

## Lab 2.5.4: Identifying System Resources

**Estimated time:** 30 Minutes

### Objective

Upon completion of this lab, the student will be able to view and identify the computer's resources. The student will be able to identify the IRQ assignments, and retrieve DMA settings. The student will also investigate memory assignments to Input/Output devices and verify assignments of memory to system memory resources.

### Equipment

The following equipment is required for this exercise:

- Windows 98 with administrative rights

### Scenario

You purchased a new expansion card, but it does not work properly. You contacted technical support to find out why it does not work and they said you needed to check to make sure there are enough system resources available to install it.

### Procedures

System resources are used by the operating system to control how expansion cards, ports, and other system devices communicate with the microprocessor.

Navigate Windows 98 and use the "Systems Properties" console to find out the information necessary to complete this exercise.

#### Step 1

Power on the computer and verify that the Windows 98 Desktop displays.

#### Step 2

Click the **Start** menu icon on the Task Bar. Select the Settings option and then click once on **Control Panel**.

#### Step 3

Double-click on the **System** icon. This will open the "System Properties" window.

List the different tabs available in the System Properties window.

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#### Step 4

Next, click on the **Device Manager** tab. The Device Manager provides information on hardware components.

Name three hardware components that are displayed in the Device manager.

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### Step 5

Highlight "Computer" by placing the cursor on it and clicking once. Then click the **Properties** button at the bottom of the System Properties window. A new window will open displaying the "Computer Properties".

With the "View Resources" tab selected, list the four different radio buttons.

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### Step 6

From the "View Resources" tab, select the "Interrupt Request (IRQ)" radio button. This will show a list of all the IRQs used on the PC.

List the devices that are assigned to each IRQ for your PC in the following chart. (*If no devices are listed, enter "none".*)

IRQ	Device	IRQ	Device	
0		8		
1		9		
2		10		
3		11		
4		12		
5		13		
6		14		
7		15		

Are the IRQs listed in numerical order on your computer's screen? \_\_\_\_\_

Which IRQs are available on your computer for future use?

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Which device in the IRQ table has the highest priority?

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### Step 7

Next, select the "Direct memory access (DMA)" radio button.

List the devices that are assigned to each DMA channel in the following chart. *(If no devices are listed, enter "none".)*

DMA	Device	DMA	Device	
0		4		
1		5		
2		6		
3		7		

Which DMA channel is used to support the Floppy Disk Controller?

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### Step 8

Select the "Input/Output" (I/O) radio button.

Fill in the beginning and ending memory addresses for the following Input/Output devices. *(If more than one address range is listed for the device, use the first one.)*

Input / Output	Beginning Address	Ending Address	
COM 1			
COM 2			
LPT 1			
Floppy Disk			

Why are the memory address assignments for the above ports and devices necessary?

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### Step 9

Select the "Memory" radio button.

List the beginning and ending memory address for the following memory resources. *(If more than one address range is listed, use first one.)*

Input / Output	Beginning Address	Ending Address	
PCI bus			
Motherboard			
System Board			

Are each of the addresses that are listed in the table above unique? \_\_\_\_\_

### **Troubleshooting**

How can knowing where to find the IRQ, DMA, I/O, or memory of a device in a computer help a computer technician troubleshoot and diagnose an improperly operating computer system?

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### **Reflection**

What are the advantages of being able to access the computer resources for an end user or a computer technician who wishes to upgrade the computer system?

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What conclusion can you make about the computer resources that have been examined in Windows 98?

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