Installing the CDR System

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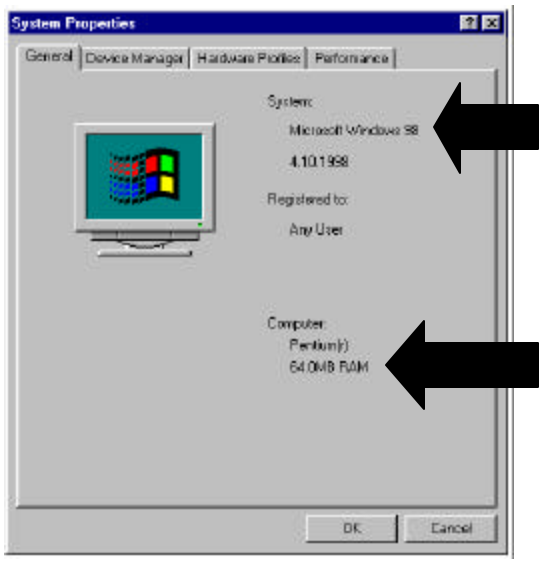
1. Installing the CDR System

1.1 Minimum System Requirements

To meet the minimum requirements for CDR 2000, your computer system must have the following resources: (a) Windows 98 or Windows 2000 or Windows ME, (b) 64 MB of RAM, and (c) supported USB Controller. (A current list of supported USB controllers is available on our website at www.schicktech.com.)

To verify that your computer system meets these requirements, click on **Start**, **Settings**, **Control Panel**, **System**, and then refer to the following table.

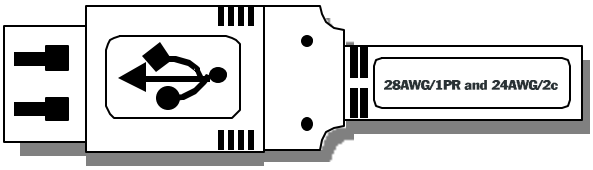
Dialog Box	Description
	Check here to verify that your system is running Windows 98 or Windows 2000 or Windows ME. Check here to verify that your system has at least 64 MB of RAM.
	Verify that your system is using a supported USB Controller. Check our website at www.schicktech.com for a current listing.

1.2 CDR Requirements for USB

- PC desktop or notebook with USB port
- USB cable *(see below)*
- CDR software version 1.8.4b or higher
- CDR Remote Module *(also called the CDR 2000 Interface)*
- CDR Sensor

1.3 Additional USB Cable Information

- To work with CDR, the USB cable must have a "/2c" designation. The "/2c" designation is the USB spec designation for power connectors inside the cable. If the "/2c" designation is missing, a new USB cable is needed.



TO FIND THE GAUGE OF THE CABLE, LOOK AT EITHER CABLE END, CLOSE TO THE CONNECTOR

- If a new cable is needed, refer to the following list.

LENGTH OF CABLE	PROPER GAUGE FOR CDR USB CABLES
0.81 meters (18 inches)	28AWG/1PR and 28AWG/2c
1.31 meters (4 feet)	28AWG/1PR and 26AWG/2c
2.08 meters (6.6 feet)	28AWG/1PR and 24AWG/2c
3.33 meters (10 feet)	28AWG/1PR and 22AWG/2c
5.00 meters (19 feet)	28AWG/1PR and 20AWG/2c

1.4 Single-User and Network Systems

CDR systems are set up in one of the following configurations:

- A single workstation running CDR single-user software
- Networks with multiple workstations running CDR multi-user software

Networks can have either dedicated servers or non-dedicated servers. Dedicated servers are workstations that store images only; they do not acquire images nor are they used to view them. Non-dedicated servers store images and they can be used to acquire and display them.

1.5 Dedicated Server Network

The following illustration is an example of a dedicated server network.

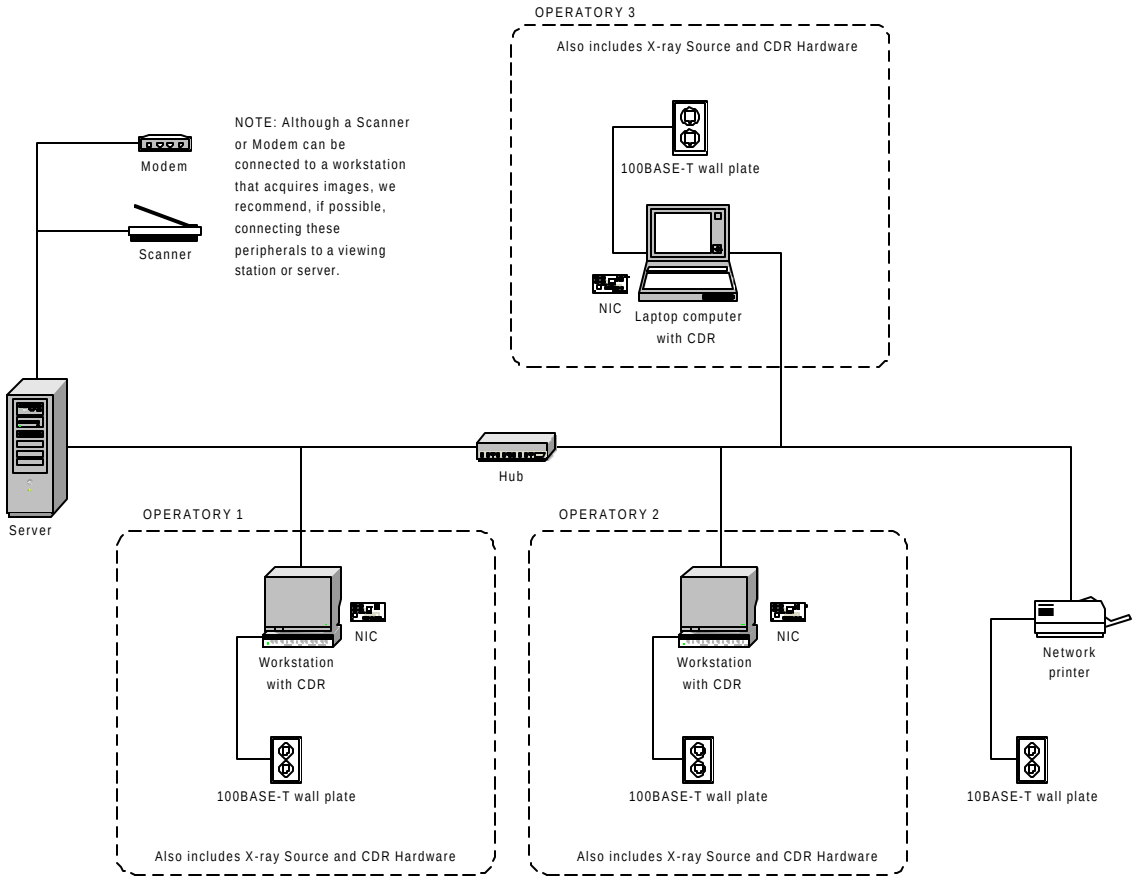


Figure 1. Example of Dedicated Server Network

1.6 Non-Dedicated Server Network

The following illustration is an example of a non-dedicated server network.

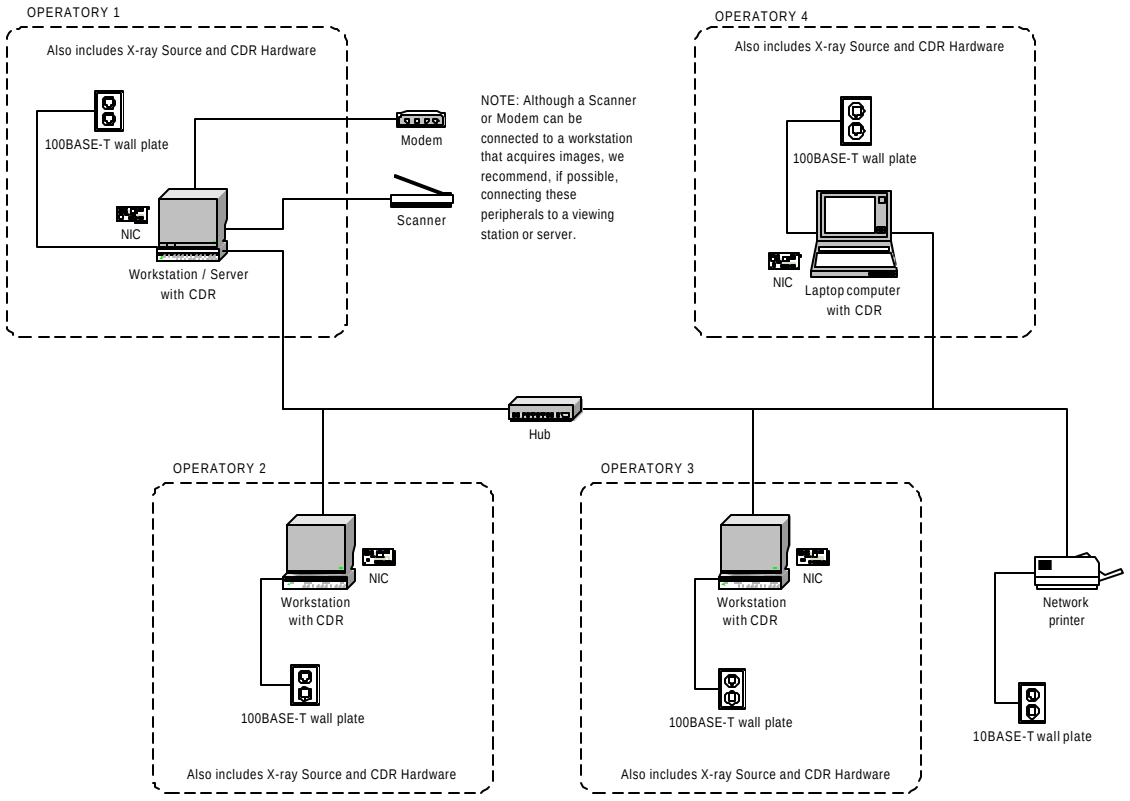
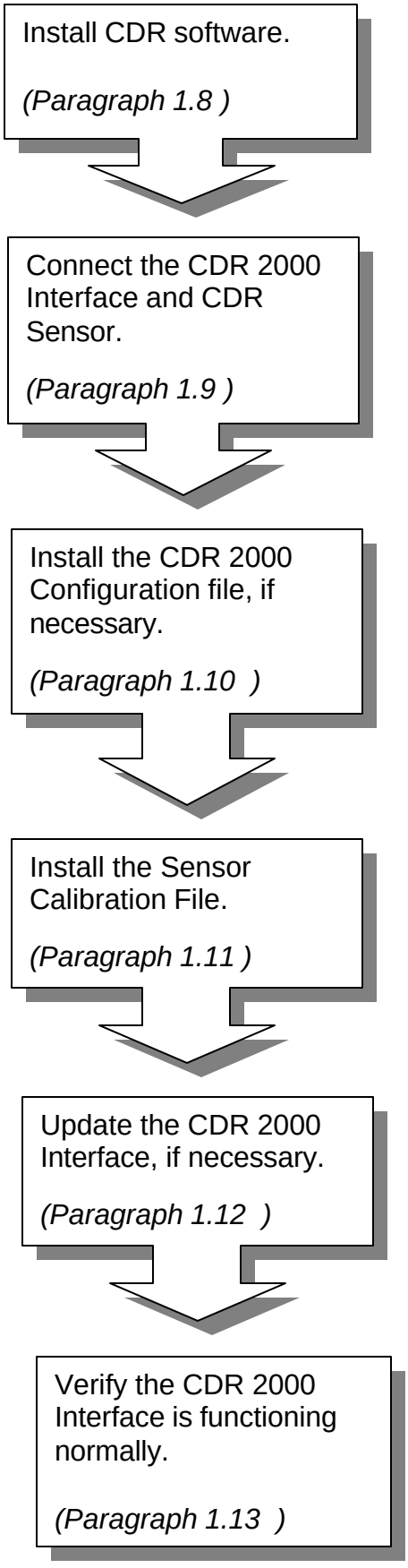


Figure 2. Example of Non-Dedicated Server Network

1.7 Footpedal Options with USB

- Footpedal (serial number 4000 or higher)
- CDR software 2.0.1 and higher

INSTALLING CDR 2000 (USB) System



1.8 Installing CDR Software

When you receive your CDR software CD, follow the short directions below to install the CDR program. *(The pictures shown in the following procedure reflect the single-user version of CDR 2.5. Screens for later versions of CDR, and for CDR's multi-user setup, will differ.)*

STEP 1

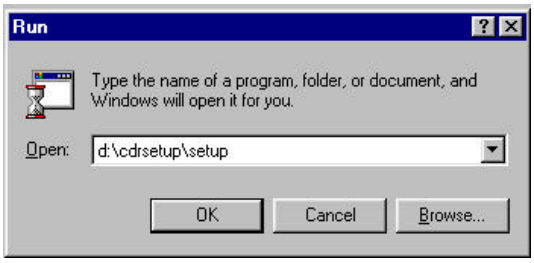
A. Turn on your computer (if it's not on already).

B. At the Windows desktop, insert the CD-ROM into the CD drive.

C. The CD should play a brief intro and then display the main selection page. If it does, skip ahead to step 3. If the CD doesn't run automatically, continue with the following step.

STEP 2

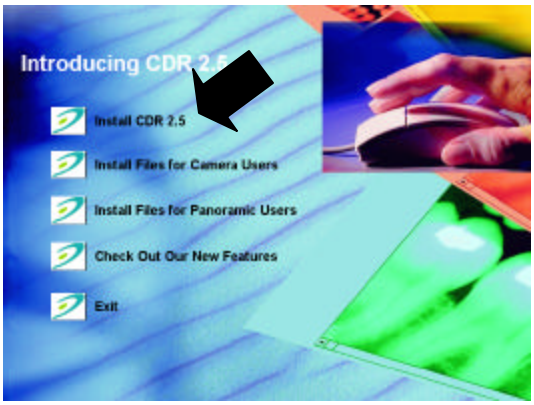
If the CD intro does not run automatically, click **Start,** and then click **Run**. Type **d:\cdrsetup\setup** at the command line (if "d" is the drive letter for your CD player). Click **OK**.



STEP 3

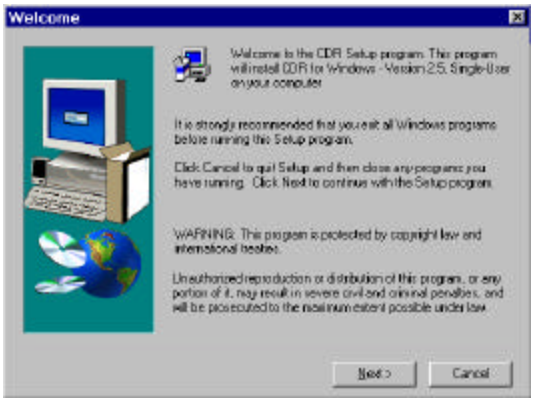
1. After the CD plays a brief intro, it will display the main selection page. At this page, click the **Install CDR 2.5** button. This will take you you to the CDR installation page.

2. To start the CDR setup program, click the button for Single-User System or Multi-User System. (The button will correspond to the type of software supplied on the CD.)



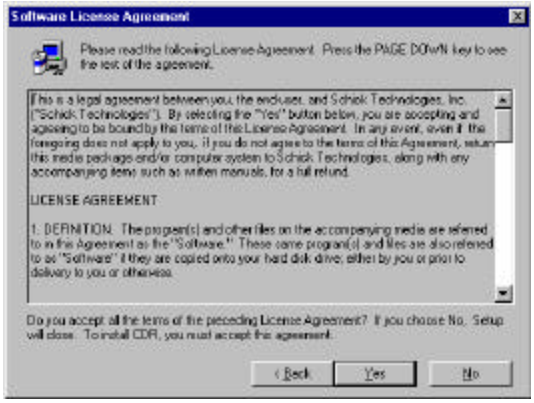
STEP 4

Click **Next**.



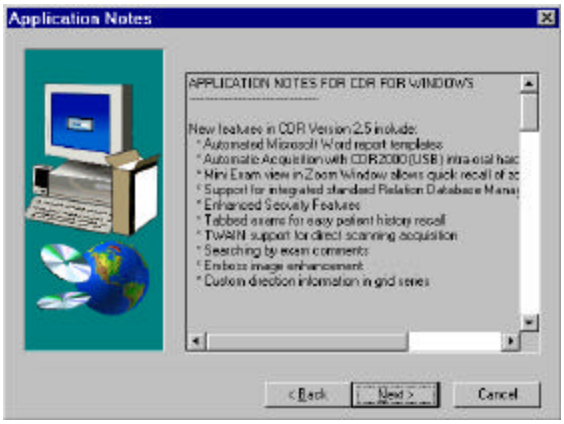
STEP 5

Click **Yes** after reading the license agreement.



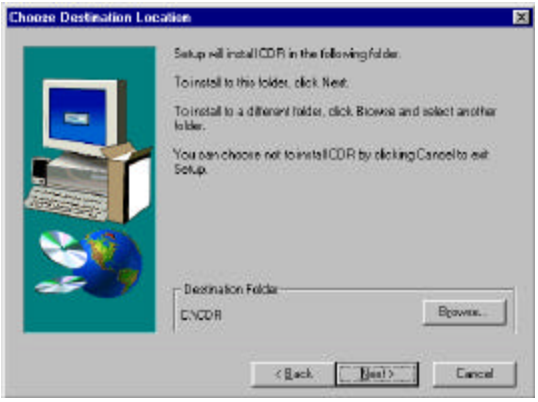
STEP 6

Click **Next** after reading the application notes.



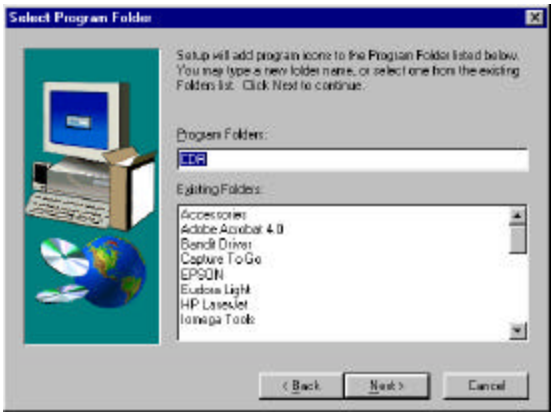
STEP 7

Click **Next**.



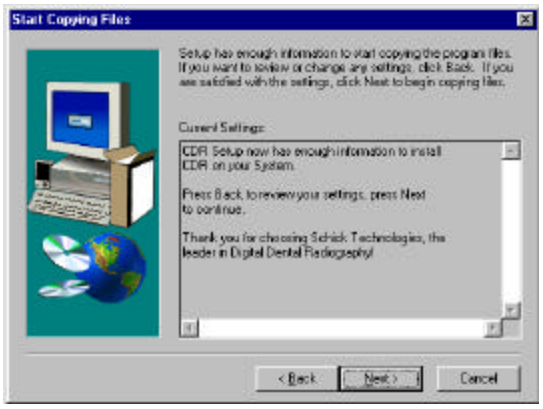
STEP 8

Click **Next**.



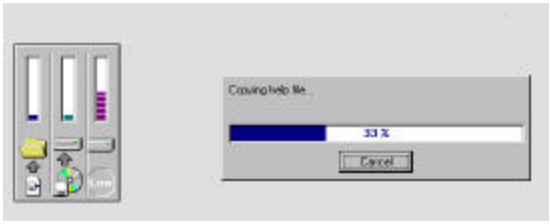
STEP 9

Click **Next**.



STEP 10

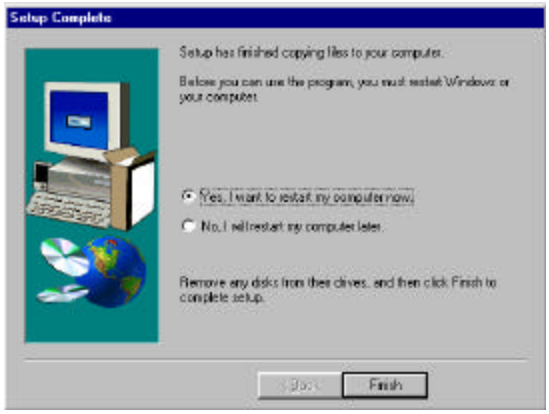
The file copy process begins.



STEP 11

A. After all of the files are copied, the "Setup Complete" screen appears. Remove the CD.

B. Click **Finish**, and your computer will be automatically restarted.



1.9 Connecting CDR 2000 Interface

NOTE: See Figure 3, below, for reference.

1. Connect the CDR sensor to the CDR 2000 Interface.
2. Connect the USB cable to the USB connector on the CDR 2000 Interface.
3. Connect the USB cable to a free USB port on desktop or laptop system, and then continue with **paragraph 1.10** .

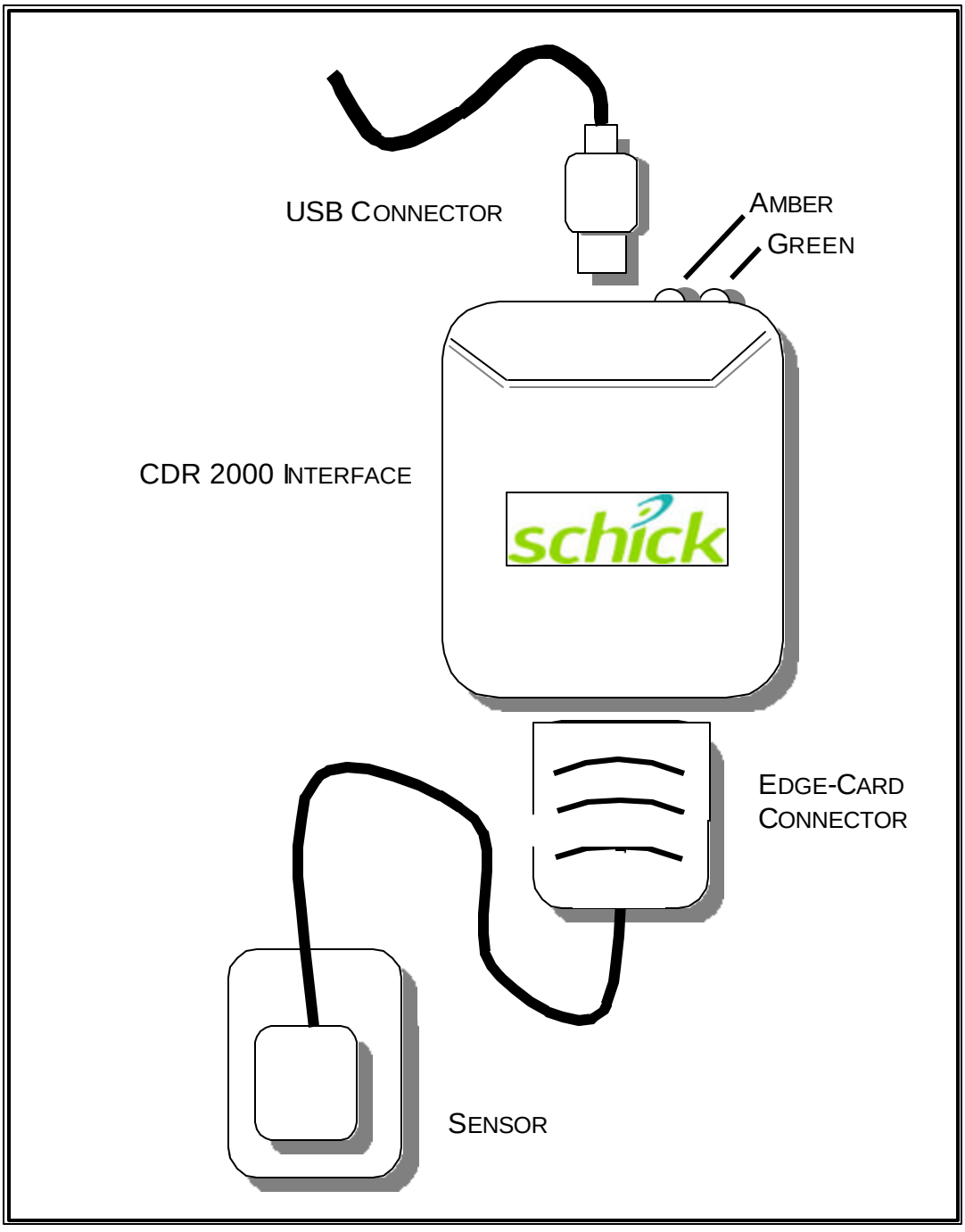


Figure 3. CDR 2000 Interface Configuration

1.10 Installing CDR 2000 Configuration File

If you are installing the CDR 2000 System for the first time, you will need to follow the steps below to install the configuration file for your CDR 2000 System. Otherwise, skip ahead to **paragraph 1.11** . *(If you have installed CDR from floppy disks, insert the last disk in the set and perform the following steps, browsing the floppy disk instead of the CD-ROM documented in this procedure.*

STEP 1

A. When the computer restarts after the CDR program is installed, the Windows Hardware Wizard will detect the CDR 2000 Interface as an Unknown Device.

B. Re-insert the CDR program CD.

STEP 2

A. Click on the recommended option, Search for the best drives for your device.

B. Click **Next**.

STEP 3

A. Verify that the *CD-ROM drives* check box is checked.

B. Verify that the *Specify a location* check box is checked. And then browse the CD using the scroll arrow until you find the CDR2000.INF file.

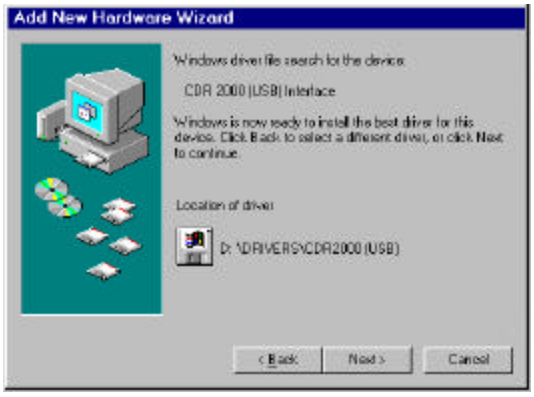
C. For example, if “D” is the drive letter of your CD-ROM drive, you would browse for: *D:\DRIVERS\CDR2000 (USB)*

D. Click **Next**.

STEP 4

A. Verify the name and location of the device driver: *D:\DRIVERS\CDR2000 (USB)\CDR2000.INF*

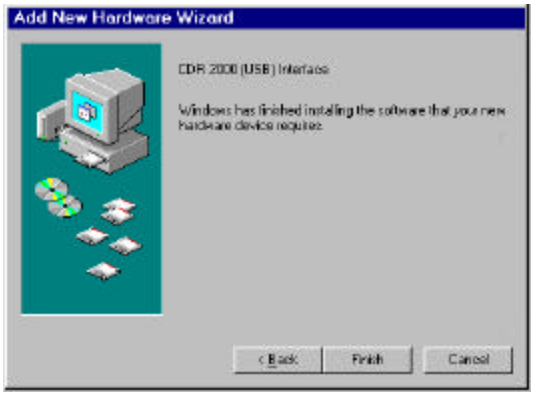
B. Click **Next**.



STEP 5

A. When the file has been installed, click **Finish**.

B. Continue with **paragraph 1.11**



1.11 Installing CDR Sensor Calibration File

Provided with every CDR sensor is a disk containing the sensor calibration file. This file helps to ensure the images acquired and displayed by the CDR system are consistently high quality. The disk has the sensor's serial number stamped on the label.

Each calibration file is unique to the sensor it was shipped with and the file must be installed on every computer using that sensor. To install the calibration file for the currently connected sensor, perform the following steps.

1. Ensure the connection from the CDR sensor to the CDR 2000 Interface and the USB cable connection between the CDR 2000 Interface and the desktop or laptop system is secure.
2. Insert the calibration file disk. Make sure the file name on the disk is the same as the serial number of the sensor. (The sensor serial number is printed on the packaging of the sensor case.)
3. At the Windows desktop, click **Start**, **Programs**, **CDR**, **Install CDR Sensor Calibration File**.
4. Remove the disk after the file is copied.

1.12 Upgrading the CDR 2000 Interface

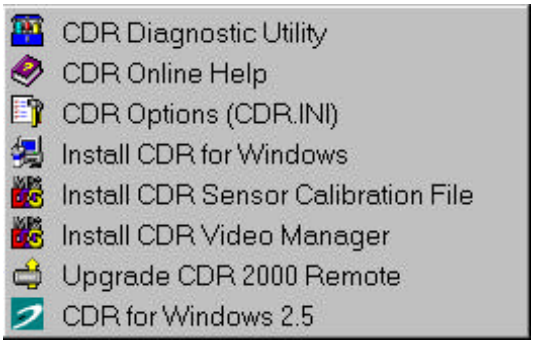
CDR software contains files for upgrading your CDR 2000 USB Interface. When you upgrade the remote module, you install new information in the *firmware* of the device. The upgrade will take approximately 2 minutes and once you've completed it, you can be sure you have the latest software for your remote module. Perform the following procedure to update your CDR 2000 Interface.

STEP 1

A. Please be sure that CDR software is installed before performing this procedure.

B. Turn on the computer and wait for the Windows desktop to display.

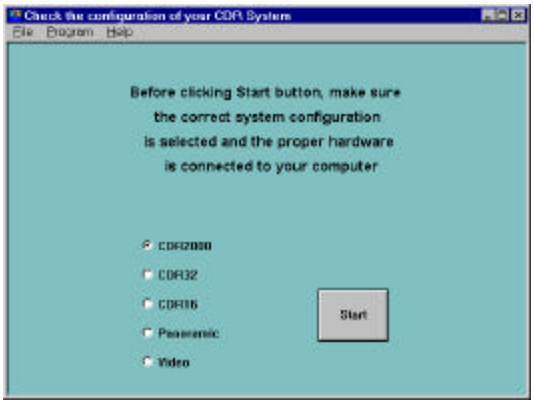
C. Click on **Start** menu, then **Programs, CDR,** and then the **CDR Diagnostic Utility**.



STEP 2

A. Verify that the CDR2000 button is selected and that CDR hardware is connected properly.

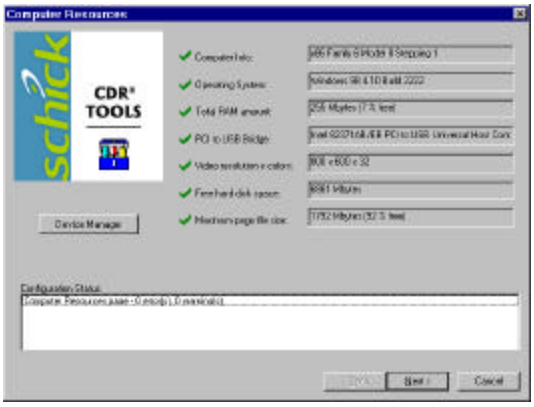
B. Click **Start**.



STEP 3

A. The Diagnostic Utility consists of several information screens. The screen you need to reprogram your remote is entitled Remote/ Sensor.

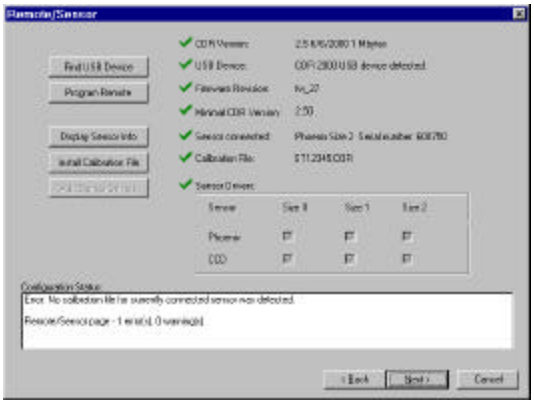
B. Click **Next** until the Remote/Sensor screen is displayed.



STEP 4

A. On the Remote/Sensor screen is a row of buttons and a series of checkmarked items.

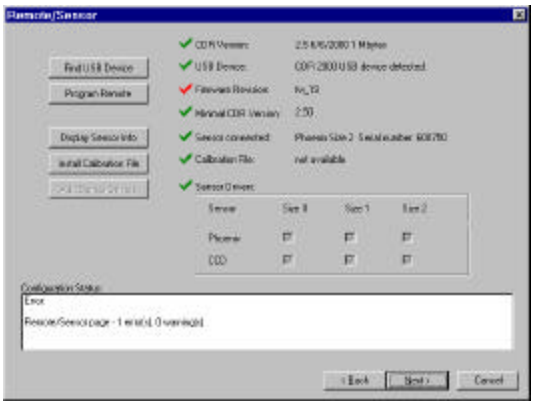
B. If all of the checkmarks are green, your remote module already has the latest firmware and does not need to be reprogrammed. You can stop here and skip the remaining steps in this procedure.



(Green Checkmark next to Firmware Revision – Remote OK)

C. If a yellow or red checkmark appears next to the Firmware Revision item, you will need to reprogram the remote.

D. Click the **Program Remote** button.



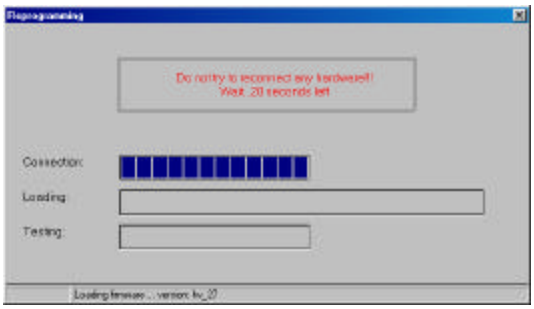
(Red Checkmark next to Firmware Revision – Upgrade the Remote)

STEP 5

A dialog box appears with information about the update operation. Click **OK** to continue.

STEP 6

During the upgrade operation a progress bar is displayed and updated.



STEP 7

A. *If prompted*, disconnect the USB cable from the CDR 2000 Interface for a moment and then reconnect it.

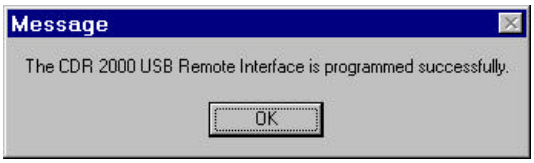
B. Click **OK**.

STEP 8

A. After a successful update, click **OK** to close the message and return to the Remote/ Sensor screen. (Also note a green checkmark next to Firmware Revision.)

B. Click **Next** for a summary of information collected by the Diagnostic Utility.

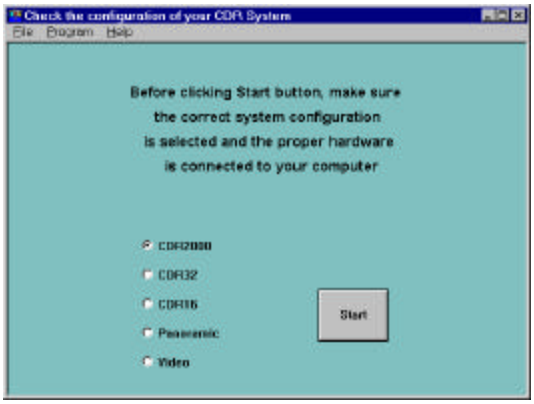
C. Click **Finish**.



STEP 9

A. The start screen displays again.

B. Click on **File** and then **Exit** to close the Diagnostic Utility.

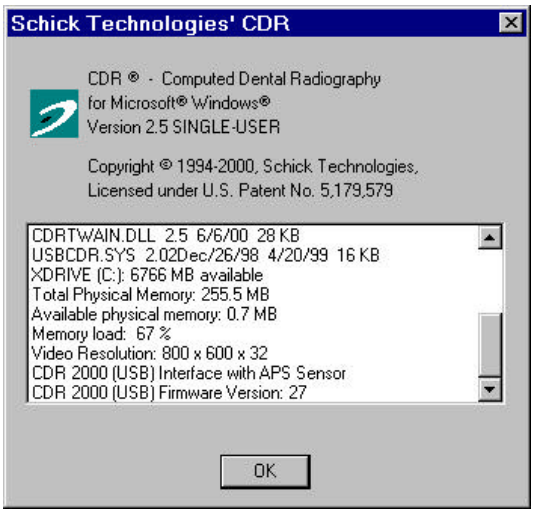


STEP 10

A. Verify that the CDR 2000 Interface is set up properly. Start CDR. Click on the **Help** menu and then on **About CDR**.

B. Verify the following:

- CDR USB driver (*USBCDR.SYS*)
- CDR USB Interface (*CDR 2000 (USB) Interface with APS Sensor*)
- Firmware version (*Version 27* in the sample)

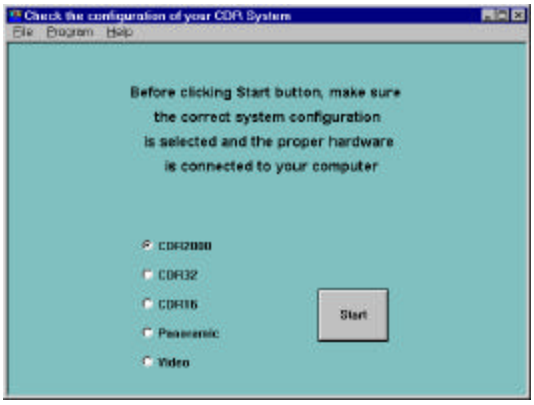


NOTE: (The remote module must be connected to both the sensor and the USB cable for CDR to display the sensor type and firmware version number.)

C. Click **OK**.

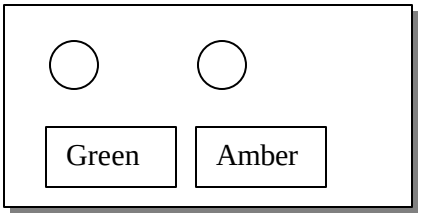
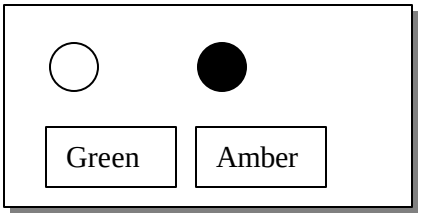
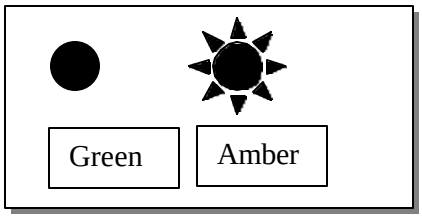
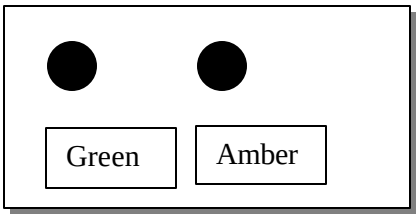
STEP 11

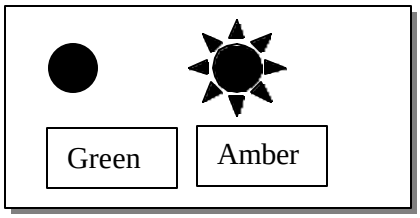
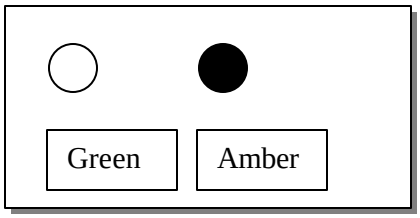
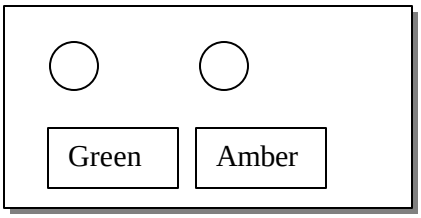
Repeat this procedure for every CDR 2000 Interface in your office.



1.13 CDR 2000 Interface Indicators

The CDR 2000 Interface uses two LED indicators (green and amber) for reporting its functional status. A description of these indicators is provided below.

INDICATORS ○ OFF ● ON ✸ BLINKING	STATUS
Indications when CDR is not Running	
	GREEN OFF AMBER OFF Sensor connected, normal status, or USB cable not connected.
	GREEN OFF AMBER ON Sensor not connected or not detected.
Indications when Taking X-rays	
	GREEN ON AMBER blinks once every second Sensor connected, normal status.* * In CDR versions 2.0 and 2.0.1, the LEDs remain OFF until the first X-ray is taken
	GREEN ON AMBER steady ON Target frame in CDR main window clicked. Sensor in acquisition mode.* Activate X-ray source. * Whenever CDR is in AutoTake™ mode (CDR software version 2.5 or higher), both Green and Amber LEDs remain steady ON until the X-ray source is activated.

INDICATORS ○ OFF ● ON ✹ BLINKING	STATUS
	GREEN ON AMBER blinks RAPIDLY Image being transmitted.* _____ If sensor times out waiting for X-ray to be detected, LEDs return to normal indications: Green ON Amber Blinking Slowly *(Manual acquire mode)* Green ON Amber ON *(AutoTake™ mode)*
Indications when Changing Sensors	
	GREEN OFF AMBER ON Sensor not connected or not detected.
	Sensor connected, normal status, or USB cable not connected.

1.14 Troubleshooting Footpedals on USB Systems

If the footpedal cannot acquire X-rays, or if the CDR program does not open normally after installing USB, there may be a port conflict in your system. When USB is installed, the default setting for the footpedal is COM 1. This may conflict with another device used in the system and its port setting. To resolve the conflict, follow the steps described below.

Please note that the CDR.INI file and BIOS screens shown in the following steps are provided as samples only. The BIOS screens described in step 2 are based on displays on the DELL Latitude Cpi Laptop and have been simplified for clarity. The BIOS screens for other systems will differ, and users should access and change their BIOS settings accordingly.

1. A. Change the CDR.INI file, as follows. Click on Windows 98 **Start**, **Programs**, **CDR**, then **Edit CDR.INI File**.

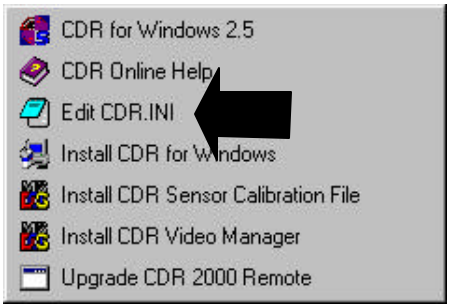
   B. Type in the following line:

   FOOTPEDAL_COM=

   and enter the new COM port (**1, 2, 3, or 4**) after the equal sign.

   (In the CDR.INI sample, COM2 is the new setting.) Make sure the USB footpedal is connected to that port.

   C. Open the CDR program. If you continue to experience problems, continue with step 2.



(CDR MENU)

```
[CDR]
Device=USBCDR.SYS
DynamicRangeMsg=NO
Eq_Min_Count=9999
Eq_Thresh=9950
Integrate_time=7
Check_Mult_Plist=YES
Print_DentInfo=YES
Print_PatInfo=YES
Print_Dates=YES
XDrive=C
XPath=C:\CDR\XRAYS
QZoom_Def_Mag=1
Network=NO
Language=English
PRINTER=Windows
COMPRESS=NONE
FOOTPEDAL=TWO-PEDAL
EXP_TIME=15
AUTO_THRESH=15
AUTO_COUNT=40
SPOT_REMOVER=NONE
EQUALIZE=NO
CALIBRATE=YES
AUTO_ACCEPT=NO
LPT_Port=LPT1
Port=300
SONY_SERIES=MINI
FOOTPEDAL_COM=2
```

(SAMPLE OF CDR INI.FILE)

2.

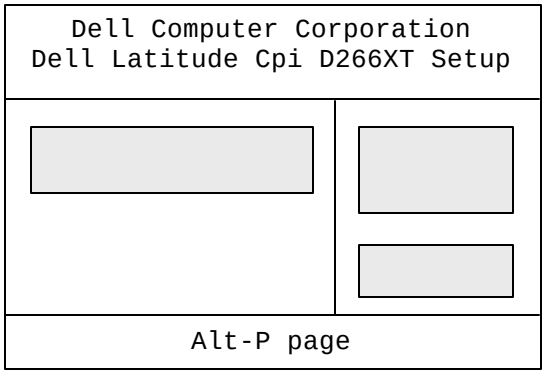
A. Access your system's BIOS setup to verify the serial port settings. If you are using the DELL Latitude Cpi Laptop, depress and hold the function key [Fn] and click the setup key [F1]. Page 1 of the BIOS setup screen is displayed.

B. At the BIOS setup screen press [Alt] and [P] keys to advance to Page 2 of the BIOS setup screen. This page lists the serial port settings.

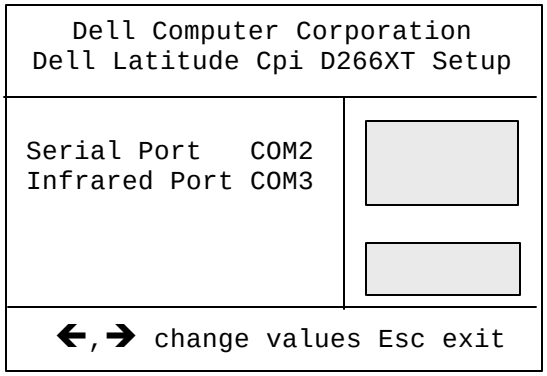
C. Check the COM settings. Change the settings to resolve the conflict using the [←] and [→] keys. *(In this sample, COM1 was changed to COM2.)* Press the [Esc] key to save changes and exit.

D. Change the CDR.INI file by repeating steps B and C in step 1.

E. Make sure the footpedal is connected to that port, then open the CDR program.



(PAGE 1 OF BIOS SETUP)



(PAGE 2 OF BIOS SETUP)