

## Lab 6.2.3: Upgrading the Video Accelerator

**Estimated time:** 30 Minutes

### Objective

Upon completion of this lab, you will be able to install a video card with advanced capabilities such as 3D, more memory, or AGP (Advanced Graphics Port). Also, you will be able to remove the old video drivers and install new ones.

### Equipment

The following equipment is required for this exercise:

- ESD wrist strap
- The lab computer with Windows 98 installed
- Standard non-magnetic Phillips-head screwdriver
- Video card and driver installation software
- Motherboard manual

### Scenario

Your computer either has video capabilities built onto the motherboard or has a very basic video card installed. An advanced graphics board will need to be installed to use 3D graphics, to use a larger monitor, or to utilize programs that require more video memory.

### Procedures

This lab involves working with delicate components inside the computer case that are very sensitive to static electricity. Once the computer cover has been removed, touch an unpainted metal part of the chassis. Be sure the ESD wrist strap is on before touching anything else in the case. If your motherboard has video capabilities built in, be sure to consult the motherboard manual for instructions on disabling this feature in the BIOS (or a jumper on the motherboard) before proceeding.

#### Step 1

Before installing a new adapter, it is typically necessary to change the current video card drivers to basic Windows drivers. To accomplish this, go to **Start > Settings > Control Panel**. Double-click **System**, click the **Device Manager** tab and locate the video adapter. Click the "+" next to the item to show the name of the device. Next, double-click the device to show its properties and click the **Driver** tab and **Update Driver**. When prompted, click "Display a list of all the drivers in a specific location", select a driver, click **Show all hardware** locate "[Standard Display Adapters]", and install "[Standard VGA 640x480]". Close any open windows and shut down the computer by clicking **Start > Shut Down** then select the **Shut Down** option and click **OK**.

Next, unplug the computer from the wall outlet to make sure it will not be turned on by accident. Finally, unplug the monitor cable from the computer.

## Step 2

Open the computer case and lay it on its side and locate the expansion slots.

## Step 3

Remove the screw holding the expansion card access cover in place. Remove the cover and set it aside.

## Step 4

Remove the existing video card from the expansion slot and place it either in an antistatic bag or on an antistatic mat. Next, remove the replacement card from its antistatic bag. Hold the card by the edges, being careful not to touch any of the components on the card.

## Step 5

With one hand, grasp the top of the card by the metal end that will be attached to the chassis by a screw, and with the other hand, grasp the other upper corner of the circuit board. Next, place the card edge connector into the PCI or AGP expansion slot, depending on the type of video card that you have. Be sure to line up the metal guide on the bottom of the card with the small opening where the expansion card access cover was removed.

## Step 6

Using a back and forth rocking motion and a little bit of pressure, the card should seat into the socket fairly easily. Do not use too much force to insert the card edge connector. If the card will not seat correctly, remove it and make sure to align everything correctly and then try again. When the card is properly seated, the metal tab will line up perfectly with the screw hole. In addition, notice that the card is evenly seated in the expansion slot.

## Step 7

Either secure the tab with the screws from the access cover or with the screws provided with the card. Remove the ESD strap from the computer and fit the case back together.

## Step 8

Once the computer is back together, plug the monitor cable into the new graphics card. Next, plug the computer back into the power outlet and make sure all connecting cables are secure.

## Step 9

Turn on the computer and follow the onscreen instructions. The Windows 9x operating system should find "New Plug & Play Hardware" and try to install the device drivers for it. When prompted, insert the disk that came with the video card to complete the software installation. Click **Yes** when prompted to reboot the computer for changes to take effect. Always follow the installation instructions of the manufacturer.

## Step 10

Once the computer has rebooted, the video card should be ready for use. Test the card

by changing the resolution of the monitor or run a 3D application.

### **Troubleshooting**

If the resolution cannot be changed to the expected range, or a 3D application will not run, check the device manager to make sure there is no conflict with the new adapter. Reinstall the standard VGA driver, reboot, and reinstall the new drivers for the video card.

### **Reflection**

What was the most challenging part of this exercise? Why?

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