

## UNIT -IV

### Sound & Video Card Troubleshooting

**By completing this module you will be able to understand and learn about the troubleshooting of Sound and Video card in the system.**

#### Sound card trouble shooting

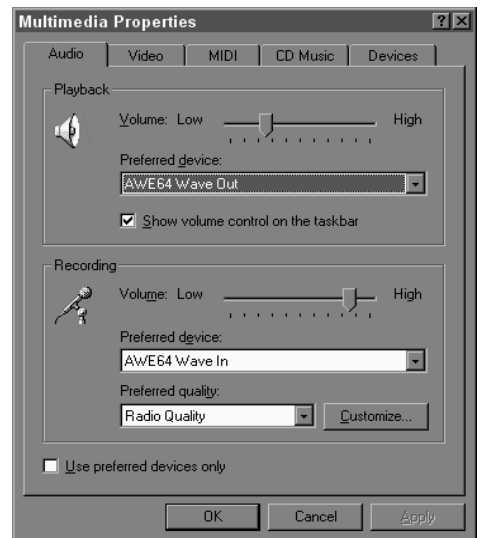
##### I. Making sure that you have a card and drivers for the installation

- First, be sure that you have a sound card installed on your system and have speakers or headphones connected to it.
- The sound card is usually a card in the back of your machine, although some newer machines have them installed on the motherboard.
- Check that the wire from your speakers or headphones is connected to the "Speaker Out" or " Spk Out" slot on the back of you machine.

Once you have checked these connections and you know that you have a sound card and headphones or speakers, follow this guide:

##### Check that you have the drivers for the card installed:

1. In Windows 95/98/NT, go to "Start" - > "Settings" - > "Control Panel" and double click the "Multimedia" icon. This should bring up the "Multimedia Properties" box
2. On the Audio tab, you should see two areas: Playback and Recording. If these are greyed out and have "None" listed under preferred device for these sections, then your sound card drivers have not been installed
3. If you have a device listed here, such as "AWE64 Wave Out" or "Sound Blaster 16" then your drivers are installed. Make sure to check the "Show volume control on the taskbar" option



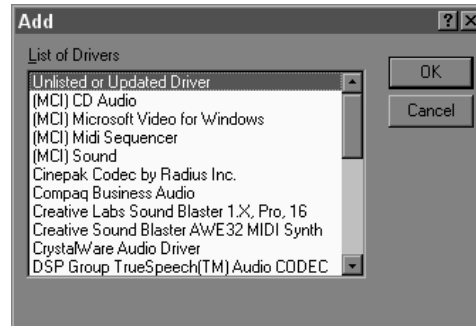
## If you do not have drivers installed.



1. Consult your sound card documentation or follow this basic guide on how to install drivers for your sound card.
2. You will need the disk or CDROM that was given to you along with your sound card initially
3. Switch to the "Devices" tab of the Multimedia Properties box

4. Click "Add."

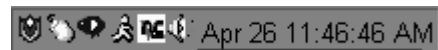
5. Choose "Unlisted or Updated Driver" and click "OK."



6. Enter the path to the disk or CDROM that came with the Sound Card and hit "OK."
7. Select your card and click "OK"
8. Your machine may need to reboot

## II. Checking Sound Levels and Speaker Volume

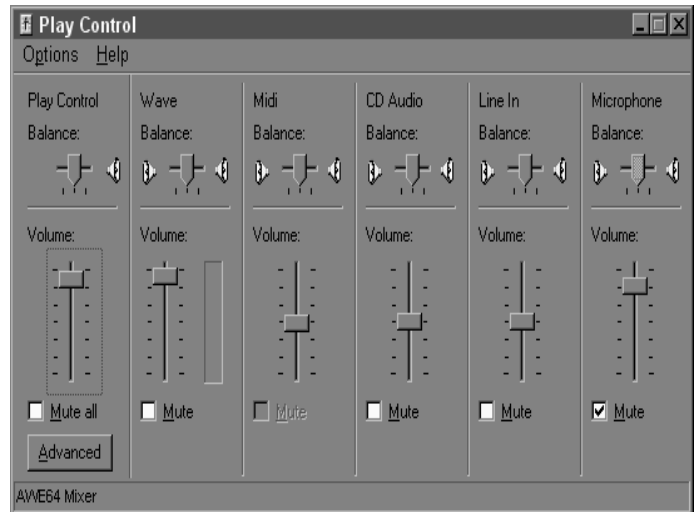
Once you know you have a card and drivers installed, check the volume and make sure it is at an audible level.



1. Go to the system Volume Control by double clicking the small speaker icon next to the "Time" field on the taskbar. If you do not have this icon, follow the instructions above on getting to the "Multimedia Properties" box and click "Show volume control on the taskbar."

**(Actual Volume Control Options may vary slightly depending on your configuration.)**

2. Make sure the "Play Control" or "Master" and the "Wave" controls are set to a high enough level and make sure that your speakers have the volume turned up high enough
3. If the sound level available from your card is too low, you may need to use headphones or amplified speakers. Before doing this you should ensure that both master volume and "wave" levels are set to their maximum, and not muted.
4. If you add speakers be sure the power supply is plugged in, and the power switch is on



### Troubleshooting Video Card

- Resolving video card problems can be costly if you opt to replace the hardware when a problem does occur.
- Before you take such drastic measures, you should consider other solutions such as updating the driver.

Here are some of the common problems that can arise from video cards and some suggested solutions.

### Video Cards

There are several video-related components that are responsible for displaying the characters. The hardware components include : the monitor, video card (also referred to as the video adapter card), and the motherboard.

Problems with any of these components can cause problems with your computer's display.

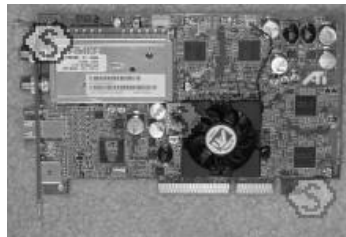
For a quick refresher, the video adapter card is a board that is plugged into your computer's system board and monitor to provide display capabilities.

There are many different types of video cards available on the market. However, most are susceptible to the same common types of problems.

A few common video card related problems along with the possible trouble shooting tips are dicussed below :

## No Display on the Monitor

- One common problem that occurs is that the operating system, such as Windows XP, never appears. In other words, the computer starts up but nothing appears on the monitor.
  - Assuming that you have already ruled out the monitor as being the source of the problem, your next step should be to take a look at the video card.
  - This particular problem can be caused from several different things such as a video card that is not properly seated or a loose connection from the video card to the monitor.
- Troubleshooting this problem will require you to locate the video card inside your computer and verify the following:
  - Assuming that the video card adapter is separate from the motherboard, you should check that the card is properly seated.
  - Sometimes one end of the card may come out of the slot when it is initially screwed, resulting in no display appearing on the monitor.
  - Verify the correct jumper settings for video cards that are mounted to the motherboard. This will require you to check the documentation that was sent with the hardware.



- The cable running from the monitor to the video port may also be the one of the reason for the problem.
- Examine the monitor cable to ensure that there are no broken or bent pins. A bent pin can usually be straightened using a pair of sharp-nosed pliers. In the case of a broken pin, you will need to contact the manufacturer of the monitor to determine if the cable can be replaced.
- Also check that the cable running from the monitor to the VGA port is secure. Although these may seem like simple trouble shooting steps, it is often the simple ones that people over looked.

## Operating System does not appear

- If the contents of the start up process appear on the monitor but the display is blank after it is complete, this would indicate that there is an operating system video related problem.
  - For example, an incorrect video driver may have been installed such as one that is not compatible with the operating system.
- Trouble shooting this problem in Windows XP
  - you will have to start the computer in **Safe Mode by pressing [F8] when the Starting Windows message appears.**
  - From the **boot menu** select the **Safe Mode option.** This will force Windows XP to start using the standard VGA driver, instead of the video driver that is used when the operating system is started normally.
  - Once the computer is started in Safe Mode, you can install the correct video driver using Device Manager. These steps are outlined in detail under the heading "**Updating Video Drivers**" later in the article.
  - The video problem discussed above can also be the result of over clocking. This is a popular method used to get more performance out of a hardware component such as a video card adapter. however, it can result in display problems.
    - The problem can once again be resolved by starting Windows XP in Safe Mode and configure the video card to operate at its default speed.

## Poor Display

A poor display on a monitor can mean a number of different things like -

- Images may appear to be fuzzy.
- Text that appears on the screen may be distorted and difficult to read.
- The monitor may flicker.

A poor display can also lead to other problems such as head aches and sore eyes. Therefore, this is definitely a problem that you are going to want to correct as soon as possible.

A poor display can be caused by a number of different things. You should first verify that the latest driver for the video adapter has been installed. You can determine which driver version is currently installed in Windows XP by completing the steps outlined below:

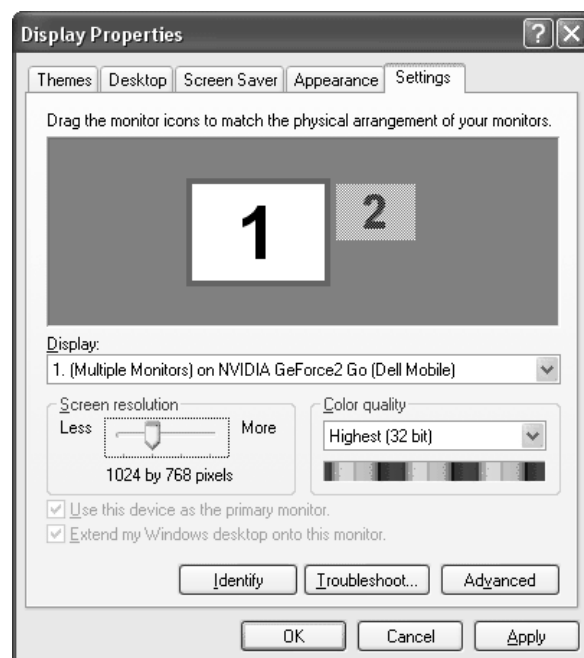
1. Right click the Windows desktop and click Properties.
2. From the Display Properties dialog box, click the Settings tab.
3. Click the Advanced button.
4. Click the Adapters tab.
5. Click the Properties button under Adapter Type as shown below.
6. Click the Driver tab.



- Select the Properties button under Adapter Type to locate specific driver information including the driver version.
- You can find the version information beside the Driver Version field. Compare this version with the latest version on the manufacturer's Web site.
- If the driver needs to be updated complete steps four through seven listed under the section entitled "Updating Video Drivers".
- If the latest driver is installed, you may need to adjust the resolution and refresh rate (this is the rate at which the video card redraws the screen) for the video adapter card. Incorrect display settings can cause problems with your display.

## Screen Resolution

- To configure display settings, right click the Windows XP desktop and click Properties to open the Display Properties dialog box.
- Select the Settings tab shown below to change the resolution settings. Use the slider under Screen resolution to adjust the settings. Typically, a 17 inch monitor will have a default resolution of 800x600.

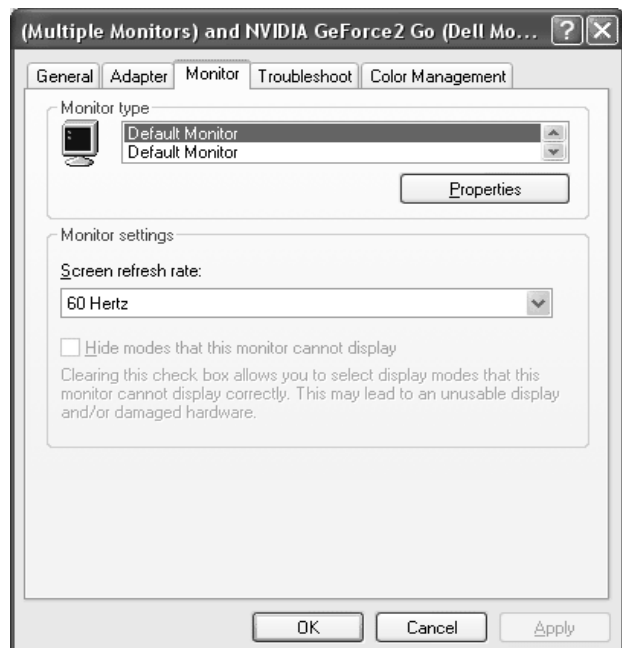


### Use the Settings tab from the Display Properties dialog box to change the resolution.

- If you are unable to select the desired resolution that should be supported by the video card, you will need to again check that the operating system has correctly identified the card.
- In Windows XP, you can use Device Manager to make sure the card has been properly detected. If the card has not been properly identified, you will once again need to check the driver.
- It is usually recommended that you use the drivers supplied by the manufacturer instead of the drivers included with Windows.
- The screen resolution may also be limited if the wrong monitor is selected.
- To check the monitor selection, once again open the Display Properties dialog box and select the Settings tab. Click the Advanced button and select the Monitor tab.
- In case the monitor listed is not correct, you will need to update the driver for the monitor.

### Refresh Rate

- In case the problem still persists after adjusting the resolution, your next step should be to adjust the refresh rate.
- Lower refresh rates tend to cause flickering so it is important to verify this setting.
- You can adjust the refresh rate using the Settings tab from the Display Properties dialog box.
- Once again, select the Settings tab and click the advanced button.
- Select the Monitor tab as shown below. Use the drop down arrow to adjust the refresh rate to about 70 MHZ. Remember that a higher refresh rate will reduce the amount of flickering.
- As with the screen resolution, if you are unable to select the desired refresh rate, go back to the video driver to make sure the latest one is installed.



## Use the Monitor tab to adjust the refresh rate

**Note:** It is important to verify that the monitor supports the screen resolution and refresh rate configured in the Display Properties dialog box. The documentation or manual that came with your monitor should identify the values that are supported.

## Problems Displaying Videos or Animations

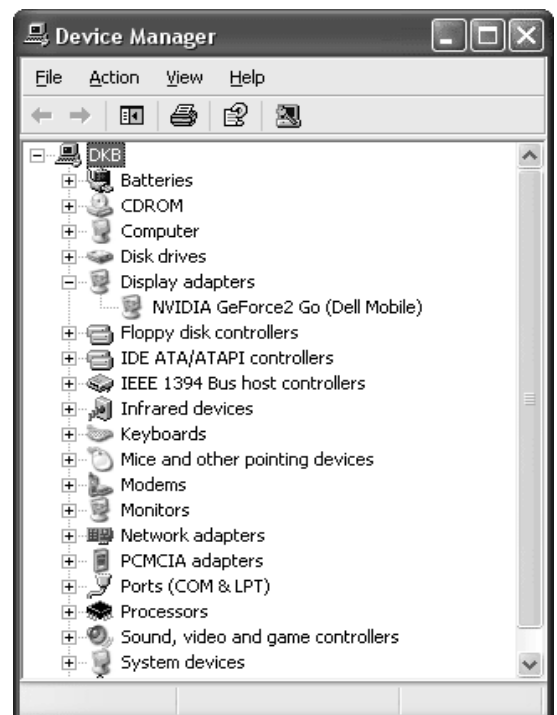
Problems with videos and animations are usually attributed to a display adapter driver that does not support DirectDraw.

- If videos and animations are not correctly displayed on the monitor, your first step should be to determine if the video card adapter driver supports DirectDraw.
- This can be accomplished using the DirectX Diagnostic Tool.
  - From the Run command type *DxDiag.exe* and click OK.
  - From the Display tab, click the Test DirectDraw button.
  - Windows XP will perform a series of tests.
  - If your display does not pass each of the tests, you will need to update the video adapter.
- If updating the video adapter driver does not solve the problem, verify that your video card is indeed supported by the operating system installed on your computer.
- If you are running Windows, you can check the Hardware Compatibility List (HCL) to determine if the video card adapter is supported.

## Updating Video Drivers

This is one of the most common problems with video cards.

- Faulty or incorrect video drivers can result in such things as operating system instability, video subsystem problems, and so on
- Most video cards are provided with drivers on a floppy disk or a CD-ROM
- One may use the drivers that usually come along with the hardware or visit the manufacturer's Web site to obtain a more recent one



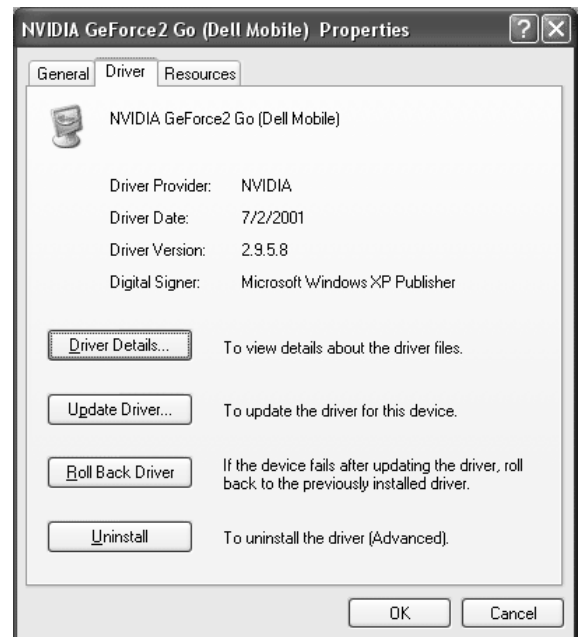


- The drivers should come with a text file outlining the installation process
- The first step in updating the driver is to identify the make and model of your video card
- In Windows XP, you can see a list of all the hardware components within Device Manager
- The video card should be listed under Display Adapters as shown
- In case it is has not been recognized by Windows XP, it may be listed under Unknown Devices. Double click on the video adapter listed to identify the make and model. This information can be used to retrieve the latest driver from the manufacturer's Web site

### Device Manager will list the Display Adapter installed in the computer

If you are running Windows XP, you can update a device driver using the steps listed below:

1. Right click My Computer and click Properties.
2. From the Hardware tab, click Device Manager.
3. Within Device Manager, double-click the video adapter listed under Display Adapters.
4. Click Update Driver as shown below to open the Hardware Update Wizard.
5. Accept the default option, Install the Software Automatically. Choose the Install from a List or Specific Location option if you have the updated driver so you can indicate the file location. Click Next.
6. Windows searches for an updated driver and instructs you if an updated driver has been found.
7. Click Finish once the updated driver has been installed.



### From the Driver tab, click the Update Driver button

- The majority of video adapter card problems can be solved by ensuring that the correct driver is installed and that the display settings are properly configured based on the capabilities of your hardware.
- In case you are unable to resolve the problem using the recommendations described as given above, chances are the manufacturer of your video adapter card already has a solution.