Windows the Windows mixer driver will restore the audio mixer settings that were being used by DOS applications when Windows started. For example, if the record level for the microphone is set at 100% in DOS using the PAS.EXE program, and is changed to 50% while being used in Windows, the Windows mixer driver will return the record level for the microphone to 100% when you exit from Windows.

### **Save Windows Mixer settings**

If this option is checked, upon exit the audio mixer settings used in Windows will be saved so that they can be restored the next time Windows starts. However, if the user has also checked 'Inherit DOS settings', the DOS settings will override this option.

### **Allow Microphone And Monitor To Be Active Simultaneously**

If this option is selected, both the microphone level and the monitor level on the CDPC and the CDPC XL can be raised (active) simultaneously. Ordinarily, the default condition of the Windows mixer driver is set to the opposite of this state to prevent feedback from the CDPC's built-in speakers through the microphone on the front panel of the CDPC. If you choose to allow both audio channels to be active, be careful not to raise the record level for the microphone too high as the feedback can be very loud. To avoid this happening, it is suggested that you gradually elevate the level settings until you obtain the proper balance without causing undue feedback.

## **Known Problems with 1.44 Drivers**

These drivers appear to have problems with short (under 2k) WAV files. MV says a fix is being worked on and will be released with V1.45 at a later date.

## **CD-ROM**

(Specifically the Fusion and Fusion 16.)

In addition to the information above, the CD-ROM needs several files. One is mscdex.exe. This is the CD driver.

This should be placed in your Proaudio or Fusion subdirectory by the install program.

The latest version is available in the MicroSoft Library (GO MSL) and can be found by browsing under the keyword mscdex or CD.

The following line should also be in your Autoexec.Bat file:

```
c:\proaudio\mscdex.exe /D:mvcd001 /M:10 /V /L:E
```

Note: your subdirectory may be different.

M=buffers and can be set higher if you choose, /V = verbose listing at bootup.

Note also that this file can not be loaded high (loadhigh) if you are using DOS5.0 or QEMM.

If you are using a SCSI CDROM, your Config.Sys file should contain the following line:

```
device=c:\proaudio\tslcdr.sys /d:mvcd001 /P:3
```

Note: your subdirectory may be different and the SYS file may have another name. This is the driver for the CD-ROM and is NOT a MV program. It is written by another company and MV can only sell it. That's why you do not see it available for download.

Two major things to watch out for when installing the CD-ROM.

1- Make sure the 50 pin cable is correctly oriented when attaching to the pins. The red mark at each end marks the wire that should connect to pin 1. Plugging this in upside down will cause problems in accessing the drive, and may burn out your cable.

2- Make sure you orient the audio cable from the CD to the PAS correctly. Plugging this in upside down will mean NO sound.

If the computer accesses the ROM (the light blinks) and you can hear audio from the headset jack on the ROM, it is working correctly. If at this point there is no sound from the PAS, then the audio cable is inserted incorrectly, or you have an improper setting in the MIXER. Download MIXER.ZIP for instructions on how to use this program.

If you still have problems, leave a message in the MediaVision forum and someone will help you.