



Name: _____ Lab Section: _____

Lab partner's name: _____ Lab PC Number: _____

Objectives: (1) To install a network interface card (NIC), connect to the local network, configure the Internet; (2) to install a sound card, a modern web browser, locate the sound card drivers

Equipment: PC, monitor, keyboard, mouse, cables, Network Interface Card (NIC), Driver Disk, Sound Card, *Ghost* fast install Win98 CDROM, Lab Toolkit (screwdriver, wrist-strap, etc.)

Read the entire lab first before starting. Follow all the Lab Procedures!

- Ensure you have the anti-static wrist strap attached to your wrist and grounded to the PC when working inside the PC.
- Remove the strap before you plug in or switch on the AC power for the PC.

Part I – Installing the Network Card

Removing the existing NIC and drivers

1. Open the PC and follow proper lab procedures while removing any existing network interface card (NIC). The NIC would be plugged into a PCI slot. The NIC has an RJ-45 network socket on it. One screw holds the card in place. Remove the network card and set it aside.
2. While the case is open, note the manufacturer and model number of your video card, for later use in downloading an updated driver for this card.
3. Boot from CDROM and install Windows 98 on the hard disk using the fast *Ghost* CDROM. Get this *Ghost* CDROM from your Instructor – it takes about 3 minutes. Reboot your machine when the install is finished. This Win98 installation will not have any drivers installed for your hardware and may require you to work through the driver installation wizard during boot.
4. Make sure you do not have any NIC drivers installed: Go to *My Computer* | (*right click for*) *Properties* | *Device Manager* | *Network Adapters*. Select and remove any drivers that you have for the network interface card. (There should be none.) When asked to restart, call over your instructor first for a sign-off, showing that you have a bare-bones Win98 and there are no NIC drivers installed:

S-1. Instructor sign off for NIC and driver removal _____

Installing the NIC in a PCI slot and configuring the hardware

1. Obtain a NIC from your instructor, if you do not already have one.
2. Shut down your PC and follow proper lab procedures when working inside.
3. Insert the NIC into one of the PCI slots and use a single screw to fasten it. **Always** use a screw to hold the card in place. If the card moves while the PC is powered on, it can damage the card and the PC.
4. Boot into Windows 98. Windows will start a hardware wizard when it detects the new NIC. Tell the wizard to select the **best available driver for the card (Recommended)**. When presented with a list of places to search for a driver, select the floppy disk drive and get the NIC driver floppy disk from your Instructor. Have Windows pick up the driver from the floppy disk.
5. The wizard should say that Windows has found a driver for the NIC on the floppy disk. If this does not happen, see your lab instructor. Let Windows install the driver. (You may need the Windows 98 CDROM to complete the install – your instructor can give you this.)
6. The wizard will prompt you to restart the PC. Do this.
7. From **Start | Settings | Control Panel | System | Device Manager | Network Adapters** select the Ethernet NIC and then ask for **Properties**. Under the **Resources** tab locate the following information (not all information may be present for all network cards):

IRQ: _____ I/O Range: _____ Memory Range: _____

Connecting the PC to the local network

1. Connect the red CAT-5 network cable to the NIC and to the **red** RJ-45 socket in front of your PC work area. Use the **red** socket.
2. At the point where the cable connects to the NIC you should see a green LED (light-emitting-diode) light up. Green indicates the network carrier signal is detected. Flashing green indicates that frames are transmitting. If the frames are not transmitting correctly, or colliding, the LED may be amber or orange. If you do not have a green LED light when connected to the **red** network, call over your lab instructor.
3. From **Start | Settings | Control Panel** double-click on **Network** and select the **Identification** tab.
4. Enter a computer name (pick any polite name you like), and set the **Workgroup** to **woodroffe**. The computer description is optional.
5. Select the **Network | Configuration** tab. Find the TCP/IP line for your Ethernet NIC, select it, and click **Properties**. Under the **IP Address** tab, make sure “**Obtain an IP Address**”

Automatically” is selected and click on **OK**. This will instruct the computer to ask on the local network for an IP address using the Dynamic Host Configuration Protocol (**DHCP**). Close the *Properties* box and return to *Network*.

6. Under the *Network | Configuration* tab, ensure that the *Primary Network Logon* is set to either *Microsoft Family Logon* or to *Windows Logon*.
7. Select **OK** to close the *Network* dialog box. Reboot/restart the system when prompted.
8. After reboot, open up the *Identification* tab again verify your computer name is set.
9. Verify that the green light is on for your NIC card (where the cable plugs into the card).

Configuring the Internet Connection via the local network

1. This section will configure your connection to the Internet using the Windows Internet Connection Wizard. To start the Internet Connection Wizard, either double-click the desktop icon “*The Internet*”, or right-click on “*Internet Explorer*” and select *Properties*, or go to *Start | Settings | Control Panel | Internet Options*, which will open the *Internet Properties* dialog box.
2. In the *Internet Properties* dialog box. select the *Connections* tab, and select the “*Use the Connection Wizard*” button *Setup*.
3. Choose the option “*I want to setup my Internet Connection manually, or I want to connect through a local area network (LAN)*”. Click *Next*.
4. Choose the option “*I connect through a local area network (LAN)*”. Click *Next*.
5. Choose “*Automatic discovery of proxy server (recommended)*”. Click *Next*.
6. When asked to set up an Internet mail account (Outlook Express) now, say *No*. Click *Next*.
7. The wizard has finished. Click *Finish*.
8. Double-click the “*The Internet*” or “*Internet Explorer*” icon on the desktop again. This time it should start the Internet Explorer browser. You should now be able to browse the Internet.
9. Open up <http://google.ca/> and show your instructor that your PC is on the network:

S-2. Instructor sign off for working Internet Explorer and Google _____

Optional diversion: Find and install a better video card driver! (Optional.)

Part II: Installing a sound card

1. Power down your PC and get a sound card from your lab instructor. Write down its manufacturer and model number for later use.
2. Identify whether this card is a PCI card or an ISA card by comparing the card with the PCI and ISA connectors on the motherboard. (Refer to Lab 1 for the location of the PCI and ISA connectors.) Ensure that you have a PCI sound card.
3. Sound cards should be installed in PCI slots away from other cards, to minimize interference with the audio signal. Install the sound card in the best PCI slot on the motherboard. You may have to remove the metal strip that covers the opening in the back of the PC for the slot. Use a screw to secure the card in place. To prevent circuit board damage, **always** use a screw to hold the card in place.
4. Power on the PC. If the sound card is a PCI card, it will be Plug-and-Play and Windows will detect it automatically and the hardware wizard will attempt to locate a driver for the card. Follow the hardware wizard; however, the driver will not be found.
5. You will have to identify this sound card and find the driver for this card by browsing the Internet. You will find that the old version of Internet Explorer in Windows 98 cannot access modern web sites, which means:
6. You must download a modern web browser. We recommend Firefox. Download and install Firefox for Windows, and use it to search for a Windows 98 driver for your sound card. Download the driver and use the *Start | Settings | Control Panel | Install New Hardware* wizard to install the driver for the sound card. (Make sure you have found a Windows 98 driver.)
7. After you have found and installed the sound card driver, plug in the speakers and test it.
8. Let your instructor know you have installed the cards and the drivers; show that it works:

S-3. Instructor sign off for working Sound Card _____

Part III: Removing the sound card and drivers; clean up; go home

1. In the *Device Manager* select the sound device and remove it.
2. Power down your PC and remove the sound card. Return the sound card to your instructor.
3. Reboot and show your instructor that there are no errors (yellow) under the *Device Manager*:

S-4. Instructor sign off for clean sound card removal _____

S-5. Instructor sign off for equipment put away _____