Lab 1.3.3 Determining the Screen Resolution of a Computer

Objectives

- Determine the current screen resolution of a PC monitor.
- Determine the maximum resolution for the highest color quality.
- Calculate the number of pixels needed for resolution settings.
- Identify the type of monitor and graphics card installed.

Background / Preparation

The resolution of a monitor determines the quality of the screen display. The resolution is determined by the number of horizontal and vertical picture elements (pixels) that are used to produce the image on the monitor. The number of pixels is typically predefined by the manufacturers of graphics cards and PC monitors. The highest number of pixels that a monitor and graphics card can support is referred to as maximum resolution. An example of maximum resolution is 1280 x1024, which means the display is composed of 1280 horizontal pixels and 1024 vertical pixels. The higher the resolution is set, the sharper the display image. The maximum resolution of a PC monitor and the number of colors the monitor can display are determined by two factors:

- Capability of the monitor
- Capability of the graphics card, especially the amount of onboard memory

The following resources are required:

- Computer with Windows XP installed

Step 1: Determine the current screen resolution

a. To view the current screen resolution and color quality settings, right-click on any empty space on the desktop and select **Properties** from the context menu. In the **Display Properties** window, select the **Settings** tab.

   You can also access **Display Properties** by opening the **Control Panel** and clicking the **Display** icon.

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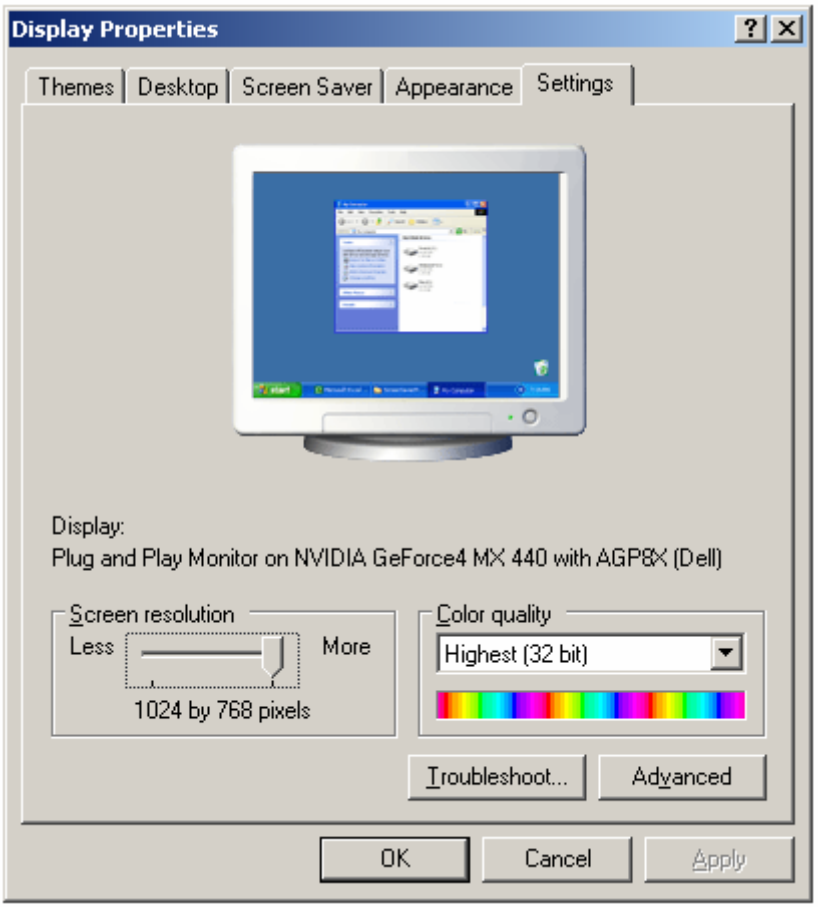

b. Use the **Display Properties Settings** tab to record the current settings on your PC:

The screen resolution is (H by V) _____

The horizontal resolution is: _____

The vertical resolution is: _____

The color quality value is: _____

Step 2: Determine the maximum resolution for the highest color quality

The slide bar under **Screen resolution** is used to configure the desired resolution.

a. Move the slide bar to see the range of screen resolutions that are available on your PC. (The range is determined by the operating system when it identifies the display card and the monitor.)

b. Use the **Display Properties Settings** tab to fill out the following table for the current settings on your PC:

Minimum screen resolution	
Maximum screen resolution	
Available color quality settings	

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Step 3: Calculate the pixels for current and maximum resolution settings

The display on the screen consists of rows of pixels. The number of pixels in each row is the horizontal resolution. The number of rows is the vertical resolution. To determine the total number of pixels in a screen resolution, you multiply the horizontal resolution by the vertical resolution. For example, if the current resolution is 1280 x 1024, the total number of pixels is 1280 times 1024, or 1,310,720.

a. Calculate the total number of pixels for the lowest resolution: _____

b. Calculate the total number of pixels for the maximum resolution: _____

Step 4: Identify the type of graphics card installed

You can get detailed information about the graphics card (also called the display adapter) in the **Display Properties** screen.

a. In the **Display Properties** screen, click the **Advanced** button.

b. Select the **Adapter** tab.

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c. Use the information found in the **Adapter** tab to complete the following table:

Graphics card manufacturer and model (Adapter Type)	
Graphics memory on card (Memory Size)	

Step 5: Identify the type of monitor and available refresh rates

You can get detailed information about the monitor in the **Display Properties** screen. The screen refresh rate determines the number of times per second the screen is illuminated or redrawn. A refresh rate of 60 hertz means the screen is illuminated 60 times per second. Higher refresh rates provide less screen flicker, which reduces eye strain, but may adversely affect the monitor. You should set the refresh rate to the highest level the monitor can safely support.

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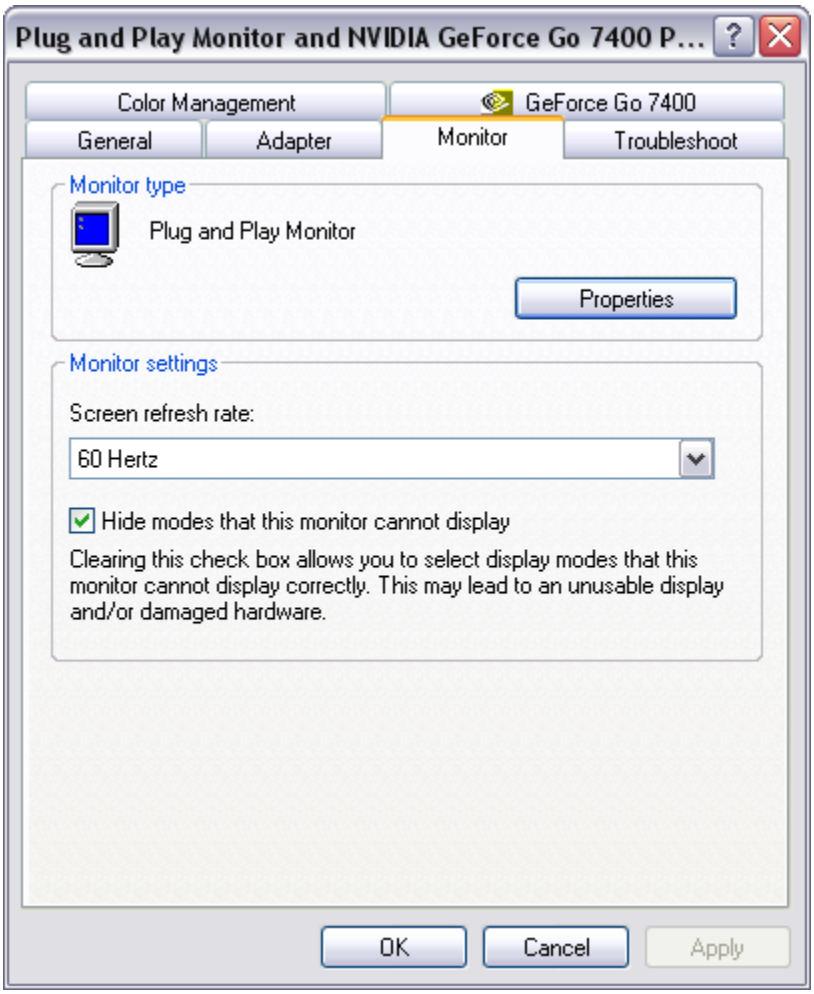
a. Click on the **Monitor** tab to see the monitor type and current refresh rate.



b. Use the information found in the **Monitor** tab to complete the following table:

Monitor type	
Supported refresh rates	

c. What can occur if you select a refresh rate that is higher than what the monitor can safely display?

_____

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