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Intermec Technologies Corporation

5055 Windows 2000

TECHNICAL REFERENCE MANUAL

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Section 1

Introduction

This publication provides technical reference for the Intermec^{P} 5055 Data Collection Personal Computer (PC) and is intended for experienced application programmers and information systems engineers.

About the Technical Reference Manual

Section 1 — Introduction
Contains information about this manual, related publications, security IDs, basic storage architecture, and customer support information.

Section 2 — System Configuration Utility
Defines the menus and options within the System Configuration Utility (SCU).

Section 3 — Windows Device Drivers
Identifies drivers available for the Windows 2000 operating systems, and includes the configuration, use, and reinstallation of these drivers.

Section 4 — Recovery Strategies
Explains how to restore the main and recovery partitions on the 5055 PC, covers hard disk defragmentation, and defines cold-booting versus warm-booting.

5055 PC

From the viewpoint of an application, the 5055 PC (with a Pentium class processor) is like other Pentium PCs, with some exceptions.

The 5055 PC is a ruggedized, ergonomic, touch-based computer, with input from finger touch, mouse, or keyboard. It has integrated communications and various combinations of external and/or internal peripherals. It is designed for wall-mounting in industrial environments.

Windows 2000 is factory-installed and implemented in the external Integrated Drive Electronics (IDE) drive slot. The booting drive may be selected in the System Configuration Utility (SCU) (see Section 2).

The following hard drives are available for Windows 2000. The Windows 2000 loads for the 5055 PC have different functions and disk space available.

- Rotating Hard drive: 6.0 GB (5055W2K_v10)
  has approximately 5.3 GB of freespace with default Windows 2000 load.
- Solid State SanDisk: 660 MB (5055W2K_v10)
  has approximately 113 MB of freespace with default Windows 2000 load.
- CD ROM: Windows 2000 Toolkit, version 1.0 *(current version)*

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Windows Security IDs

The RangeLAN2 and 802.11 DS radios and the terminal emulations have security IDs that can be modified, if necessary. See pages 3-40 (RangeLAN2) and 3-21 (802.11 DS) to configure the Windows security IDs.

∀ **NOTE:** *Security IDs **must** match across your RangeLAN2 network.*

Basic Storage Architecture

This section covers the basic storage architecture of the 5055 Data Collection PC.

Display

The 5055 PC has either an invertable VGA 640x480 active matrix color or an SVGA 800x600 active matrix color 10.4" panel option.

Mass Storage Architecture

These storage slots are within the 5055 PC. Remove the antenna connector panel from the bottom of the 5055 PC to access these slots. See the *5055 Data Collecting PC User's Guide* for instructions.

IDE Mass Storage
A local bus IDE bay is provided to support 2.5" form factor mass storage devices. The IDE drive bay is accessible from the bottom of the 5055 PC.

PC Card
Two PC Card Type-III slots are available for nonvolatile SRAM, flash or hard disk data storage, radio or LAN, or other devices.

These two 68-pin slots support PC Card Type-I, -II, or -III devices and are accessible from the bottom of the 5055 PC.

Memory Architecture

There is 256 KB of flash memory to hold the Basic Input/Output System (BIOS).

User Interface Devices

Keyboard
An IBM PS/2-style connector directly supports PS/2 keyboards.

Touch Screen Interface
A high-resolution, resistive touch interface supports menu and mouse-driven applications.

Mouse
An IBM PS/2-style external mouse can be attached to the computer. Do this by shutting down the 5055 PC, plugging in the mouse, then restarting the unit. *Do not use the "Add New Hardware" application via the Windows 2000 desktop.*

Network Connectivity

Wireless Networks

The 5055 PC has 2.4 GHz antenna support for either an OpenAir RangeLAN2 radio or an IEEE 802.11 DS radio. One or two whip antennas can be mounted to the 5055 PC case or the 5055 PC can use remote-mounted antennas.

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Wired Networks

Ethernet

A standard Ethernet (10BASE-T) interface is provided via an RJ-45 connector for downloading software, fixed-mount applications, and field upgrades.

Direct Cable Connections

The following connectors are on the bottom of the 5055 PC.

Serial Ports (COM1, COM2)

Two male 9-pin D-sub connectors (RS-232C standard) support RS-232 signals for two-way communication between peripheral devices and is capable of supporting 5-volt DC decoding type tethered bar code scanner.

Parallel Port

The LPT1 Printer Port is an enhanced parallel port with a standard female 25-pin (DB-25) D-Sub for connecting parallel devices such as a printer or storage device to the computer. This port supports EPP mode.

Reprogramming Flash Memory

∀ **NOTE:** *INTERLNK/INTERSRV is not on the basic DOS load. For units loaded with terminal emulation, files are located in the "\DOS" directory.*

Flash upgrades can be ordered on diskette from Intermec (contact an account representative for the media), or downloaded from the Intermec Bulletin Board System. Read all of the instructions below before proceeding.

∀ **NOTE:** *Keep the 5055 PC on charge while performing any setup, reprogramming, or reflashing.*

Prerequisites for INTERLNK Flash Update

- A working 5055 PC to do this procedure (if the flash is corrupted, perform a serial master mode boot).
- A RAM drive (D:) of at least 960 KB.
- A disk file contains the new flash archive, 50BDXXXX.EXE. The last four numbers indicate the flash version (*0129* indicates flash version 1.29).
- A standard host PC for connecting to the 5055 PC. INTERLNK.EXE must be loaded by the CONFIG.SYS file. For more detailed information on running INTERLNK, refer to a DOS manual.
- A NULL modem cable for connecting the host PC's communications port to the 5055 PC with a single dock or communication adapter.

INTERLNK Installation

Use the following instructions if you have a version of flash that includes INTERSVR as a possible Comm option on your 5055 PC. If you do not have INTERSVR, you must update the flash using a serial master mode boot.

The following instructions assume that you have placed all files from the self-extracting archive in a directory (on your host PC) called C:\PENKEY\FLASH. If you choose to place these files in a different location, adjust the instructions accordingly. Delete the self-extracting file from this directory once files are extracted.

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Your host PC must be running INTERLNK, which is part of MS-DOS. Load INTERLNK as a device driver in your CONFIG.SYS file, using the following statement, at the end of the CONFIG.SYS file (after any other statement that creates a drive letter):

```
DEVICE=C:\DOS\INTERLNK.EXE /DRIVES:3
```

The previous statement assumes that MS-DOS is located in the host PC C:\DOS directory. The /DRIVES: 3 parameter allows mapping of three drives from the 5055 PC.

INTERLNK and INTERSVR

INTERLNK is a device driver that interconnects a 5055 PC and a host PC through serial ports. INTERSVR is the INTERLNK server, a communication option in the Norand Utilities program. These two resources are provided with ROM DOS 6.22 and are shipped with the 5055 PC Tool Kit. A standard null modem cable connects the PC to the 5055 PC. A TTY TCOM cable also works.

INTERLNK causes the 5055 PC drives to appear as virtual drives on the host PC, with drive letters immediately beyond the highest drive letter currently used on the host PC. Typing "INTERLNK" from the host PC command line displays the designations of the redirected drives. For details of INTERLNK and INTERSVR topics, refer to the DOS on-line help text.

INTERLNK is installed on a host PC, using the following statement in the CONFIG.SYS file:

```
device=c:\dos\interlnk.exe /drives:4
```

After installation, you can copy the application files to the 5055 PC. To terminate INTERSVR, press <**Alt**> + **[F4]**.

Reflashing Procedure

The 5055 PC must have the following before doing the reflashing procedure: SCU version 1.21 or later, a 10BaseT connection to a NetBEUI Network, and an attached PS/2 keyboard. *This is on the toolkit CD within the "**\firmware**" folder.*

1. Reboot the 5055 PC, wait for the following prompt after the system memory tests, then simultaneously press <**Ctrl**>, <**Alt**>, **[R]**.

   ```
   <CTRL-ALT-S> to enter the System Configuration Utility
   ```

2. If the following menu appears, press **[2]** to select **Boot to DOS Network**, then press <**Enter**>.

   ```
   [1] Restore Normal Operation
   [2] Boot to DOS Network
   ```

   If the following menu appears, press **[1]** to select **NetBEUI Recovery** or **[2]** to select **TCP/IP Recovery**, then press <**Enter**>. Answer the appropriate questions or wait 10 seconds at each prompt for the default information.

   ```
   1. NetBEUI Recovery
   2. TCP/IP Recovery
   3. Boot to DOS Network
   ```

∀ **NOTE:** *If **TCP/IP Recovery** is elected, the default gateway (defaultgateway0), the subnet mask (subnetmask0), and the ip address (ipaddress0) are to be entered. Use spaces between digits instead of periods. For example: type "225 255 255 0" instead of "225.255.255.0" for the default gateway.*

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3. Enter the network share name with the UPDATE.BAT file, for example **\SERVER\CDROM**.
4. Press **[2] Administration Options**, then press **[4] Flash BIOS** to initiate the flash procedure.
5. Press **[Y]** to verify that the BIOS is to be reflashed. When the reflash procedure is complete, reboot the 5055 PC to set the changes.

Related Publications

Contact your Account Executive or Value-Added Reseller for the following supporting publications:

- *5055 Data Collection PC User's Guide* (P/N: 961-054-017)
- *Native Terminal Emulation Asynchronous Programmer's Reference Guide* (P/N: 977-047-038)
- *TE 2000 3270 Terminal Emulation Programmer's Guide* (P/N: 977-055-003)
- *TE 2000 5250 Terminal Emulation Programmer's Guide* (P/N: 977-055-004)
- *TE 2000 VT/ANSI Terminal Emulation Programmer's Guide* (P/N: 977-055-005)

Customer Support

Customer Support Center

The Intermec Customer Support Center (technical support) telephone number is 800-755-5505 (U.S.A. or Canada) or 425-356-1799. The facsimile number is 425-356-1688. Email is *support@intermec.com*.

If you email or fax a problem or question include the following information in your message: your name, your company name and address, phone number and email to respond to, and problem description or question (the more specific, the better). Please indicate if the equipment was purchased through a value-added reseller.

Web Site

The Customer Support File Libraries, including Hot Tips and Product Awareness Bulletins, are available via the Intermec Product Support page at this URL: *http://norbbs.norand.com/index.htm*. New users can sign up for a new account on this page.

Visit our Web site at *http://www.intermec.com* to download many of our current manuals in PDF format. To order printed versions of the Intermec manuals, contact your local Intermec representative or distributor.

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Bulletin Board Service

The Customer Support Bulletin Board (BBS), maintained by Intermec Technologies Corporation, provides software and documentation:

- **Phone number**: 319-369-3515 (14.4 kbps modem)
  319-369-3516 (28.8 kbps modem)
- **Protocol**: Full duplex, ANSI or ANSI-BBS; 300 to 28,800 bps; v.32bis; 8 bits, no parity, 1 stop bit. *For high-speed modems, disable XON/XOFF and enable RTS/CTS.*

This is the same location available via the web site. If your web access uses high-speed phone lines, the web interface provides a faster response.

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Section 2

System Configuration Utility

A PS/2-compatible keyboard is required to configure the Intermec Technologies System Configuration Utility (SCU). Turn off the 5055 PC before attaching the keyboard, if one is not attached already.

Reboot the 5055 PC. Be ready to press the <**Ctrl**>, <**Alt**>, and **[S]** keys when the following prompt appears just after the system memory tests:

```
<CTRL-ALT-S> to enter the System Configuration Utility
```

When you see this prompt, you have 2.5 seconds to press all three keys at the same time to enter the SCU, otherwise the computer proceeds to boot up.

NOTE: *Any changes made to the SCU are not effective until they are saved and the 5055 PC is re-booted. Press* ***<Alt>, [X], [S]****, then* ***<Enter>*** *to save the changes.*

Press <**Esc**> to exit any window without changes. Press <**Esc**> repeatedly to activate the Escape Key Pressed window, then press **OK** to save the current set-up parameters to the CMOS RAM and reboot the 5055 PC.

Startup

Press <**Alt**>, **[S]** to access the **Startup** menu to adjust the PC's date and time, boot up password and functions, adjust the SCU password and color scheme, and set up BIOS for a Plug-and-Play operating system.

Date and Time

Press <**Alt**>, **[S]**, **[T]** to access the Date and Time window.

1. Press <**Tab**> twice to go to the date and time fields (Day, Month, Year, Hour Minute, Second), then use <**Tab**> to move between fields.
2. Use the up and down arrow keys to scroll through the digits for each option or type in the number for that option. The range of valid entries appear in the bottom of the screen.
3. When finished, press <**Enter**> to save your entries and exit the **Startup** menu.

Fast Boot

The default for the fast boot is to disable the memory test from the power up routine (check mark on the **Fast Boot** option). Press <**Alt**>, **[S]**, **[F]** to add or remove the check mark, depending on the configuration.

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Boot Password

Press <**Alt**>, **[S]**, **[B]** for the Boot Password window and set a password for the power up routine. The cursor appears on **Enter new Power-On Password**.

1. Type up to eight alphanumeric characters for the new password, these are disguised as asterisks.
2. Press <**Tab**> to move down to the next field and type the new password again to verify.
3. Press <**Enter**> twice to save your changes and exit the **Startup** menu.

Note the shaded fields are not available at this time.

SCU Password

Initially, there is no password for accessing the SCU. Press <**Alt**>, **[S]**, **[S]** for the SCU Password window to set up a password. The window opens with the cursor on **Enter new Setup Password**.

1. Type up to eight alphanumeric characters for the new password, these are disguised as asterisks.
2. Press <**Tab**> to move down to the next field and type the new password again.
3. Press <**Enter**> twice to save your changes and exit the **Startup** menu.

Note the shaded fields are not active at this time.

Configure SCU

The default colors for the SCU are mostly dark blue on a white background. Press <**Alt**>, **[S]**, **[C]**, **[C]** for the Color Scheme window to change the colors.

1. Press <**Tab**> twice to move the cursor to the four color options.

∀ **NOTE:** *An option is selected when a dot appears in the parentheses in front of that option:* "(Σ)"

2. Use the up and down arrows to move the cursor to an option, then press the letter for that option:
   - ∀ **[D]** Default colors (mostly dark blue letters on a white background)
   - ∀ **[A]** Alternate colors (mostly white letters on blue)
   - ∀ **[M]** Monochrome (mostly white on black)
   - ∀ **[I]** Inverse mono (mostly black on white)
3. Press <**Enter**> to select that option and exit the **Startup** menu.

Plug-and-Play Operating System (PnP O/S)

Press <**Alt**>, **[S]**, **[P]** to add a check mark, thus setting up BIOS for a Plug-and-Play operating system.

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Disks

This setup option designates the startup device ("drive") for the 5055 PC. Press <**Alt**>, **[D]** for the Disks menu which contains options to enable the Virus Alert, determine from which drive to boot the computer (Removable is C), and dictate which drives are enabled (IDE Settings).

Virus Alert

Press <**Alt**>, **[D]**, **[V]** to add or remove a check mark from the **Virus Alert** option. If checked, this enables a warning if Sector 0 of the bootable disk has been changed. The default is to enable the warning.

IDE Settings

∀ **NOTE:** *"Drive 2" must be enabled if the removable IDE drive is installed in the 5055 PC.*

Press <**Alt**>, **[D]**, **[I]** to enable enhanced IDE settings.

1. Press <**Tab**> twice to move the cursor to the Drive 1 box which sets the internal drive.
   - ∀ Press **[D]** to add an "X" to drive-enable "Drive 1" or to remove the "X" to disable the **Drive Enabled** option.
   - ∀ Press **[P]** to add or remove an "X" to enable or disable the Programmed I/O (PIO) mode (**PIO Mode**) option.
2. If this 5055 PC is set up to have a removable drive, be sure the internal drive is enabled, via the Drive 1 box. Press <**Tab**> to move the cursor into the Drive 2 box which sets the removable IDE drive.
   - ∀ Press **[D]** to add an "X" to drive-enable "Drive 2" or to remove the "X" to disable **Drive Enabled**.
   - ∀ Press **[P]** to add or remove an "X" to enable or disable **PIO Mode**.
3. Press <**Enter**> to save changes and exit.

Removable is C

Press <**Alt**>, **[D]**, **[R]** to add or remove a check mark to enable or disable **Removable is C**. If enabled, the removable IDE drive becomes the startup device, otherwise the internal IDE drive (if present) is the startup device.

∀ **NOTE:** *Newer units do not include an internal SanDisk drive.*

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Components

Press <**Alt**>, **[C]** for the **Components** menu to set COM and parallel (LPT) ports, enable scanning, and do settings.

COM Ports

This option (the serial port power option) sets up the port address and interrupt for two serial (COM) ports. Press <**Alt**>, **[C], [C]** for the COM Ports window.

1. Press <**Tab**> twice to move the cursor to the **COM A Settings** box and select the port address and interrupt for the first internal COM port.

∀ **NOTE:** *In steps 2 and 3, a dot appears in the parentheses in front of the selected option:* "(Σ)"

2. Select one of the following for the first internal COM port (COM A):
   - ∀ **[N]** None
   - ∀ **[1]** COM 1, 3F8, IRQ 4 *(default)*
   - ∀ **[2]** COM 2, 2F8, IRQ 3
   - ∀ **[4]** COM 4, 2E8, IRQ 3
3. Press <**Tab**> to move the cursor to the **COM B Settings** box, then press one of the following to select the port address and interrupt for the second internal COM port (COM B):
   - ∀ **[N]** None
   - ∀ **[1]** COM 1, 3F8, IRQ 4
   - ∀ **[2]** COM 2, 2F8, IRQ 3 *(default)*
   - ∀ **[4]** COM 4, 2E8, IRQ 3

Press <**Enter**> to exit the COM Ports window and save your selections.

Scanner COMx

Press <**Alt**>, **[C], [1]** or <**Alt**>, **[C], [2]** to add or remove a check mark to enable or disable that COM port. If checked, the enabled COM port powers a peripheral device, such as by outputting a +5 volts CD on the RI line, pin 9.

Be sure the appropriate COM port is enabled before attaching a scanner to the 5055 PC. The factory default has both of these options disabled (no check mark).

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LPT Port

Press <**Alt**>, **[C]**, **[P]** to access the LPT Port window and assign the port address and interrupt line for the internal parallel (printer) port.

1. Press <**Tab**> twice to access the **Port Address** box.

∀ **NOTE:** *In steps 2 and 3, an option is selected when a dot appears in the parentheses in front of that option:* "(Σ)"

2. Select one of the following port addresses for the parallel port:
   - ∀ **[N]** None
   - ∀ **[1]** LPT1, Addr 3BC
   - ∀ **[2]** LPT2, Addr 378 *(default)*
   - ∀ **[3]** LPT3, Addr 278
3. Press <**Tab**> to move the cursor to the **Interrupt Line** box, then press either of the following to select the interrupt line for the parallel port.
   - ∀ **[5]** IRQ 5
   - ∀ **[7]** IRQ 7 *(default)*

Press <**Enter**> to exit the LPT Port window and save your selections.

LPT Type

Press <**Alt**>, **[C]**, **[T]** to access the LPT Type window and select parallel port enhanced capabilities.

1. Press <**Tab**> twice to access the **Port Definition** box.

∀ **NOTE:** *In step 2, a dot appears in the parentheses in front of the selected option:* "(Σ)"

2. Select one of the following four parallel (printer) port advanced capabilities:
   - ∀ **[S]** Standard AT (Centronics), a standard interface for connecting printers and other parallel devices. *(default)*
   - ∀ **[B]** Bidirectional (PS–2), a standard interface for communicating between the PC and attached devices using the PS/2 mode.
   - ∀ **[E]** Enhanced Parallel (EPP), a parallel port standard for PCs that supports bidirectional communications. EPP is good for links that change directions frequently, such as drives.
   - ∀ **[C]** Extended Capabilities (ECP), a parallel port standard for PCs that is similar to the EPP. ECP is good for transferring large blocks of data quickly, such as to and from printers.

   Note EPP and ECP are about ten times faster than the older Centronics standard.

Press <**Enter**> to exit the LPT Type window and save your selections.

Mouse

Press <**Alt**>**, [C], [M]** to add or remove the check mark to enable or disable the mouse port to free IRQ 12 for use with other peripherals. The default enables the mouse port.

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Display

WARNING: ***ONLY use the invert mounting and display option in indoor environments. This prevents damage to the computer.***

Display only applies to the color VGA display and inverts the display contents 180 degrees. This allows for installing the 5055 PC in different positions such as a wall-mount application.

The default display has the connectors to the bottom of the 5055 PC, thus the **Display** option would not have a check mark.

To "invert" the display, or rotate the display 180 degrees so that the display has the antenna to the bottom, press **<Alt>, [C], [D]** to enter a check mark.

Keyboard Numlock

Press **<Alt>, [C], [N]** to add or remove the check mark to start the 5055 PC with the **Num Lock** key enabled *(default)* or disabled.

Keyboard Repeat

Press **<Alt>, [C], [K]** to access the Keyboard Repeat window and set the keyboard auto repeat delay and repeat rate.

1. Press **<Tab>** twice to access the **Key Repeat Rate** box to select the repetition rate to be set for the keyboard when the PC boots up.

∀ NOTE: *In steps 2 and 4, a dot appears in the parentheses in front of the selected option:* "(Σ)"

2. Press the up and down arrow keys between the six cps (characters per second) rates (2, 6, 10, 15, 20 or 30 — *default is 10*), then press the space bar to select a rate.
3. Press **<Tab>** to move the cursor to the **Key Delay** box and select a delay time between repetitions.
4. Press the up and down arrow keys between the delay times (1/4 sec, 1/2 sec *(default)*, 3/4 sec, or 1 sec (second), then press the space bar to select that delay time.

Press **<Enter>** to exit the Keyboard Repeat window and save your selections.

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Exit

Press <**Alt**>**, [X]** to access exit options, settings, and version information.

Save and Reboot

Press <**Alt**>**, [X]**, **[S]** to save the current settings and reboot the 5055 PC to update the PC with the changed settings.

Exit (No Save)

Press <**Alt**>**, [X]**, **[N]** to exit the SCU without saving the current settings.

Default Settings

Press <**Alt**>**, [X]**, **[D]** to reset the SCU to the default settings.

Restore Settings

Press <**Alt**>**, [X]**, **[R]** to erase the current changes to the SCU and restore the settings that existed when entering the SCU.

Version Info

Press <**Alt**>**, [X]**, **[V]** to view current BIOS version and copyright information.

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Section 3

Windows Device Drivers

This section has device drivers for the Windows 2000 operating system.

∀ **NOTE:** *Tool icons are shown to the left of related menu options.*

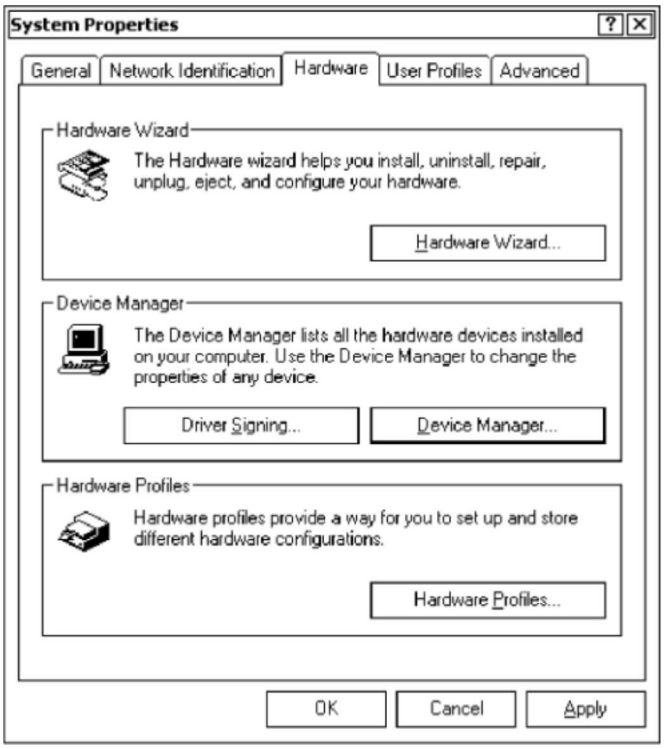
Windows 2000 Pen Drivers

∀ **NOTE:** *The Windows 2000 Pen Drivers are factory-installed on the default load. The following instructions apply only when you are reinstalling the existing pen drivers.*

Uninstall the Existing Drivers



1. From the Windows desktop, select **Start** → **Settings** → **Control Panel**, then double-click the **System** desktop icon. Click the **Hardware** tab, then click **Device Manager** in the Device Manager area to access the computer devices.



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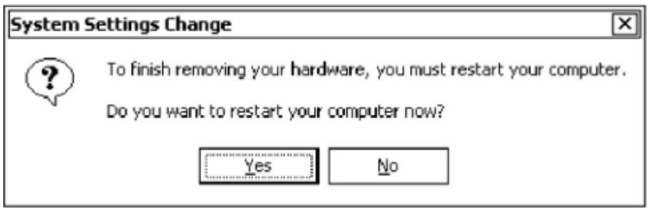
2. Expand the **Mice and other pointing devices** component, to select highlight the "Intermec 5055 Pen" device. Right-click this device for a pop-up menu, then select **Uninstall** to remove this device.



3. Click **OK** to confirm this deletion.



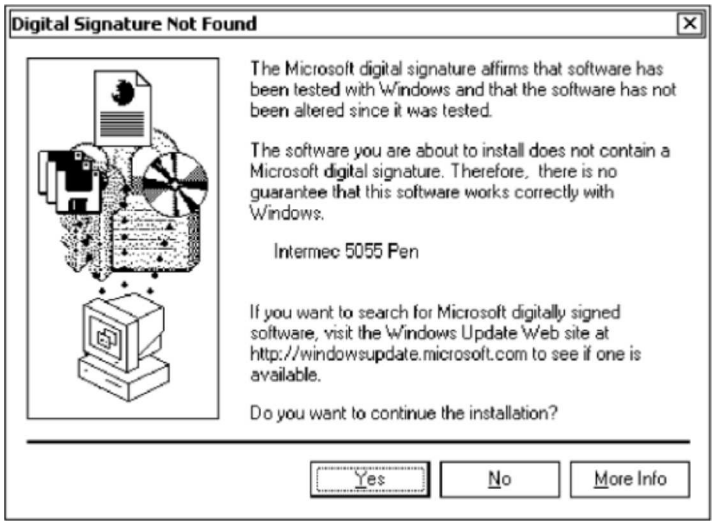
4. Click **Yes** to reboot the unit.



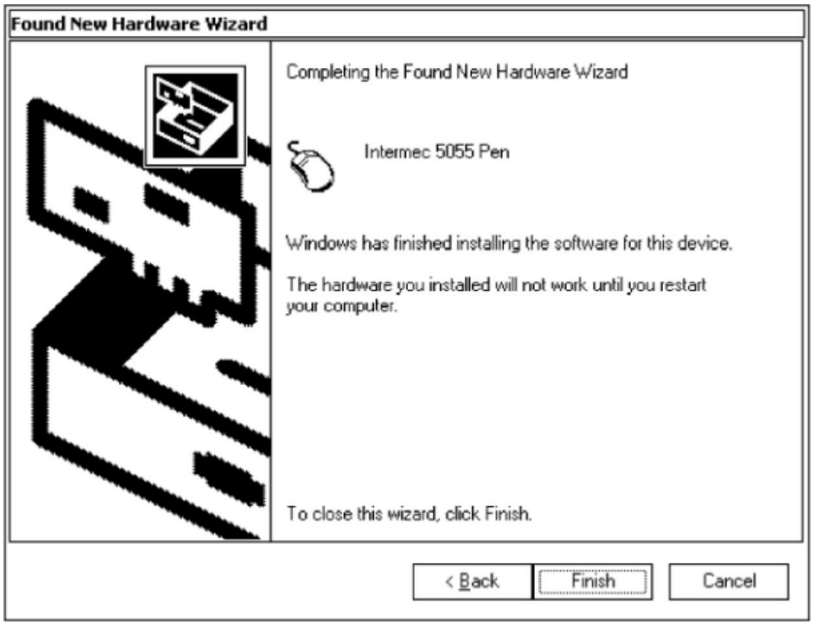
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Reinstall the Pen Drivers

1. When the unit reboots, the Windows desktop will display a Digital Signature Not Found message. Click **Yes** to continue.



2. Perform the steps of the Pen Alignment Utility, starting on the next page, then return to the next step.
3. Click **OK** to continue from the Pen2K Fix application.
4. Click **Finish** to complete the installation, then click **Yes** to reboot the unit.



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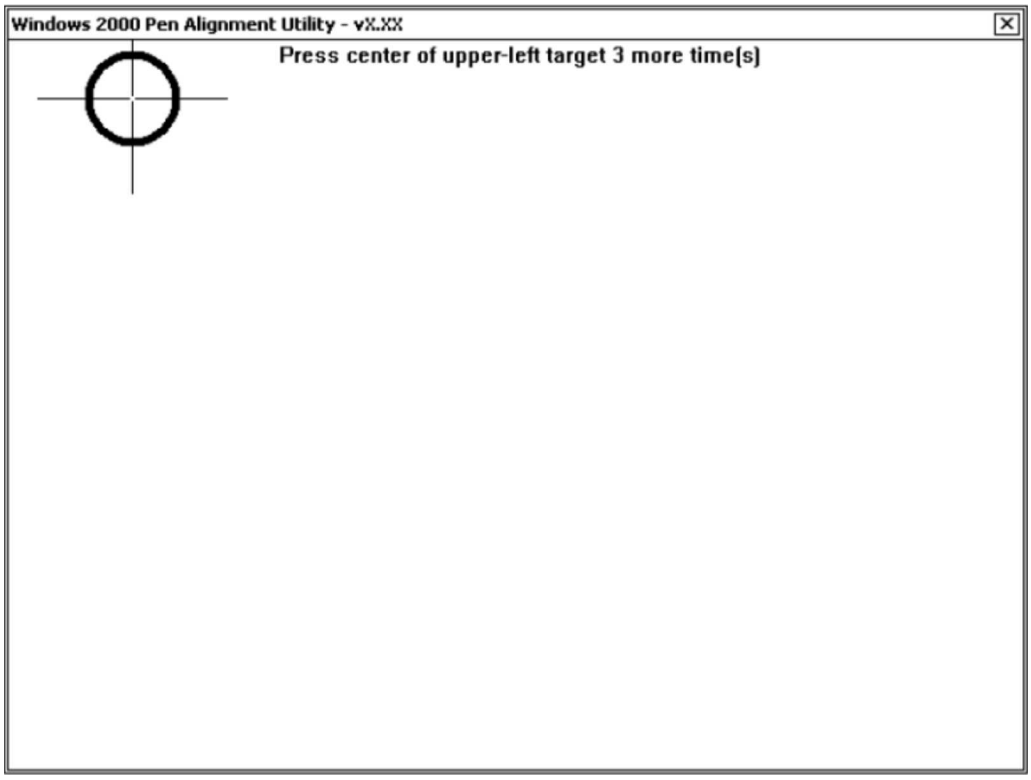
Recalibrate or Realign the Touchscreen

When the unit is first reimaged to Windows 2000 or when it is necessary to recalibrate (or realign) the touchscreen, use the Pen Alignment Utility (PENCAL2K.EXE). This utility is located either on the Windows desktop, **Start** menu or in the folder used for the Touchscreen Drivers files. *Default location is "C:\Drivers\Touch."*

PENCAL2K.EXE calibrates the pen for the computer, aligning the Windows cursor and fingertip to the same location on the screen. When complete, the calibration values are stored permanently.



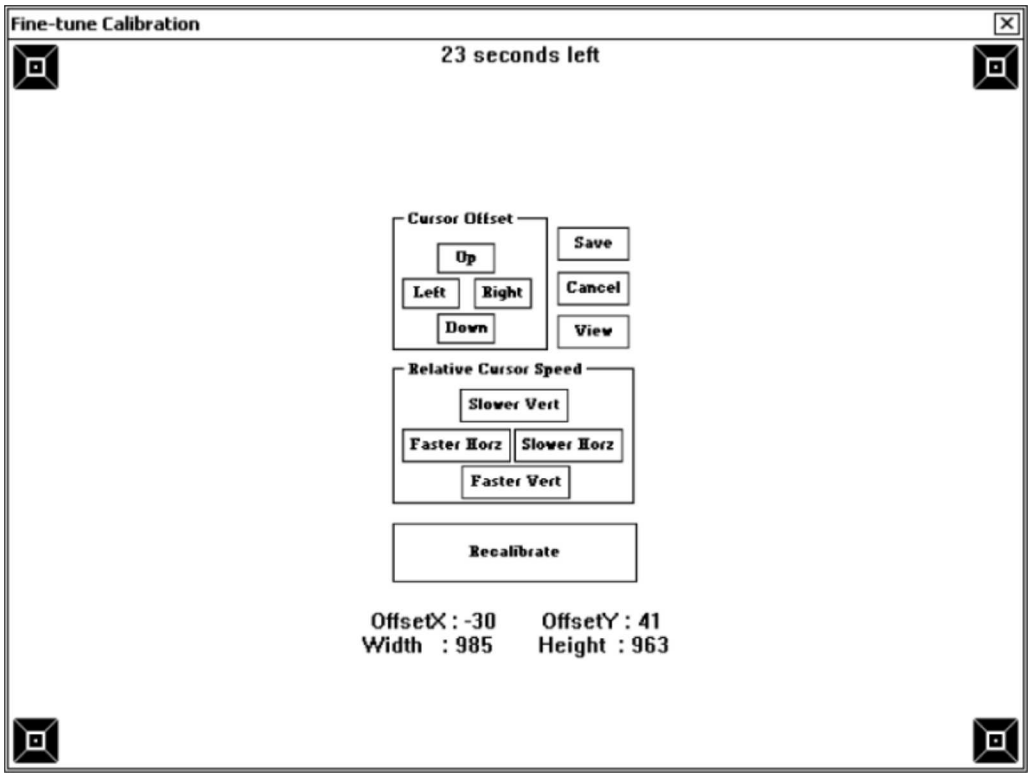
1. From the Windows desktop, double-click the **Calibrate Touchscreen** shortcut icon, or select **Start → PenCal2k** to access the Windows 2000 Pen Alignment Utility.



2. Tap your finger firmly at the center of the crosshairs target in the upper-left corner. You should hear a click and see two sets of x,y coordinate values display on the screen. Tap two more times in this same way at the center of this target.
3. Continue the three-tap process as the crosshair moves to the upper-right corner, the lower-left, and lower-right corners of the screen.

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4. After all four targets are tapped, the Fine-tune Calibration screen appears. Touch on an open area to determine if the Windows cursor matches the location your fingertip. Click **Recalibrate** if there is no match. When finished, click **Save** to permanently save the new values or click **Cancel** to continue using the old calibration.



Left
Move the cursor to the left with respect to your finger.

Right
Move the cursor to the right with respect to your finger.

Up
Move the cursor up with respect to your finger.

Down
Move the cursor down with respect to your finger.

SlowerVert
Moves the cursor more slowly in the vertical direction with respect to your finger. Use this when the cursor matches well on the top of the screen, but is lower than your fingertip at the bottom of the screen.

FasterVert
Moves the cursor more quickly in the vertical direction with respect to your finger. Use this when the cursor matches well at the top of the screen, but is higher than your fingertip towards the screen bottom.

SlowerHorz
Works like SlowerVert, except the movement is in the horizontal direction.

FasterHorz
Works like FasterVert, except the movement is in the horizontal direction.

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Configure Pen Properties

Use the Intermec 5055 Pen Properties to adjust the orientation, double-click, and sound features.



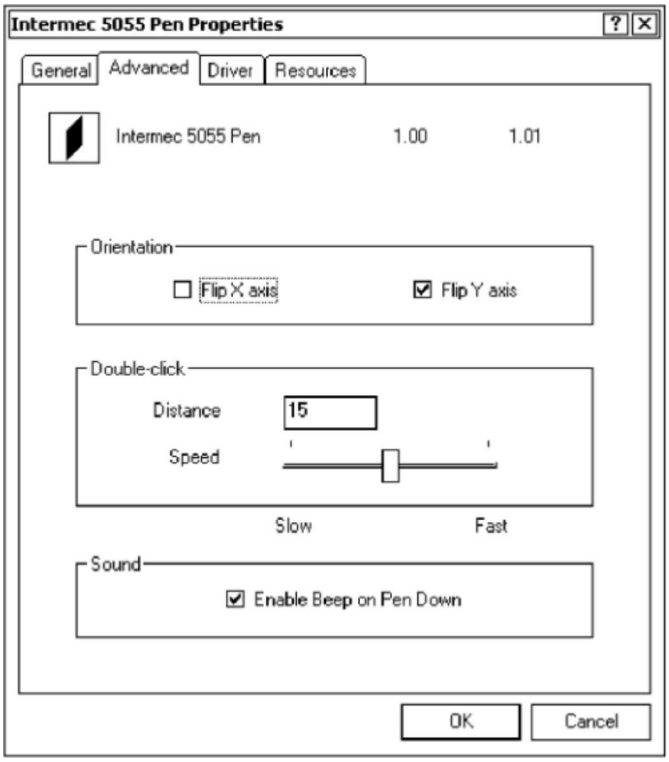
1. From the Windows desktop, select **Start** → **Settings** → **Control Panel**, then double-click the **System** desktop icon. Click the **Hardware** tab, then click **Device Manager** in the Device Manager area to access the computer devices (page 3-1).
2. Expand the **Mice and other pointing devices** component, to select highlight the "Intermec 5055 Pen" device (page 3-2). Right-click this device for a pop-up menu, then select **Properties**.
3. Click the **Advanced** tab, do the adjustments, then click **OK** to save changes and exit the Intermec 5055 Pen Properties. Below are the features:

   Orientation:
   If the 5055 PC is not mounted in the standard orientation, you can select **Flip X Axis** or **Flip Y Axis** *(default)*, or both, to rotate the touchscreen.

   For instance, some users may mount the system rotated 90 degrees. This would require both rotating the touch panel and the actual display.

   Double-click:
   Enter the number of seconds between clicks (or taps) for the unit to recognize a double-click, or drag the **Speed** bar to slower or faster, depending on your preference.

   Sound:
   The default is for the unit to emit a beep when you touch the screen. Clear the check mark to disable the beep.



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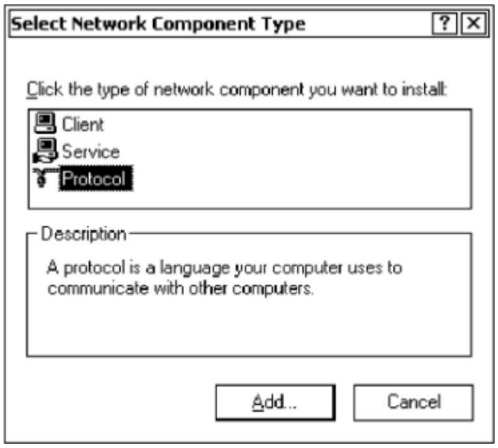
NetBEUI Protocol Driver

This section contains NetBIOS Enhanced User Interface (NetBEUI) protocol information supported for the 5055 PC. This driver readies the 5055 PC for communications. To install the NetBEUI protocol driver, make sure no other applications are running, then do the installation.

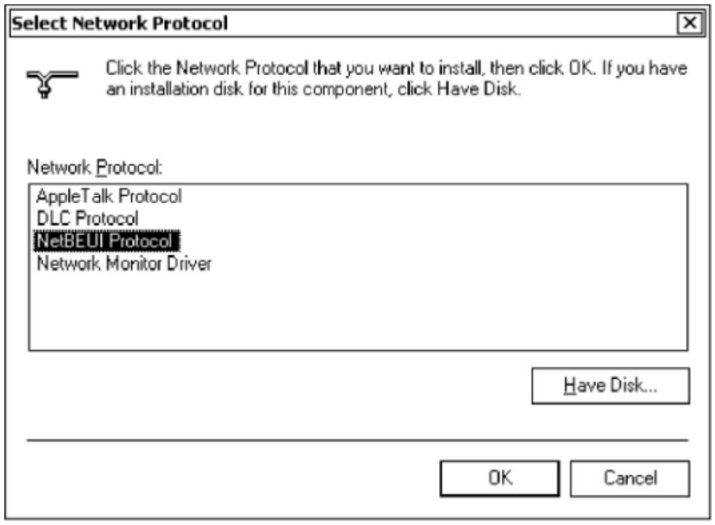
∀ **NOTE:** *The NetBEUI protocol driver should already be factory-installed on the 5055 PC. The installation procedure is normally not necessary.*

1. From the Windows desktop, select **Start → Settings → Network and Dial-up Connections**. Select to highlight the **Local Area Connection** connection, then right-click this selection for a pop-up menu. Select **Properties** to access the Local Area Connection Properties.
2. Scroll down the list of components for the "NetBEUI Protocol" item. If listed, click **OK** to close the Local Area Connection Properties.

   If not listed, click **Install** to access the Select Network Component Type, then double-click "Protocol" to access the Select Network Protocol.



3. Select "NetBEUI Protocol," then click **OK** to apply the selection. Click **Close** to exit the Local Area Connection Properties, then exit out of the Network and Dial-up Connections.



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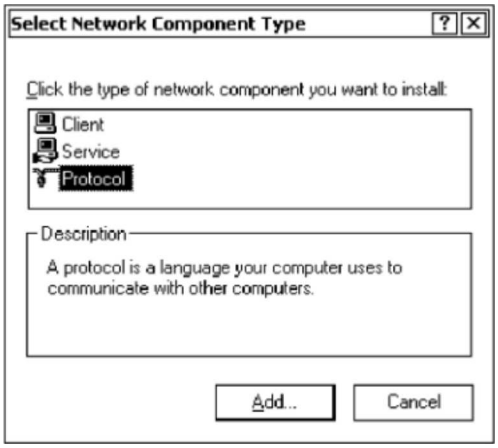
TCP/IP Network Driver

This section contains Transmission Control Protocol/Internet Protocol (TCP/IP) network driver information supported for the 5055 PC. This driver readies the 5055 PC for communications.

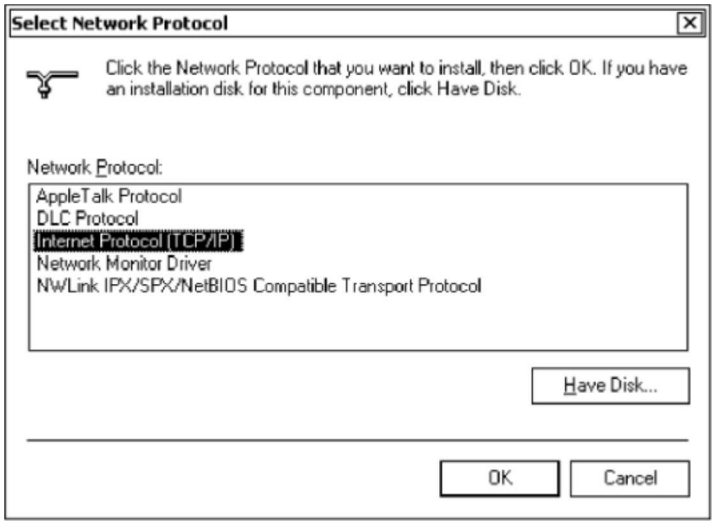
∀ **NOTE:** *The TCP/IP network driver should already be factory-installed on the 5055 PC. The installation procedure is normally not necessary.*

1. From the Windows desktop, select **Start → Settings → Network and Dial-up Connections**. Select to highlight the **Local Area Connection** connection, then right-click this selection for a pop-up menu. Select **Properties** to access the Local Area Connection Properties.
2. Look for "Internet Protocol (TCP/IP)" in the list of components. If listed, click **OK** to close the Local Area Connection Properties.

   If not listed, click **Install** to access the Select Network Component Type, then double-click "Protocol" to access the Select Network Protocol.



3. Select "Internet Protocol (TCP/IP)," then click **OK** to apply the selection. Click **Close** to exit the Local Area Connection Properties, then exit out of the Network and Dial-up Connections.



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Radio Drivers

This section summarizes two different radios and components offered. The 802.11 Client Monitor starts on this page. The Proxim LAN starts on page 3-32.

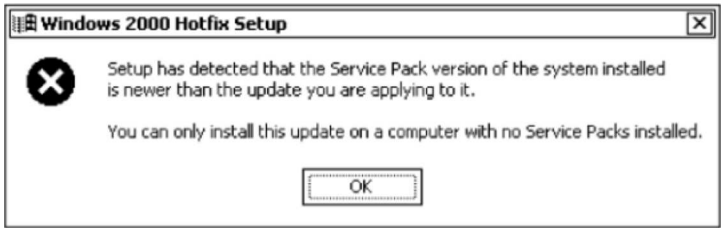
∀ **NOTE:** *The Adobe Acrobat Reader application is required to view and print Portable Data Format (PDF) files provided with most of the radio components. Download the latest free application from http://www.adobe.com/products/acrobat/readstep2.html.*

802.11 Client Monitor

The 802.11 Windows 2000 Driver is factory-installed on the 5055 PC. *Insert the accompanying PC Card in the center PC Card slot before turning on the 5055 PC.*

Verify PC Card Support

Double-click W2K_SP1E.EXE within the "C:\Drivers\802_11" folder to ensure that you have the latest PC Card support. The Intermec 802.11 Radio will not work without the latest support. Click **OK** twice to exit this setup.



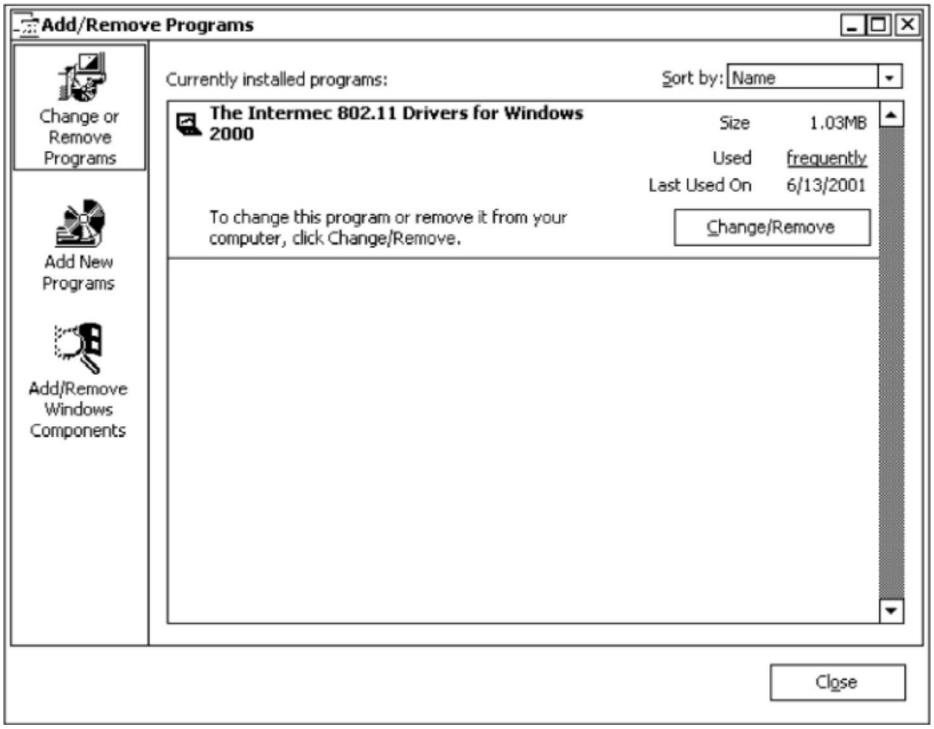
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Uninstall Old 802.11 Windows 2000 Drivers

To uninstall the older 802.11 drivers, select **Start → Settings → Control Panel** icon to access the Control Panel from the desktop.



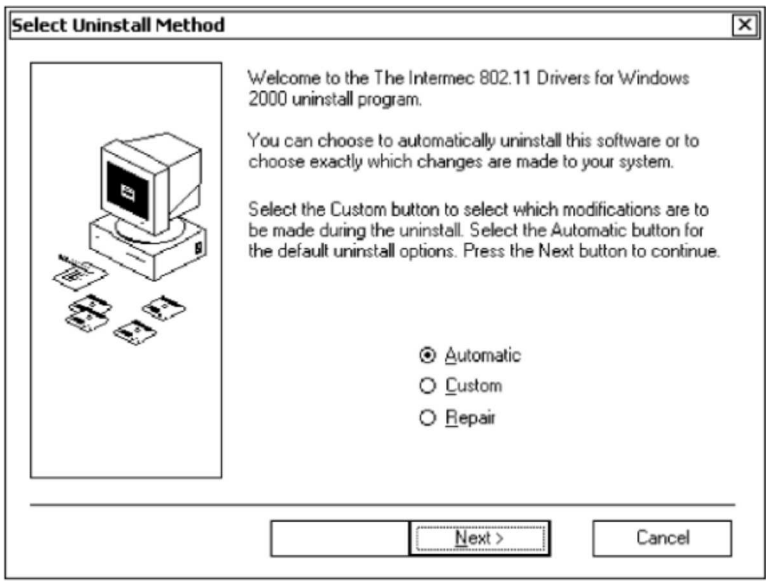
1. Double-click the **Add/Remove Programs** desktop icon, then click **Change or Remove Programs** for the list of installed programs. Locate the "Intermec 802.11 Drivers for Windows 2000" installed program, then click **Change/Remove** to activate the uninstall wizard.



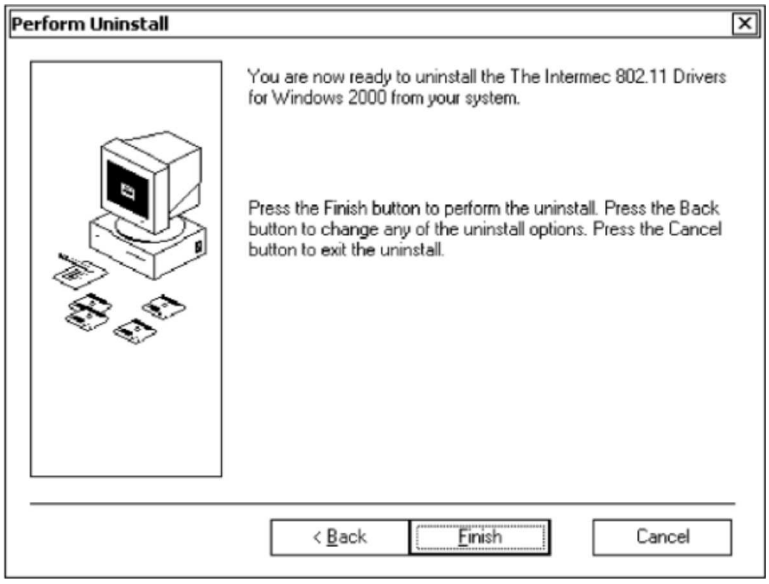
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2. Select which of the two ways to remove the drivers from the 5055 PC, then click **Next** to continue.
   - Select "Automatic" to remove the entire drivers.
   - Select "Custom" to choose which components are to be removed. A number of screens will appear for private files, system files, registry keys, and subsystems that can be removed.

     In each of the screens, click **Select All** to select all of the items listed, pick out items individually by touching each item on the display, click **Select None** to unselect any selections. Click **Next** to continue.



3. Click **Finish** to start the uninstallation if the correct drivers are listed. If not, click **Back** to redo the previous screens, or click **Cancel** to stop.



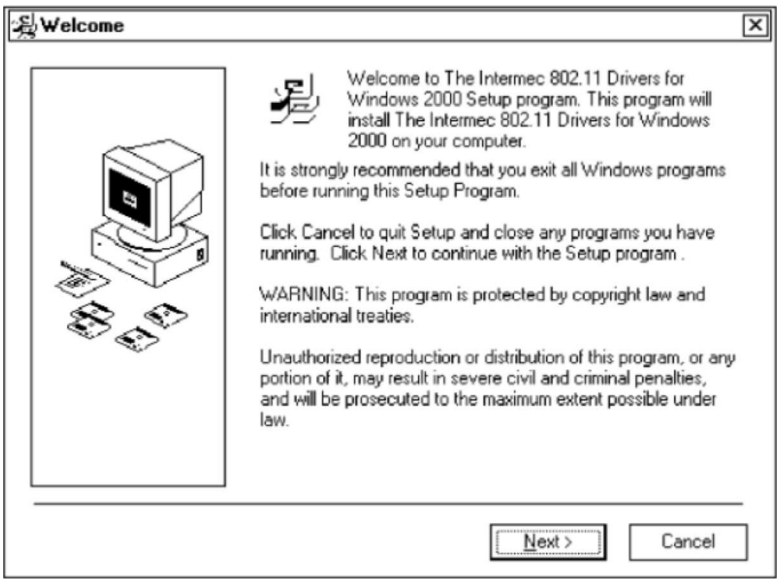
4. A prompt about shared files may appear during the uninstall. Click the appropriate button to continue. Exit both the Add/Remove Programs application and the Control Panel to return to the desktop.

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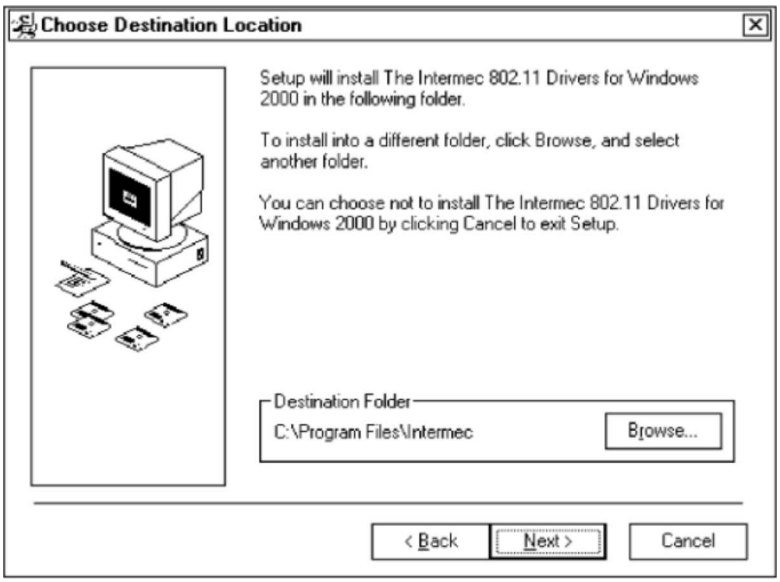
Install 802.11 Windows 2000 Driver

Double-click 80211WIN2K.EXE from the "C:\Drivers\802_11" folder to install the Intermec 802.11 Windows 2000 Drivers.

1. The first screen advises to close all Windows applications before continuing with this installation. Do so before clicking **Next** to continue.

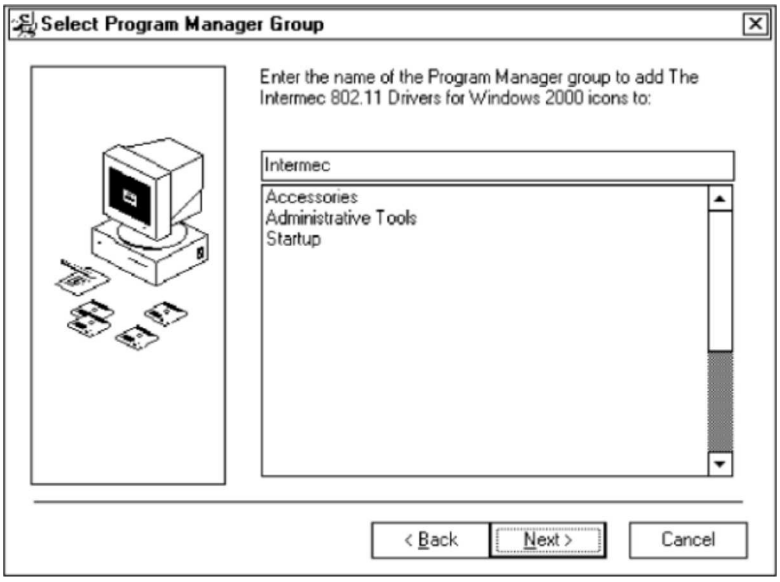


2. The default location for the 802.11 Windows 2000 drivers appear on this screen, which is "C:\Program Files\Intermec." Click **Browse** to change the location. Click **Next** to continue.

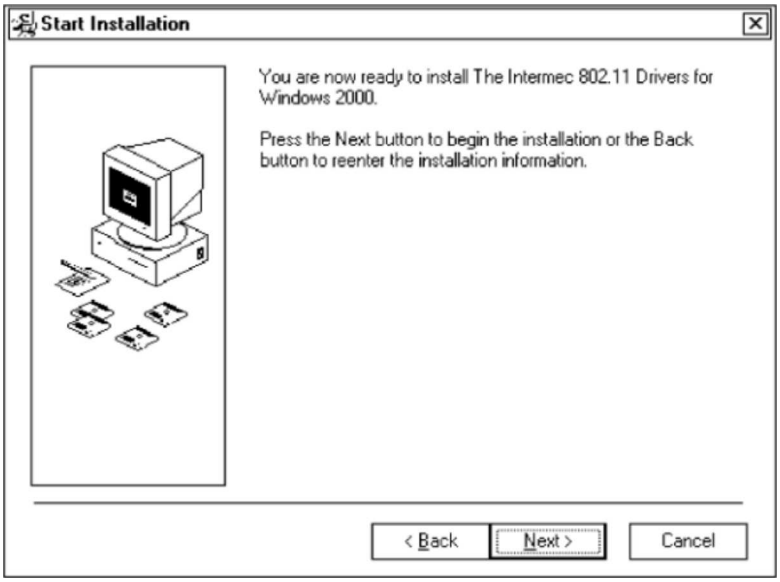


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3. The default name of the folder in which to store the 802.11 Windows 2000 drivers appear in this screen, which is “Intermec.” Select another folder or type a different name for the folder. Click **Next** to continue.

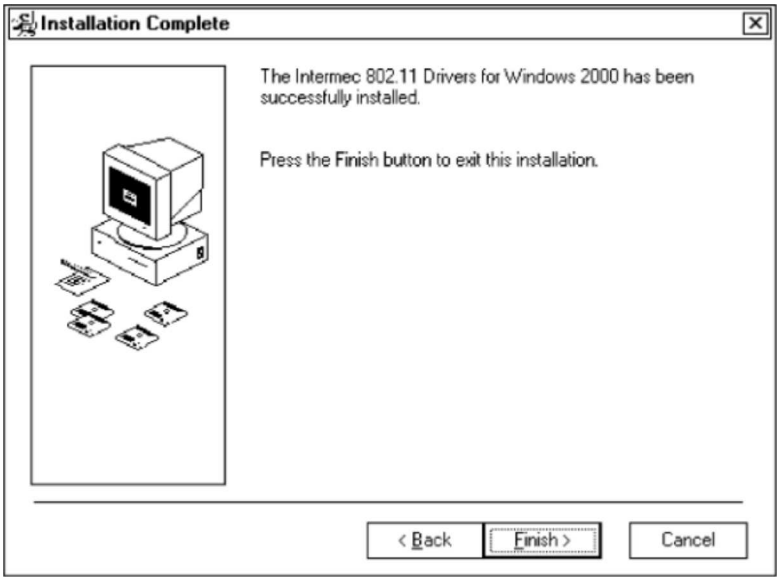


4. Click **Next** to start the installation, or click **Back** to change any of the previous information.

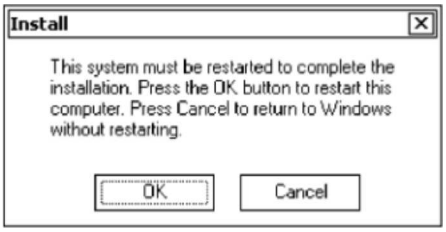


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5. Click **Finish** to complete the installation.



6. Click **OK** to reboot the unit, or press **Cancel** to return to the desktop.



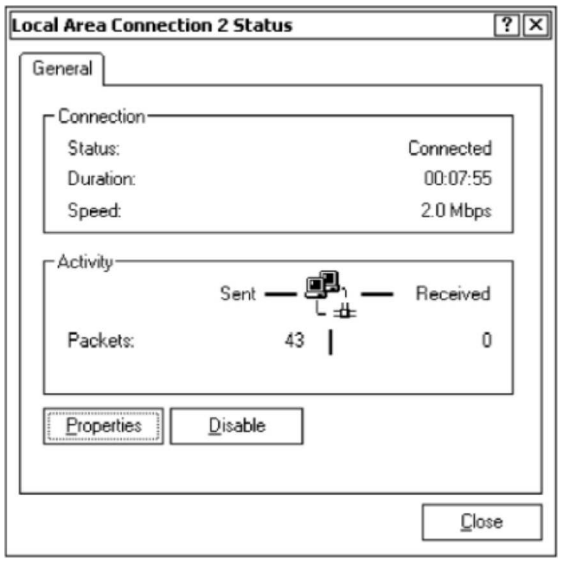
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Access the Device Driver Properties

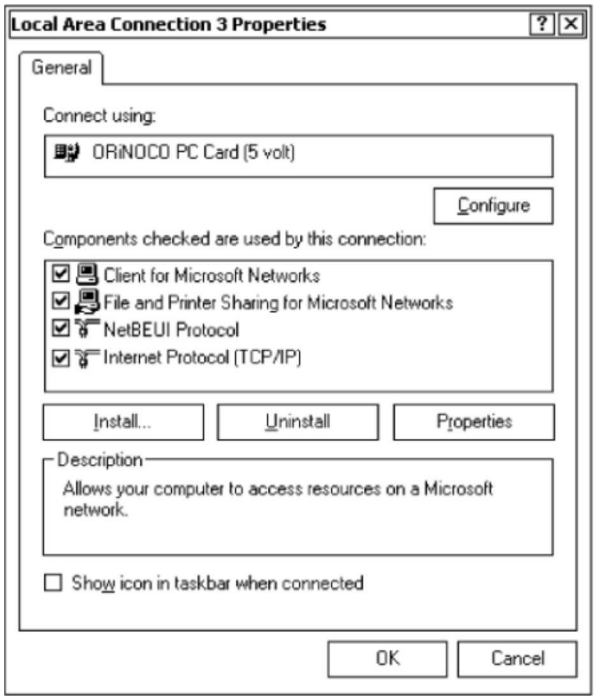
1. From the Windows desktop, select **Start → Settings → Network and Dial-up Connections** desktop icon to access the dial-up connections for this unit.



2. Double-click the **Local Area Connection x** desktop icon for the Intermec 802.11 radio network connection. The "x" is the LAN connection number, this example uses the number "2." Click **Properties** to access the properties of this radio network connection.



3. Click **Configure** to access the properties of this driver.



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4. Click the **Driver** tab, then click **Update Driver** to change the driver.



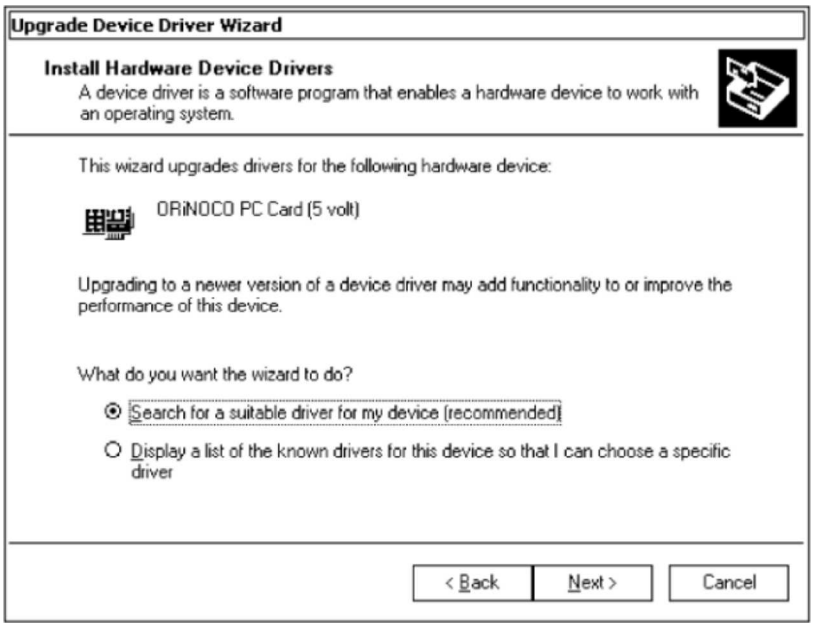
Update the 802.11 Device Driver

1. Click **Next** to initiate the device driver update.

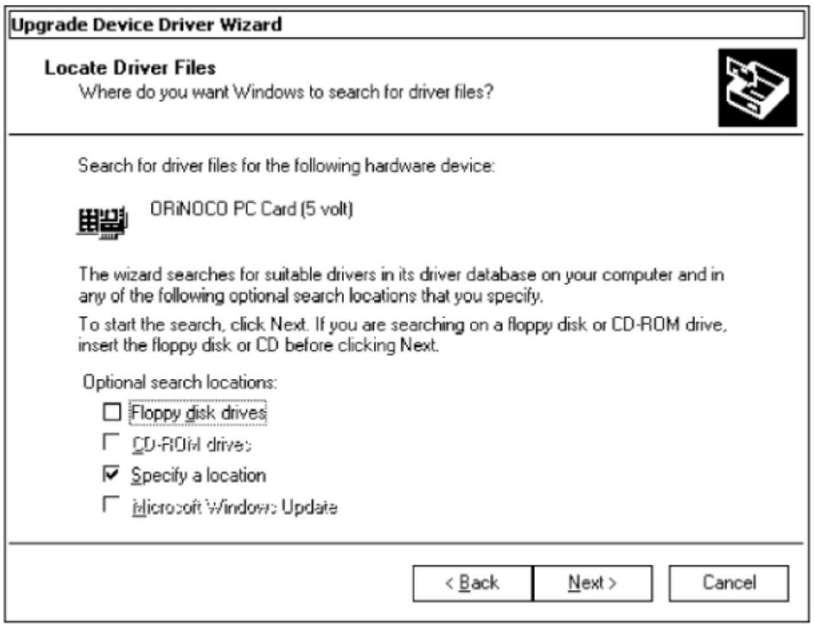


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2. Leave the selection on the **Search for a suitable driver for my device** option, and click **Next** to continue.



3. Leave the **Specify a location** option checked, then click **Next** to continue.

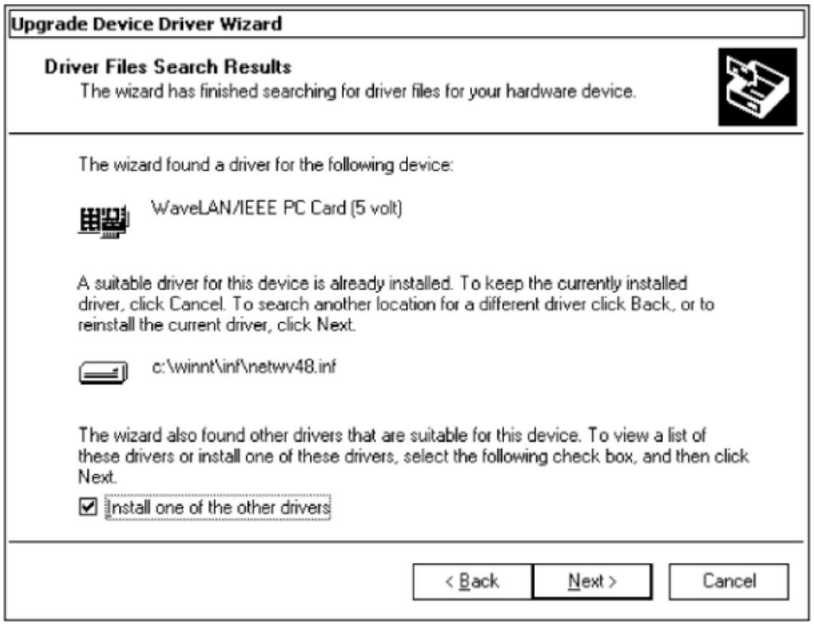


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4. Click **Browse** to locate the "C:\Intermec Driver" folder with the WLLUC48.INF file, click **Open** to assign the path, then click **OK** to continue.

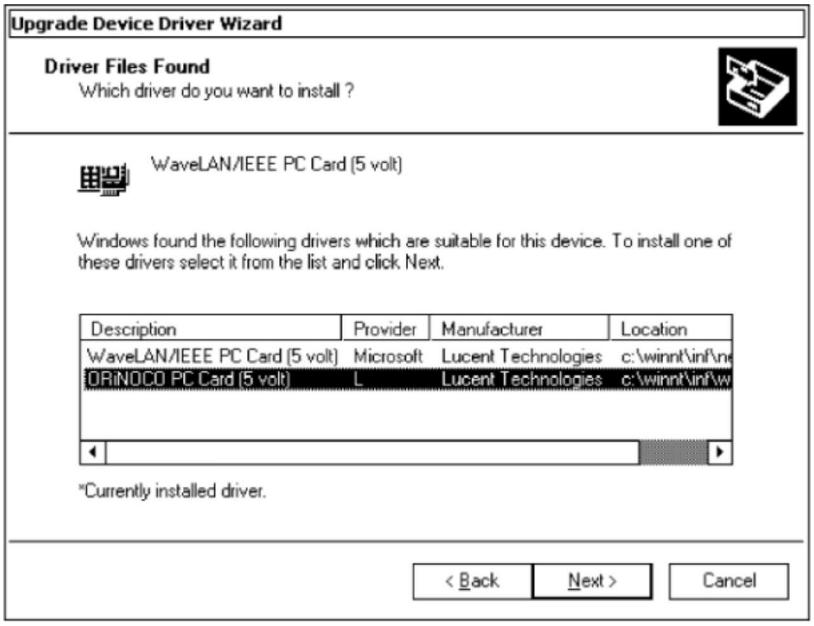


5. Click **Install one of the other devices**, then click **Next** to continue.

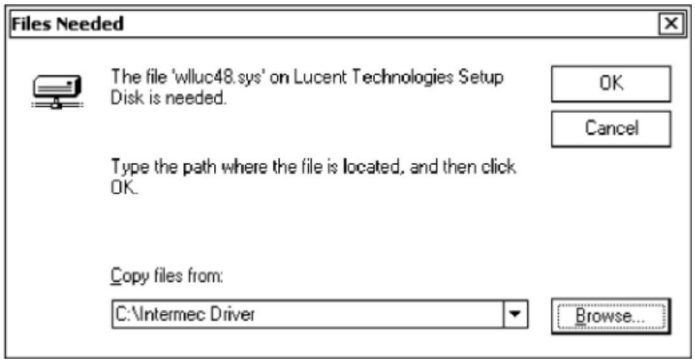


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6. Select the "ORiNOCO PC Card (5 Volt)" option, then click **Next** to continue.



7. Click **Yes** on the Digital Signature Not Found message (similar to page 3-3) to continue.
8. Click **Browse** to locate the WLLUC48.SYS file via the "C:\Intermec Driver" folder, click **Open** to assign the path, then click **OK** to continue.



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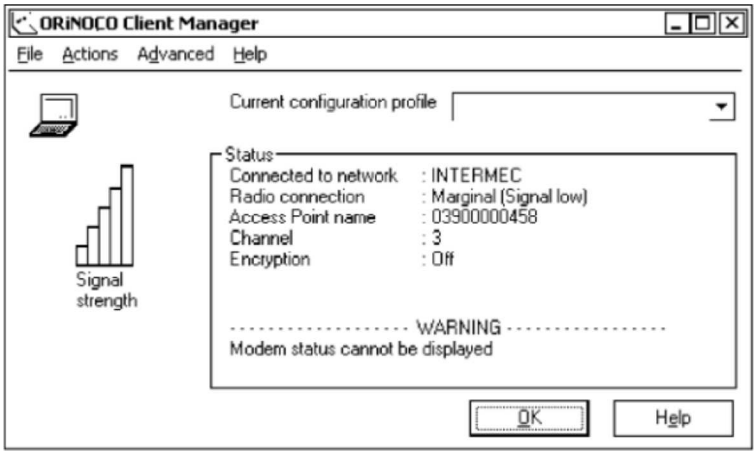
9. Click **Finish** to complete the driver update, click **Close**, then click **OK** to exit the Local Area Connection x Properties.



Once installed, there are two features available on the desktop: an ORiNOCO Client Manager and a Firmware Upgrade feature.

ORiNOCO Client Manager

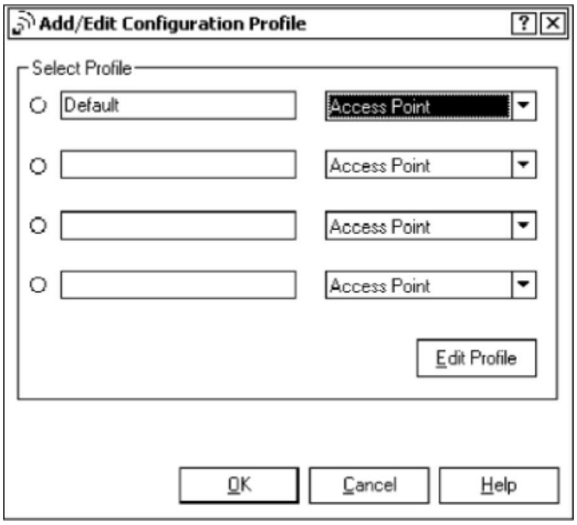
From the Windows desktop, select **Start → Programs → Intermec → 802.11 Client** to activate the client monitor. This appears minimized by default. Click the bar graph icon in the desktop system tray to access the ORiNOCO Client Manager which provides status information, impact, and details about the infrastructure network.



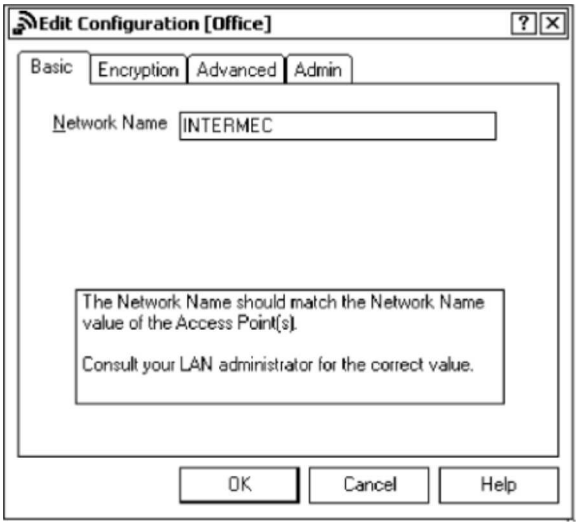
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Add/Edit Configuration Profile

Select **Actions → Add/Edit Configuration Profile** to set up the ORiNOCO PC Card for multiple networking environments. Click **Help** for information.



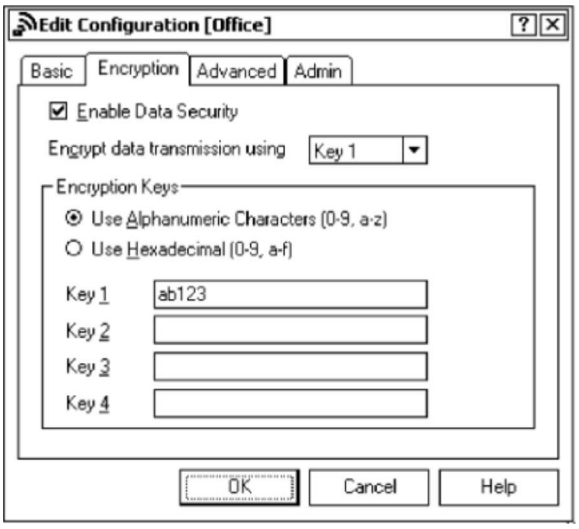
1. Use up to 32 alphanumeric characters to describe each profile, then select from the corresponding drop-down list the applicable type (Access Point, Residential Gateway, or Peer-to-Peer Group).
2. Click the button next to the profile to be edited, then click **Edit Profile** to access the Edit Configuration. Click **Help** for additional online information on any of these features.
   - If this profile is an Access Point, then do the following:
     a. On the Basic page, enter the name of the network to be connected to, such as "INTERMEC." If you want to connect to a network but do not know the name or are using the 5055 PC in a multiple LAN infrastructure, use "ANY" in all capital letters. Consult your LAN administrator for the name of the network.



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b. Click the **Encryption** tab, then click **Enable Data Security** to enable Wired Equivalent Privacy (WEP) encryption (uncheck to disable). WEP keys are only needed if your access point expects them, and there are two types: 64-bit (5-character strings, 12345 — *default*) and 128-bit (13-character strings, 1234567890123).

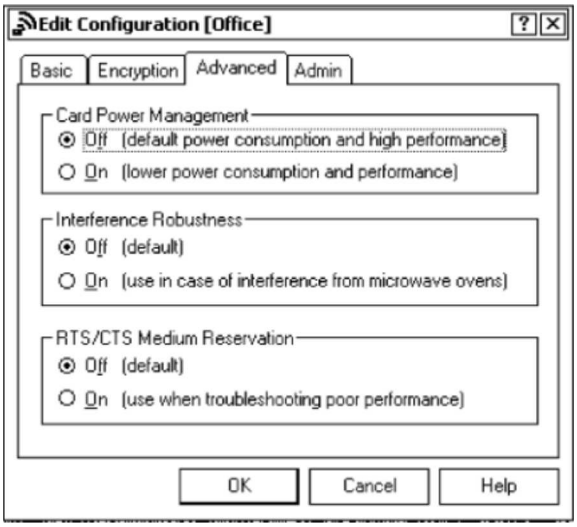
Select a data transmission (Key 1 – Key 4), then type the encryption key for that data transmission.



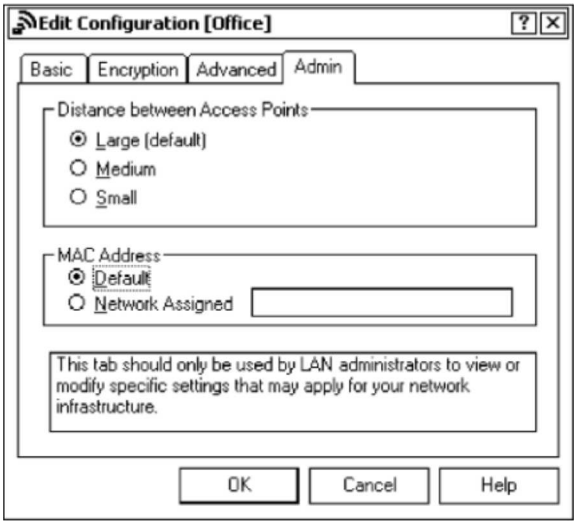
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c. Click the **Advanced** tab to set the following parameters:

- *Card Power Management*
  Off: Throughput is faster.
  On: Throughput is slower.
- *Interference Robustness*
  Off: Check this when in areas of fringe coverage.
  On: Prevents the radio from reverting to 1 MB transfer rates.
- *RTS/CTS Medium Reservation*
  Off: Default.
  On: Check this when in areas of high 2.4 GB traffic.

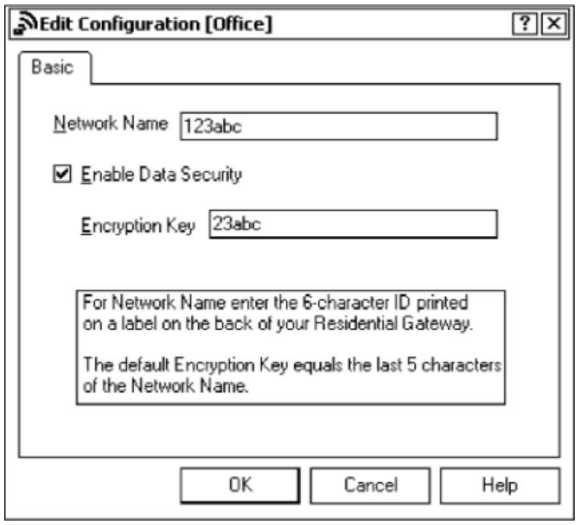


d. *This page is for LAN administrators only.* Click the **Admin** tab to access the Administrator Settings which sets MAC addresses and the distance between access points.

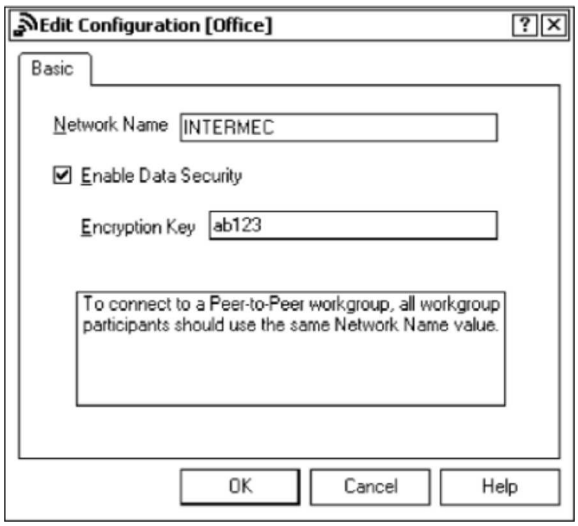


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- If this profile is a Residential Gateway, then enter the six-character ID listed on your residential gateway (usually on the back) for the **Network Name**. If **Enable Data Security** is checked, the system will automatically list the last five characters of the network name.



- If this profile is a Peer-to-Peer Group, then enter the **Network Name** shared by all members of the workgroup. If **Enable Data Security** is checked, enter the encryption or WEP key.



Select Configuration Profile

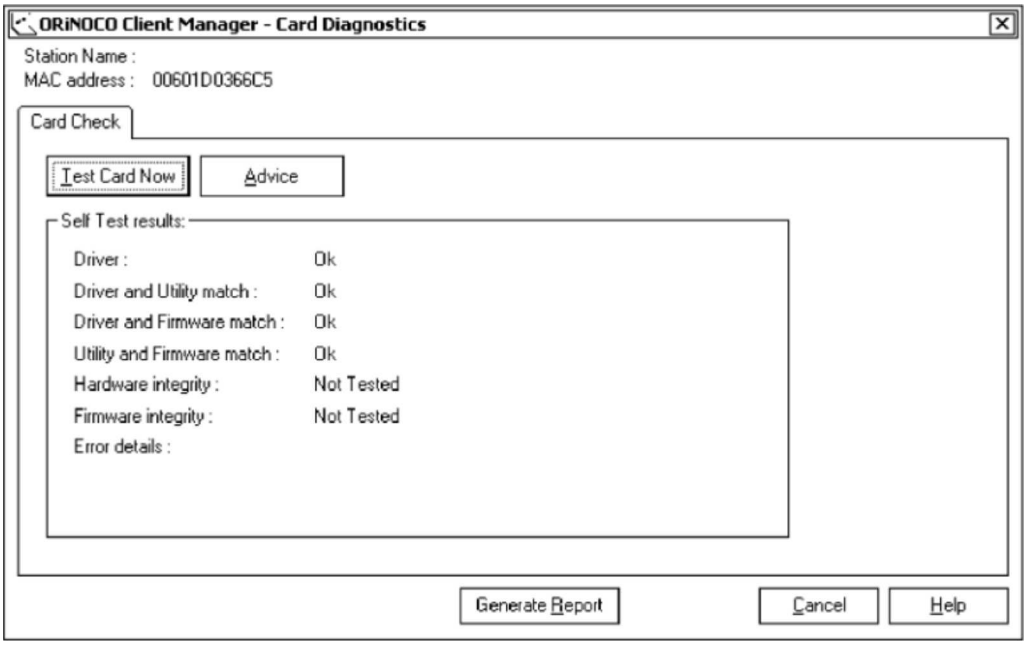
Select **Actions → Select Configuration Profile** to switch to another profile within this client manager.

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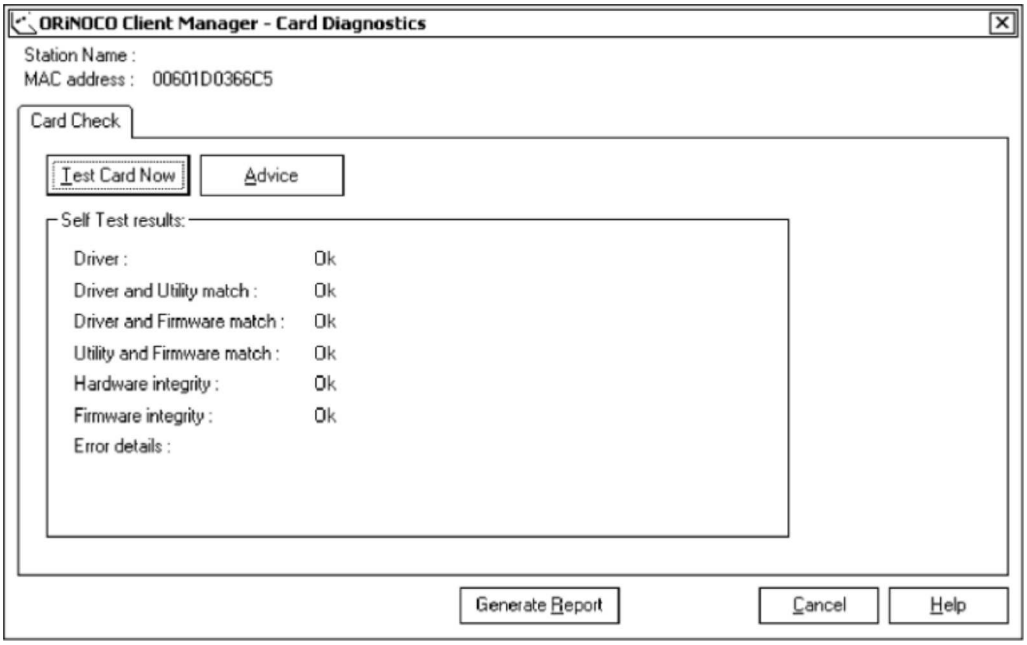
Card Diagnostics

∀ **NOTE:** *Using this feature **may** temporarily break communications with the 802.11 PC card.*

Select **Advanced → Card Diagnostics** to access the Card Diagnostics to check the status of the 802.11 PC Card used in the 5055 PC. Click **Cancel** to exit.



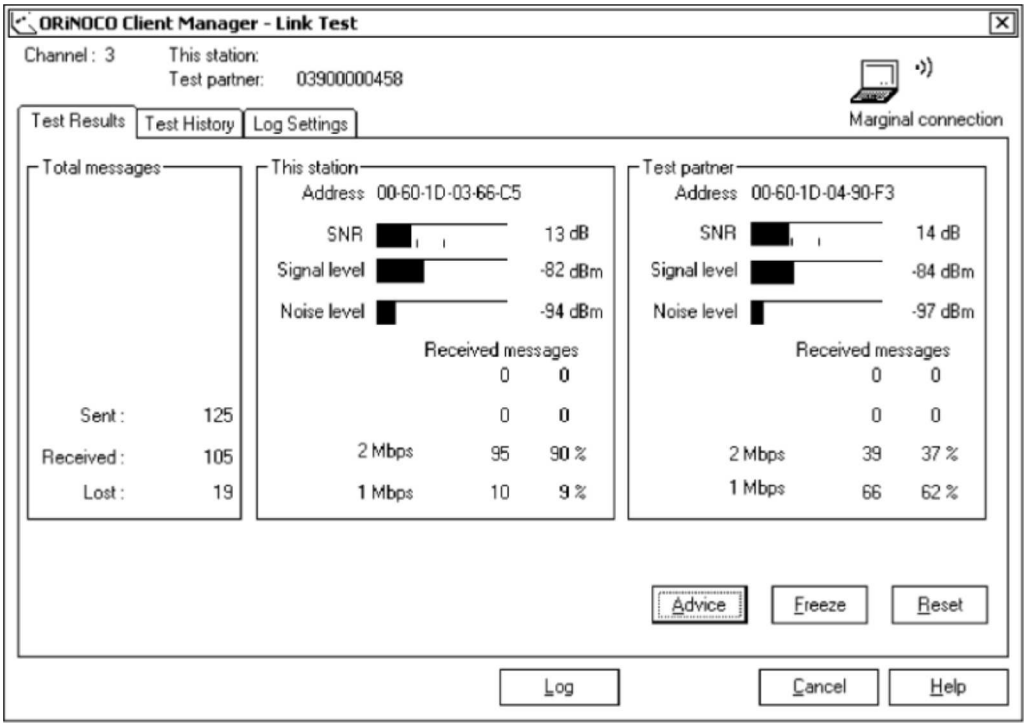
To check the card status, click **Test Card Now**. The card test results appear in the Card Diagnostics, like the following. Click **Advice** for online help if any of the results are questionable. Click **Generate Report** to store the information into a log file. Click **Cancel** to exit.



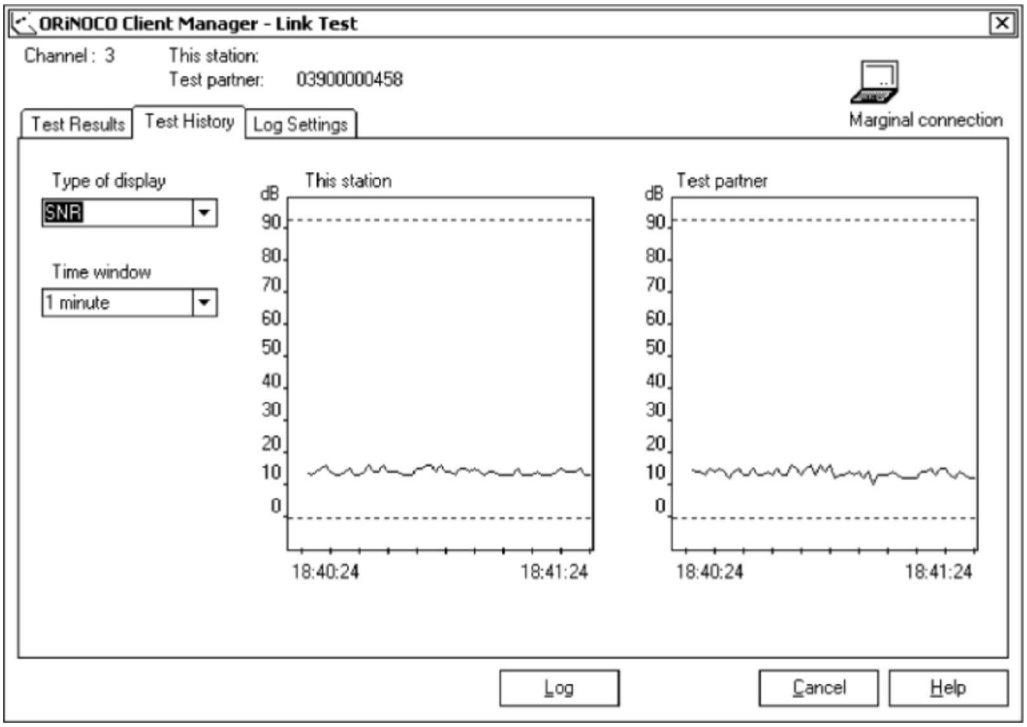
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Link Test

Select **Advanced → Link Test** to view ongoing test messages transmitted to and acknowledged from clients in the network. Signal strength from both sides of the wireless connection and levels of interference (noise) are measured at preset intervals on the Test Results page. Click **Advice** for troubleshooting tips.

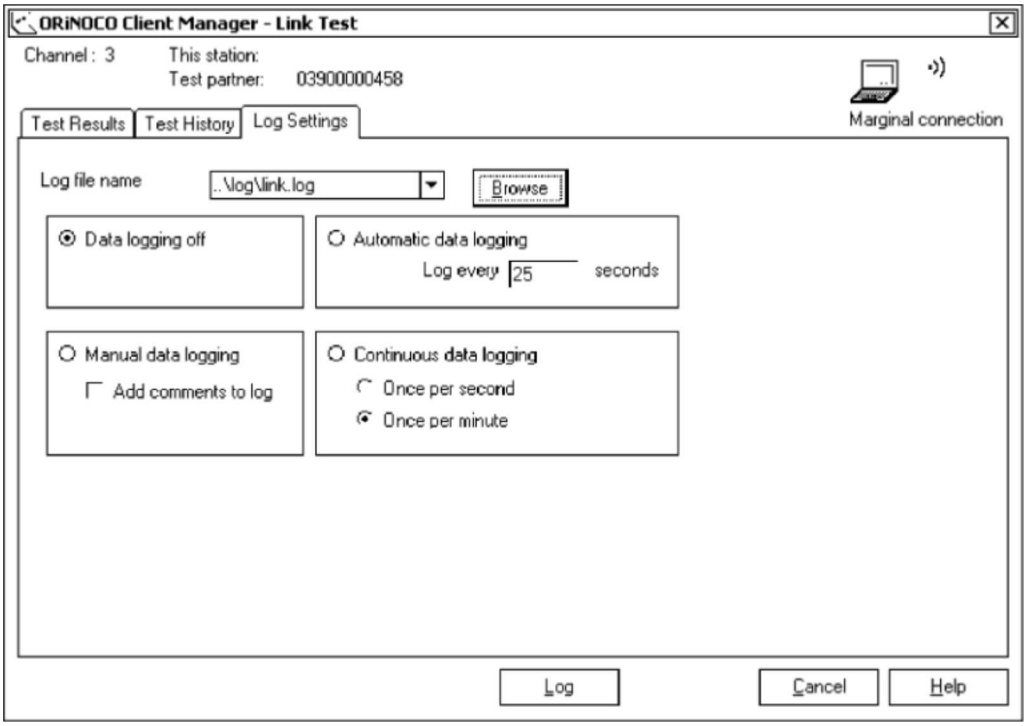


Test History displays measurements in a graphical line chart and can be configured to signal types and noise displays at 1-minute, 1-hour, or 24-hour intervals.



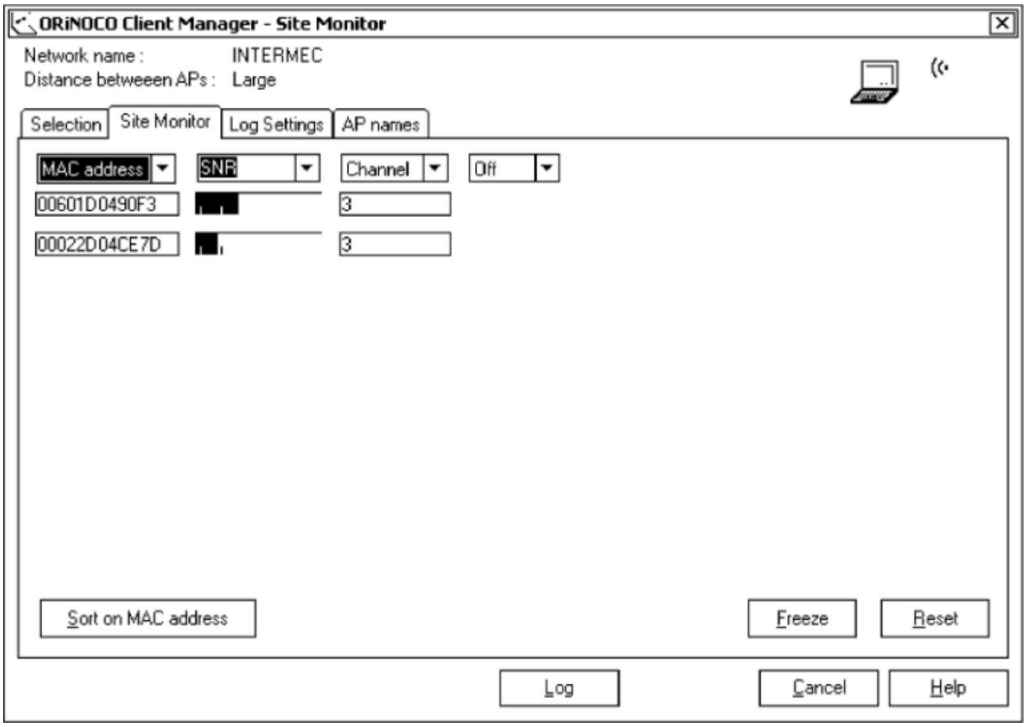
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Log Settings writes log measurement data to a file, such as information to customer support, archiving data for comparisons, or adding data to spreadsheets.



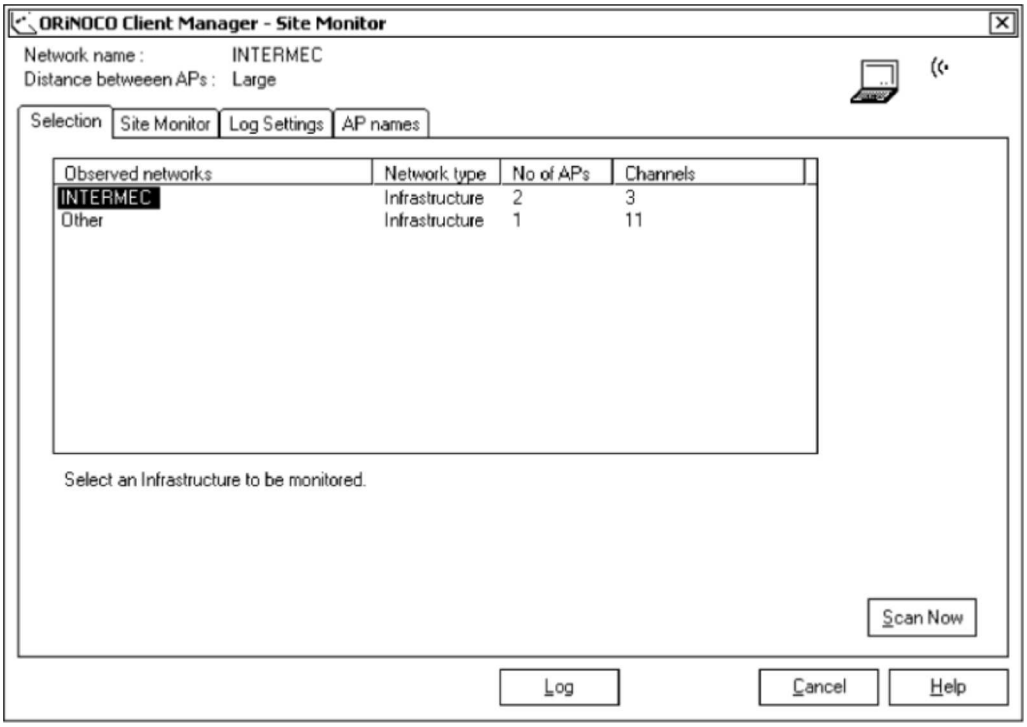
Site Monitor

Select **Advanced → Site Monitor** to monitor the optimal positions of access points within your network. The Site Monitor page provides access point information and allows you to reset or freeze the information. Click **Help** for additional information.

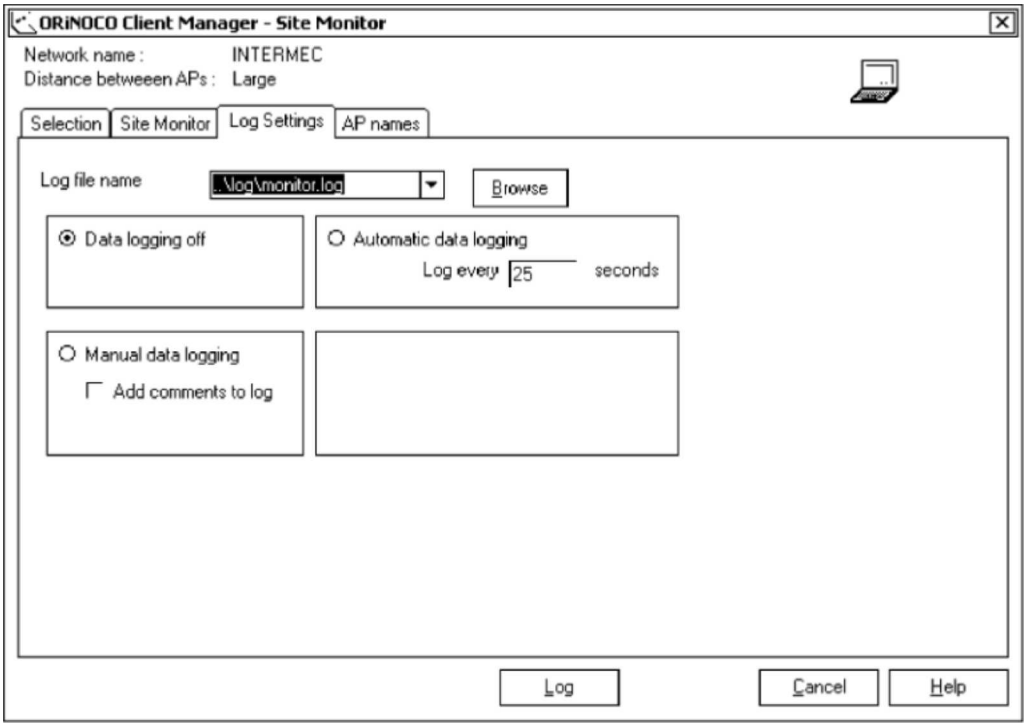


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Use the Selection page to choose an infrastructure network to monitor.

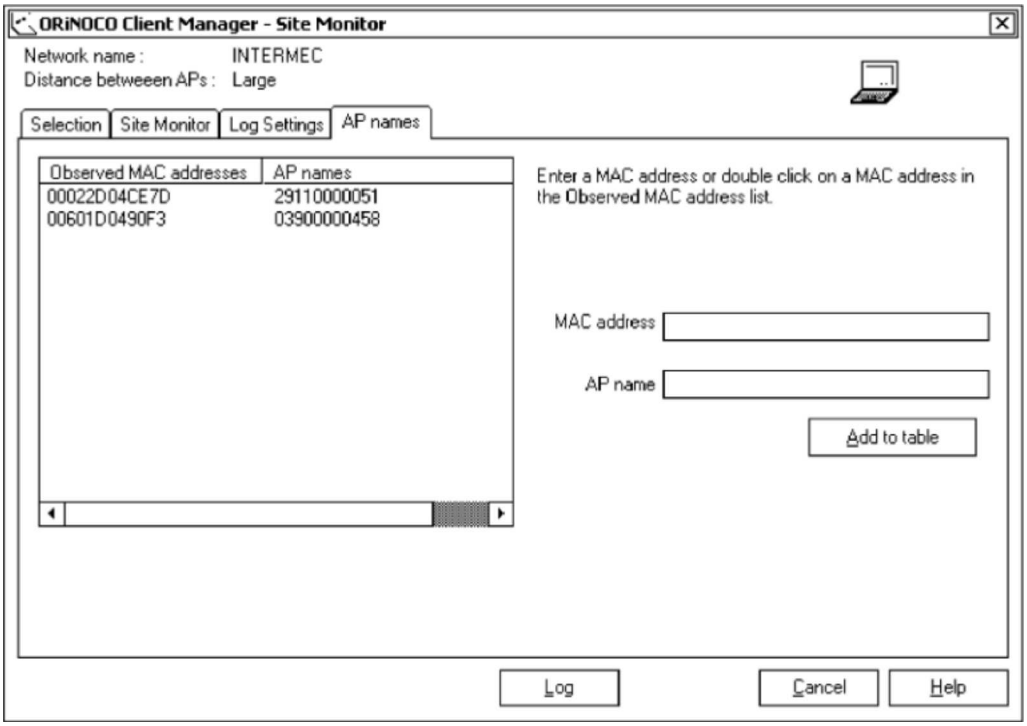


Use the Log Settings page to write log measurement data to a file.



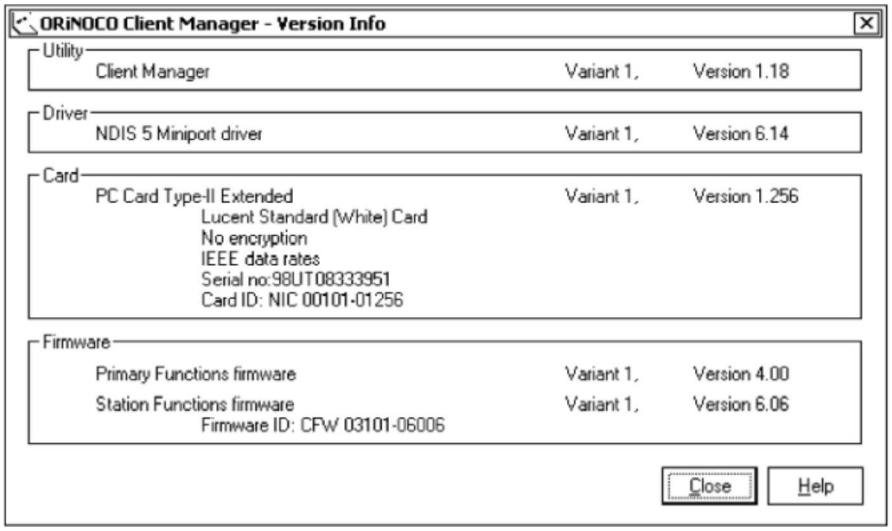
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Use the AP names page to create names for the access points displayed in the site monitor for easier identification as opposed to reading MAC addresses of those access points.



Version Info *(Information)*

Select **Help → Version Info** to access the Version Information. This provides information about the variant and version numbers regarding the application program, driver, firmware, and hardware. Click **Close** to exit.



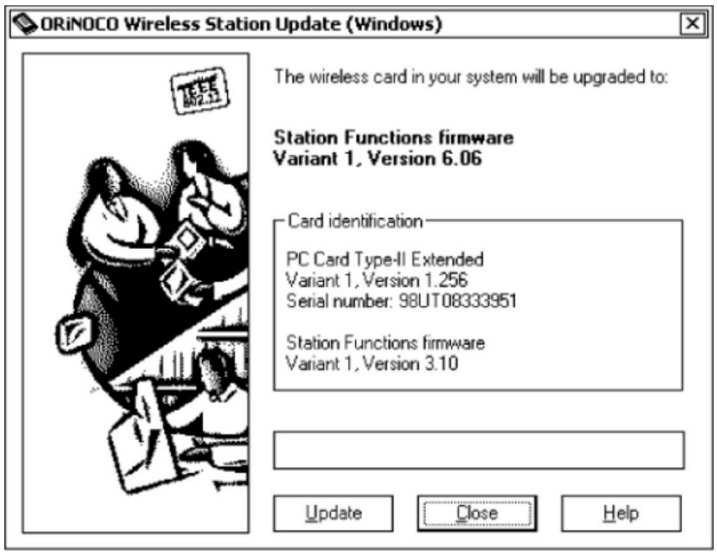
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Update Client Firmware

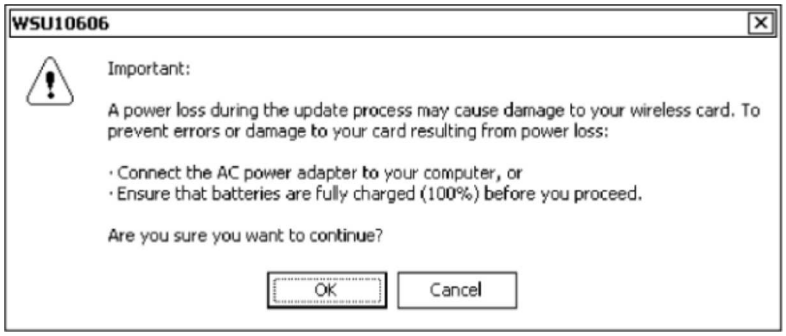
If the ORiNOCO PC Card is updated with newer embedded software, the PC Card can work with older versions of the 802.11 Client Manager with its features. However, note that some of the options within these features will not show information due to incompatibility between the PC Card and the utility.

From the desktop, select **Start → Programs → Intermec → Firmware Upgrade** to update the 802.11 Client driver when updating the 802.11 PC Card. Click **Help** for online information.

1. The embedded software version of the 802.11 PC Card and the current 802.11 Client driver in the 5055 PC are shown. Click **Close** to exit, or click **Update** to continue.

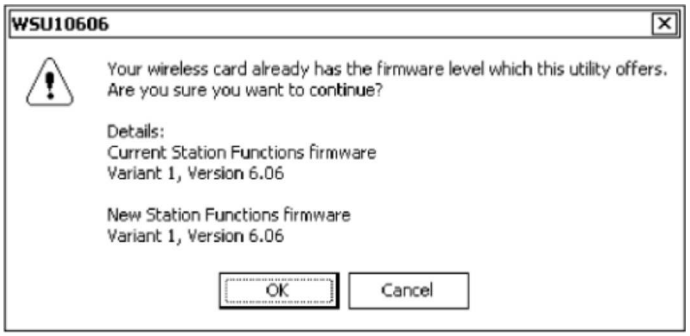


2. A cautionary message appears to warn against power loss during this procedure, as a power loss can damage the 802.11 PC Card during the download. Follow the advice given to ensure there will be no power loss, then click **OK** to continue.



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3. If the 802.11 Client driver and 802.11 PC Card are compatible, a message similar to the following appears. Click **OK** to update the PC Card.



4. The following message appears to note a successful download and prompt to update the 802.11 PC Card if necessary. Click **OK** to exit.



The ORiNOCO Wireless Station Update screen now shows the newest downloaded version for the PC Card. To update another 802.11 PC Card, insert the PC Card, then click **Update** to do the update. If done updating PC Cards, click **Close** to quit.

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Proxim LAN

The "C:\Drivers\Proxim" default location contains the Proxim LAN radio driver and documentation for the Proxim LAN radio.

∀ **NOTE:** *Be sure to have the Proxim RangeLAN2 7400 PC Card Adapter inserted in a PC Card slot before turning on the computer.*

Installing a New RangeLAN2 7400 PC Card Adapter



Double-click the **Shortcut to 5055 Proxim Install** shortcut icon, on the default Windows desktop, to view the "5055 Proxim Install" text file for instructions similar to the following.

To install the new Proxim RangeLAN2 7400 PCMCIA Adapter on the computer:

1. Power off the computer, then insert the RangeLAN2 7400 PC Card Adapter in a PC Card slot. Attach the antenna to the PC Card's antenna connector.
2. Power on the computer and log onto the Windows 2000 desktop. The following Found New Hardware Wizard application should activate with a description of the new hardware found. Click **Next** to search for the appropriate driver.

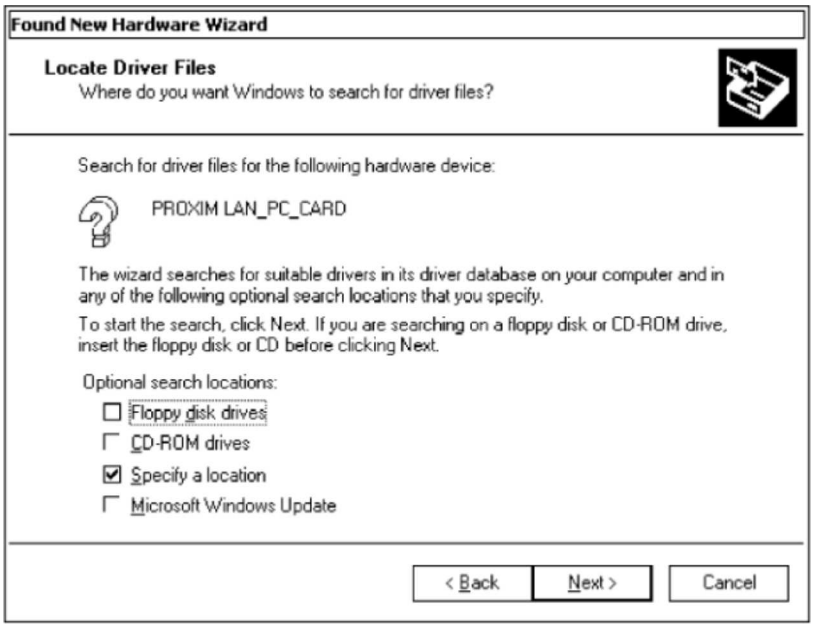


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3. Leave the selection on the **Search for a suitable driver for my device** option, and click **Next** to continue.



4. Leave the **Specify a location** option checked, then click **Next** to continue.

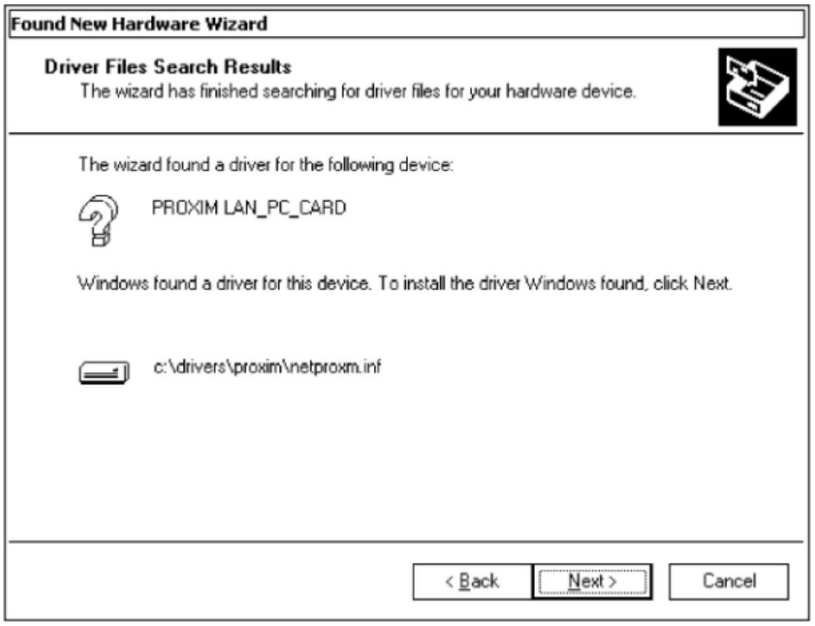


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5. Click **Browse** to locate the NETPROXIM.INF file via the "C:\Drivers\Proxim" folder, then click **OK** to return to the previous screen.



6. Click **Next** to continue.



7. Click **Yes** on the Digital Signature Not Found message (similar to page 3-3) to continue.

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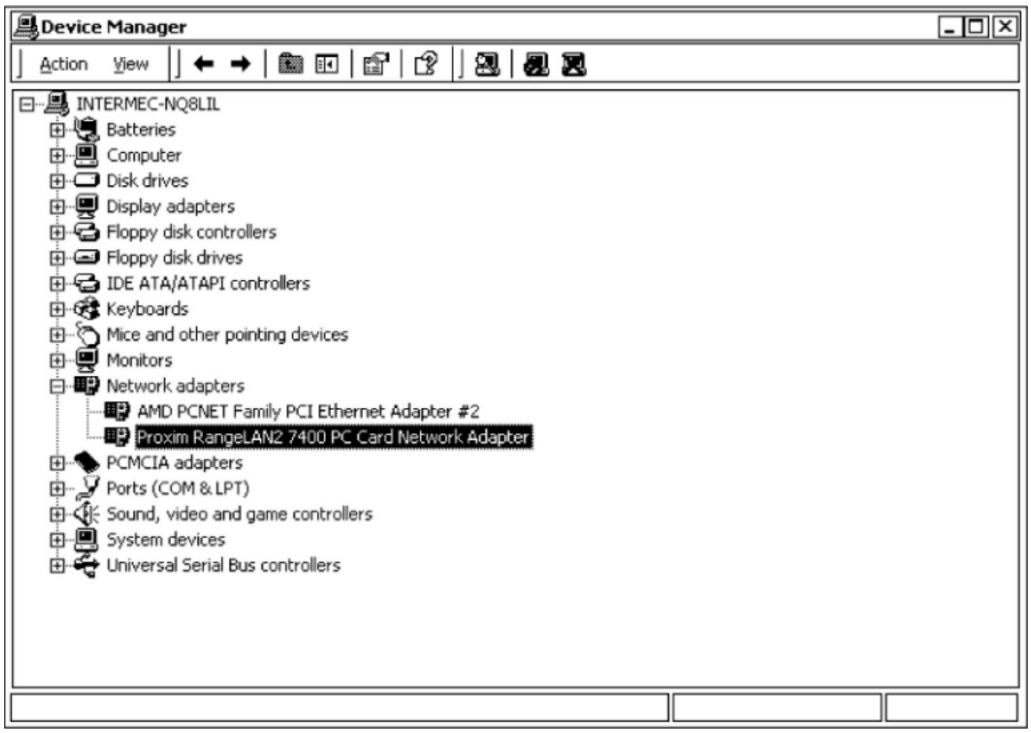
8. Click **Finish** to complete the installation. Click **No** when prompted to re-boot the computer.



Verify if the computer System Properties has the latest RangeLAN2 information:



1. From the Windows desktop, select **Start** → **Settings** → **Control Panel**, then double-click the **System** desktop icon. Click the **Hardware** tab, then click **Device Manager** in the Device Manager area (page 3-1).
2. Expand the **Network adapters** component. If "Proxim RangeLAN2 7400 PC Card Network Adapter" is listed, then close the Device Manager, and click **OK** to quit. If not, go to page 3-32 to install the adapter.



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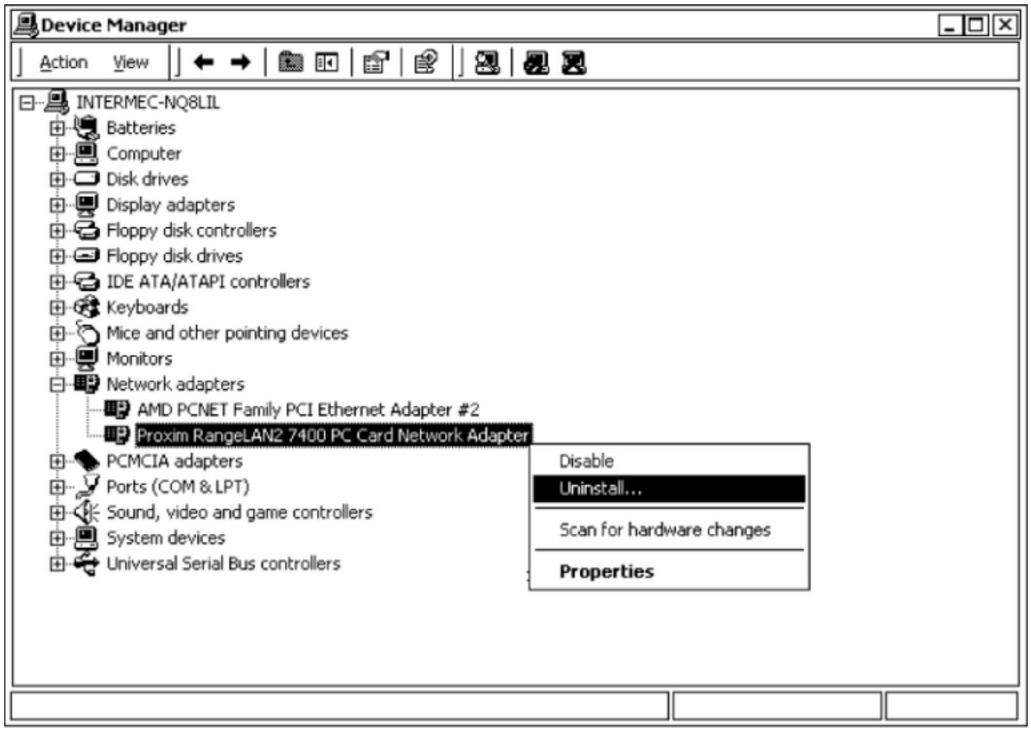
Reinstalling the RangeLAN2 7400 PC Card Adapter

If the computer does not have a Proxim RangeLAN2 7400 PC Card Adapter network adapter or the adapter was configured improperly, reinstall the RangeLAN2 Radio Driver.

Remove Old RangeLAN2 7400 PC Card Adapter



1. From the Windows desktop, select **Start → Settings → Control Panel**, then double-click the **System** desktop icon to access Systems Properties. Click the **Hardware** tab to access the Device Manager, then click **Device Manager** in the Device Manager area (page 3-1).
2. Expand the **Network Adapters** component. Select to highlight the "Proxim RangeLAN2 7400 PC Card Adapter" device, then right-click this device for a pop-up menu. Select **Uninstall** to remove this device.

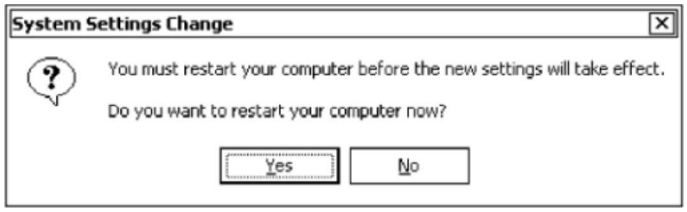


3. Click **OK** to confirm this deletion.



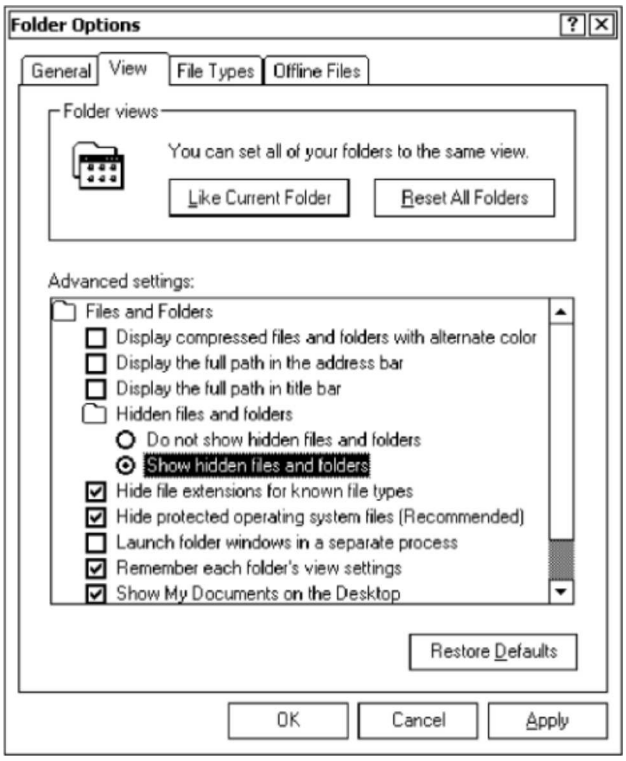
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4. A prompt to restart the computer to finish removing the Proxim RangeLAN2 Network Adapter appears. Click **No** to return to the desktop.





5. By default, Windows 2000 will hide .INF and .PNF file types. From the desktop, double-click the **My Computer** desktop icon, select **Tools → Folder Options**, then click the **View** tab. Select **Show hidden files and folders** under the "Hidden files and folders" component to reveal the .INF and .PNF file types, click **Apply** to save, then click **OK** to close.



6. Remove the following files from the "C:\WINNT" folder, if present:
   - "C:\WINNT\system32\drivers\RL2API.SYS"
   - "C:\WINNT\inf\NETRLAPI.INF"
   - "C:\WINNT\inf\NETRLAPI.PNF"
   - "C:\WINNT\inf\OEMx.INF"
   - "C:\WINNT\inf\OEMx.PNF"

   "x" is a number assigned to the installation by the Windows 2000 desktop. Click on each OEMx.INF to view the contents via the Notepad application. Look for "NETPROXIM.INF" or "Proxim RangeLAN2 PC Cards Windows 2000 Setup File" at the top of the file. Once NETPROXIM.INF or the RangeLAN2 description is located, note the number of that OEMx.INF file, then delete the OEMx.INF and OEMx.PNF files with that number.

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Verify RangeLAN2 PC Card Adapter Removal

To verify the removal of the RangeLAN2 device, select **Start → Settings → Network and Dial-up Connections**, from the Windows desktop, for a list of dial-up connections. Make sure there is no **Local Area Connection** listed with a digit, such as "Local Area Connection x." The "x" is the radio LAN connection number. If a connection is shown with an "x," redo the steps (go to page 3-36).

Replace with New RangeLAN2 Adapter

Follow the instructions listed under "Installing a New RangeLAN2 7400 PC Card Adapter," starting on page 3-32. Once the driver installation is complete, the RangeLAN2 Site Survey & Configuration Tool should report the new driver version.

Troubleshooting

View the online help information or the READMEPC&PCICARDS.TXT file within the "C:\Drivers\Proxim" folder for troubleshooting information.

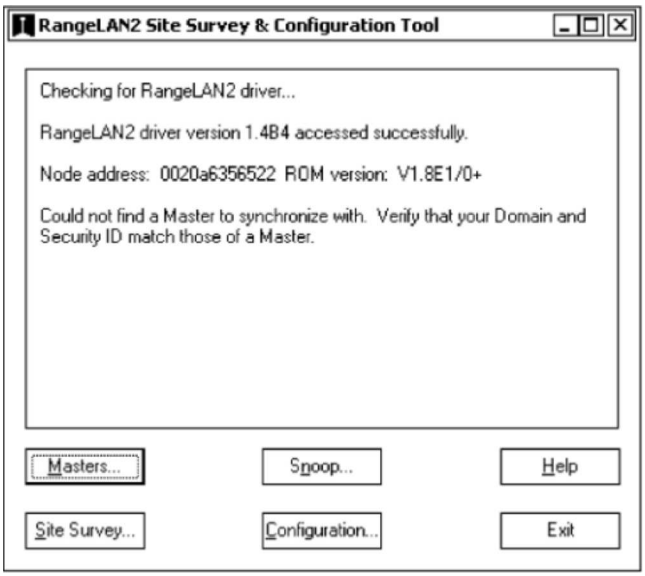
Site Survey and Configuration Tool


Pnetcon

From the Windows desktop, select **Start → Programs → RangeLAN2 Tools → Site Survey Tool**, or double-click the **Pnetcon** desktop icon from within the "C:\Drivers\Proxim" folder to access the Site Survey & Configuration Tool. Use this configuration tool to set the domain and security ID to match the network and to snoop the network to ensure the Proxim radio can communicate with other Proxim radios in the same network.

When this is opened, the system reinitializes the unit, then the status of this unit is displayed.

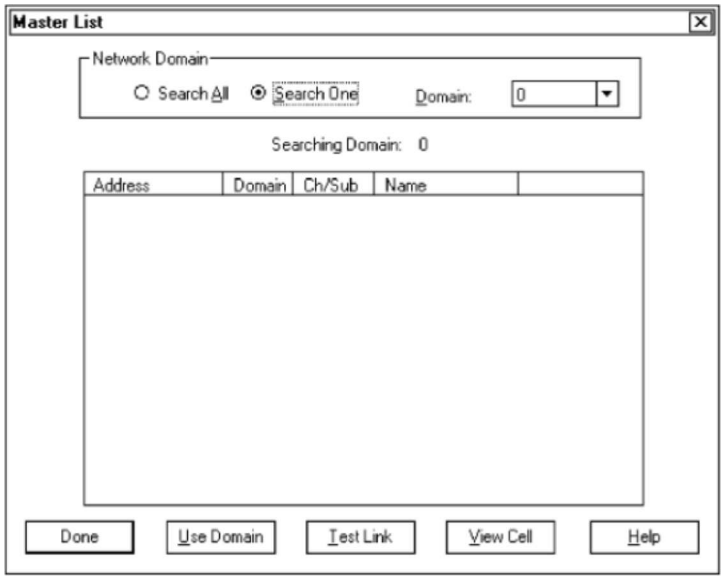
Each function is accompanied with its online help. Use this help for definitions and information about each function. The following pages contain a summary of each of the functions provided:



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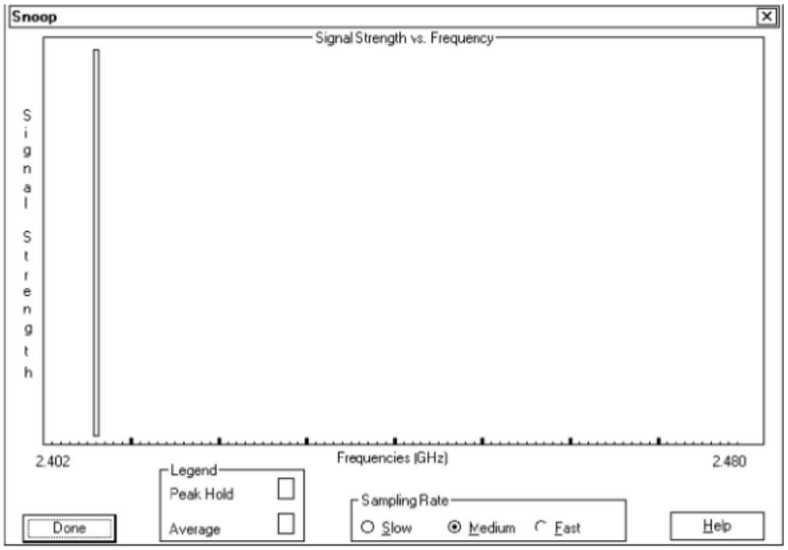
Masters

Click **Masters** to search domains for masters with similar security IDs; synchronize to a given master; and to view and do quality checks to master links. Click **Search All** to survey all sixteen (0–15) network domains (or channels). Click **Search One**, then select a given channel to survey. Click **Done** to quit the Master List; the system will reinitialize this unit.



Snoop

Click **Snoop** to scan for signal strength versus frequency. Snoop is a simpler version of a "spectrum analyzer" and displays in the 2.4 GHz frequency range operated by RangeLAN2.



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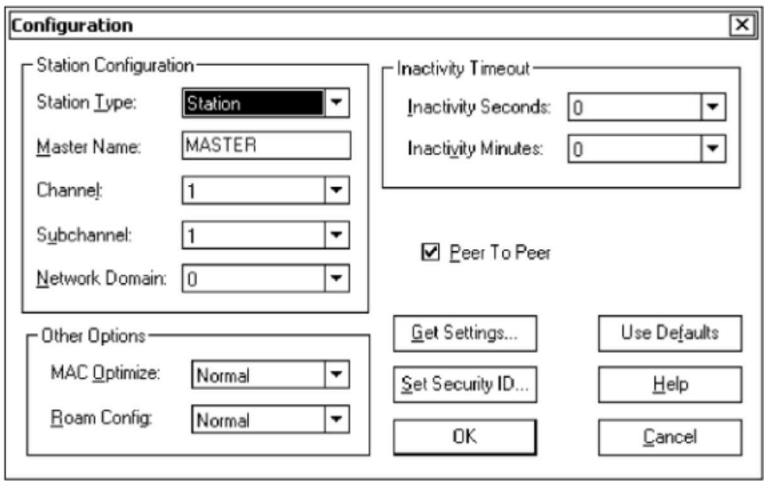
To effectively use Snoop, configure this computer as a Master and turn off all other RangeLAN2 products in the area. The snoop bars will then display true interference. Select a slow, medium, or fast sampling mode.

- Click **Slow** to sample each frequency 300 times.
- Click **Medium** to sample each frequency 30 times.
- Click **Fast** to sample each frequency 3 times.

If any radio noise exists in a given frequency, "blue" shows the average strength of that noise and "green" shows the highest strength of that noise. No color means no radio noise.

Configuration

Press **Configuration** to change the computer parameters to a station, an alternate master, or a master, to change the hardware and driver, and to set the Security ID and network domain to match the system.



Click **Use Defaults** to revert the unit to its default settings. Use the online help to define the Configuration functions.

As an added security measure, a security ID can be set for every RangeLAN2 card installed on the network. ***All cards must have the same security ID in order to communicate.***

∀ **NOTE:** *The Network Domain (on this page) and Security ID (on the next page) **must** match the Access Point device Network Domain and Security ID respectively.*

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Click **Set Security ID** to enter the network security ID. A warning prompt appears cautioning the use of the RangeLAN2 radio with other RangeLAN2 radios.



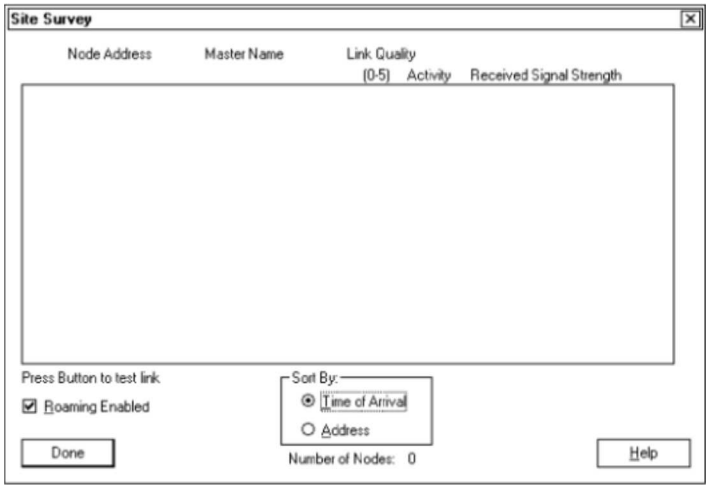
Click **Continue** to access the Security ID. Enter up to 20 alphanumeric characters for the ID, then click **OK** to quit. "NULL" is the default.



Site Survey

If this unit is configured to be a master, the Site Survey function becomes available. Click **Site Survey** to test for the node address or serial number, link quality, activity, signal strength, number of responses to the survey, and links to other displayed nodes. Use the online help for explanations and definitions of these features.

∀ **NOTE:** *If no nodes are displayed, then none of the matching security IDs and Domains are within the range of this unit.*



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Create Shortcut Icon

You can create a shortcut icon on the Windows desktop for the RangeLAN2 Site Survey & Configuration Tool application.

1. Right-click anywhere on the Windows desktop for a pop-up menu.
2. Select **New → Shortcut** from the pop-up menu to open the Create Shortcut application.
3. Enter the "C:\Program Files\RangeLAN2 Tools\PNetCon.exe" path in **Type the location of the item** for the Site Survey & Configuration Tool icon, then click **Next** to continue.
4. Rename the icon from the executable filename in **Type a name for this shortcut**. Click **Finish** to create the shortcut.

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Section 4

Recovery Strategies

NOTE: *If the 5055 PC does **not** have a recovery partition, see page 4-9 to do a legacy update.*

Partition Recovery

The 5055 Toolkit V1.0 CD-ROM restores the main partition and recovery partition on a 5055 Data Collection PC. The 5055 Toolkit can be shared from a server and executed on a client 5055 PC. More specifically, the 5055 Toolkit can:

- Take a snapshot of a 5055 main hard drive partition and convert the snapshot to a Power Quest Image (PQI) file to be restored on other systems. *This requires a full copy of PowerQuest's Drive Image Pro to be installed on the server. Use PowerQuest's Partition Magic 5.0 (or later) to shrink the target drive's freespace so it can be placed on smaller drives.*
- Update the 5055 main partition with any provided PQI file.
- Replace the existing recovery partition on a 5055 PC with a custom partition, which can contain updated drivers and other specified features.
- Flash the System Configuration Utility (SCU) to the latest version.
- Perform a "Legacy Update" on a 5055 PC to create a Recovery Partition on a blank drive. This is *only* possible if the 5055 PC has an internal SanDisk.

The recovery process is based on the UPDATE.BAT batch file which displays menus and does most of the recovery process. This file can also be located in an "\Update" folder on a server. *Note: this folder must be shared between the 5055 PC and the server. For example, "C:\5055base\Update."*

Server (Personal Computer)

The server must have a 10BaseT connection to a network and can be running any Windows version before restoring the operating system on the 5055 PC. Go to page 3-7 to ensure that the server is connected to a NetBEUI or TCP/IP network.

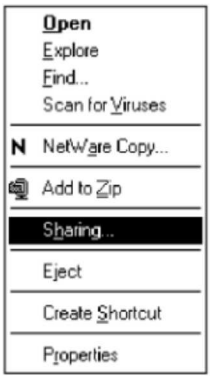
The RUNME.BAT file from the toolkit CD-ROM creates a "Recovery Partition" within a folder on the server. This folder can be customized to suit specific needs.

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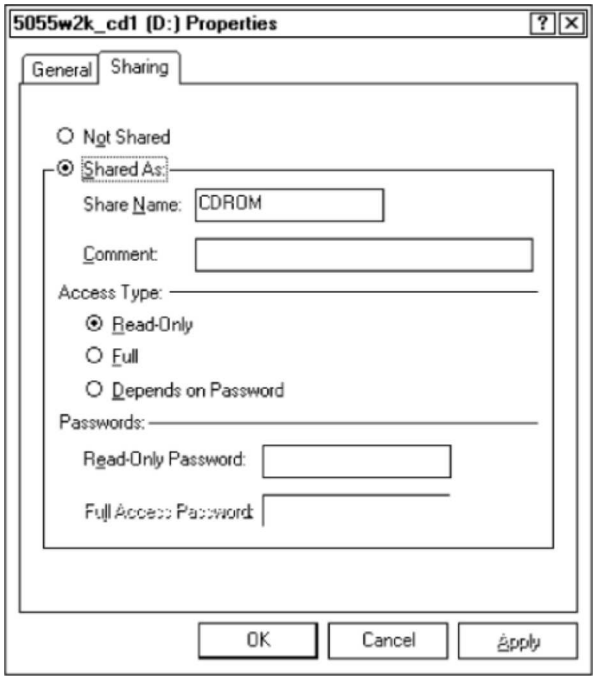
CD-ROM Drive Sharing

The contents of the 5055 Toolkit CD need to be shared amongst the client 5055 PCs. Note that drive **D:** is used for this example. Insert the 5055 Toolkit CD-ROM in the server CD-ROM drive, then do the instructions to share the drive.

1. From the Windows desktop, double-click **My Computer**, then right-click the CD-ROM drive for a pop-up menu.



2. Select **Sharing** to access the "CD-ROM Properties," then click **Shared As** to enable the applicable fields. Type **CDROM** for the share name, click **OK** to quit, then exit **My Computer**.



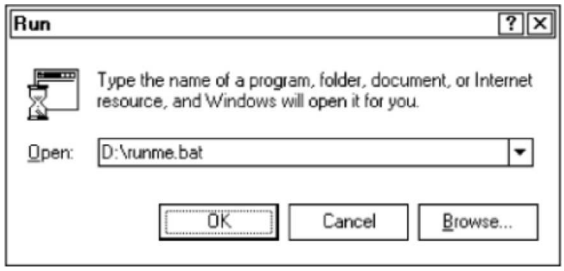
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5055 Toolkit CD-ROM Installation

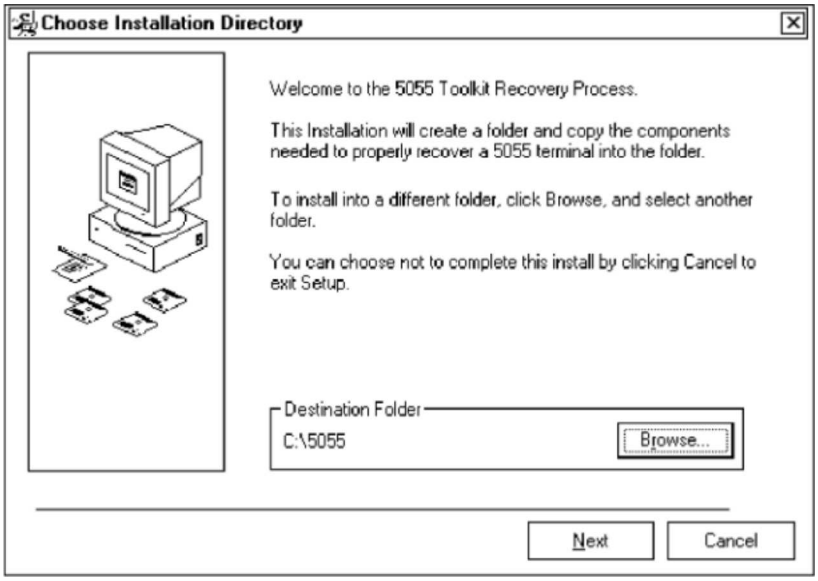
MKRECOV.EXE is a Windows application that installs a folder containing the subfolders listed below. This application will prompt for the default settings of the recovery process to be customized. The created root folder can be shared and the entire recovery process run from this folder. Because a hard disk PQI image is not copied locally, access to a shared location containing the PQI file is still required.

- */FIRMWARE*
  This contains the current BIOS firmware and utilities to flash the BIOS. *Note that the BIOS can only be flashed in DOS.*
- */PQER*
  This folder contains a copy of PowerQuest Easy Restore (PQER).
- */RECPART*
  This is a working directory of a recovery partition. If the recovery partition is to be updated, this folder is used. This folder can be customized to specific needs.
- */UPDATE*
  This folder contains the UPDATE.BAT file and its support files. UPDATE.BAT is run during the recovery process, displays the menus, and does the "work" of the recovery process. UPDATE.BAT can be customized to specific needs.

From the Windows desktop, select **Start → Run**, type **D:\runme.bat**, then click **OK** to run the installation wizard. **D:** is the CD-ROM drive in this example.

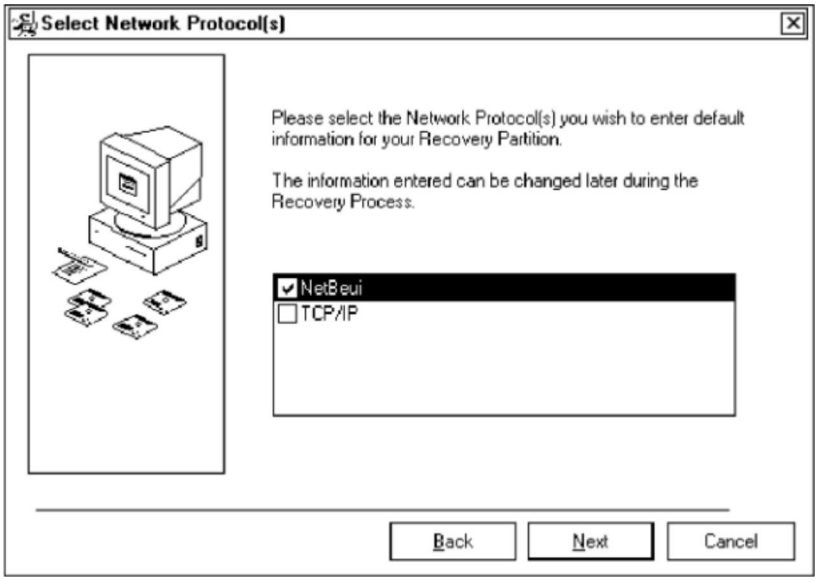


1. Click **Browse** to change the default location. Click **Next** to continue.

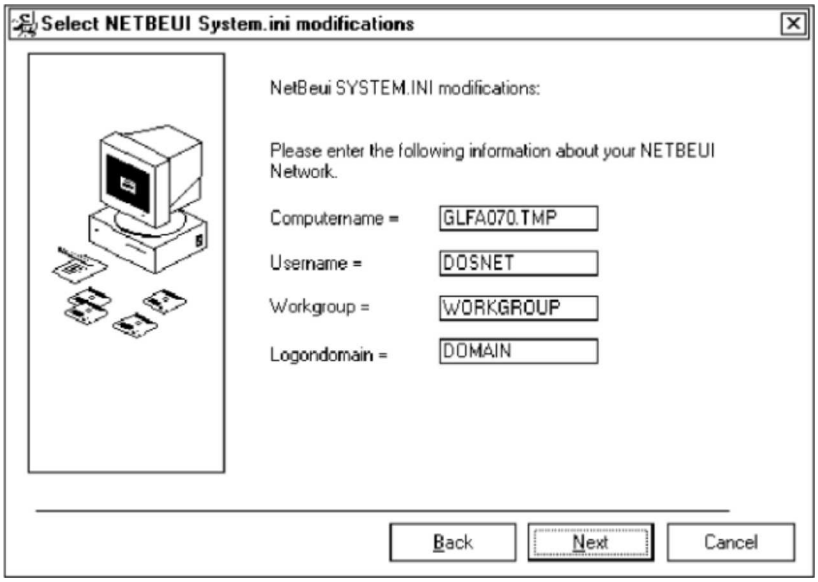


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2. Select the protocol to enter default information, then click **Next** to continue.



- *If NetBEUI is selected:*
  Enter the information required for the NetBEUI SYSTEM.INI file, then click **Next** to continue.

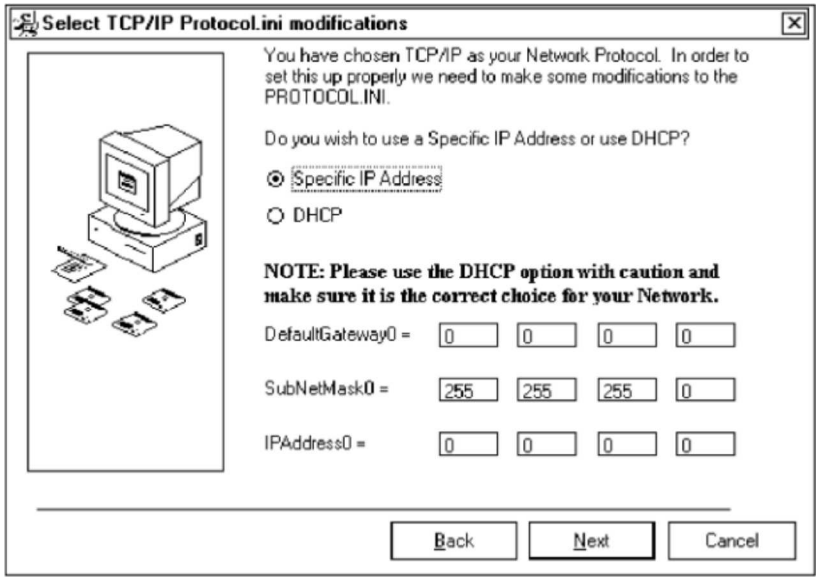


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- *If TCP/IP is selected:*

NOTE: *Use the **DHCP** option with extreme caution. If DHCP is used on a network that contains CISCO DHCP servers, the Microsoft TCP/IP stack can exhaust all available IP addresses.*

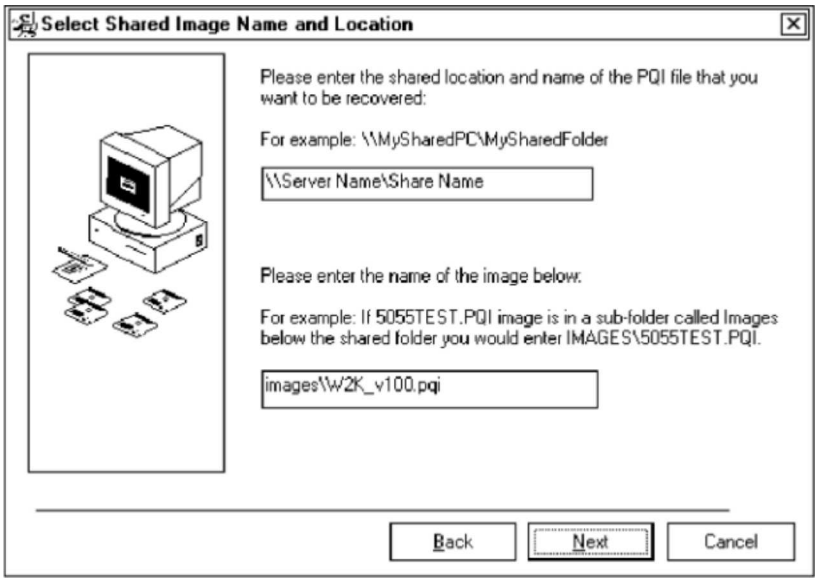
Enter the information required for the TCP/IP PROTOCOL.INI file, then click **Next** to continue.



Enter the information required for the TCP/IP SYSTEM.INI file, then click **Next** to continue, similar to the NetBEUI entries, except use GLFA071.TMP for the **Computername**.

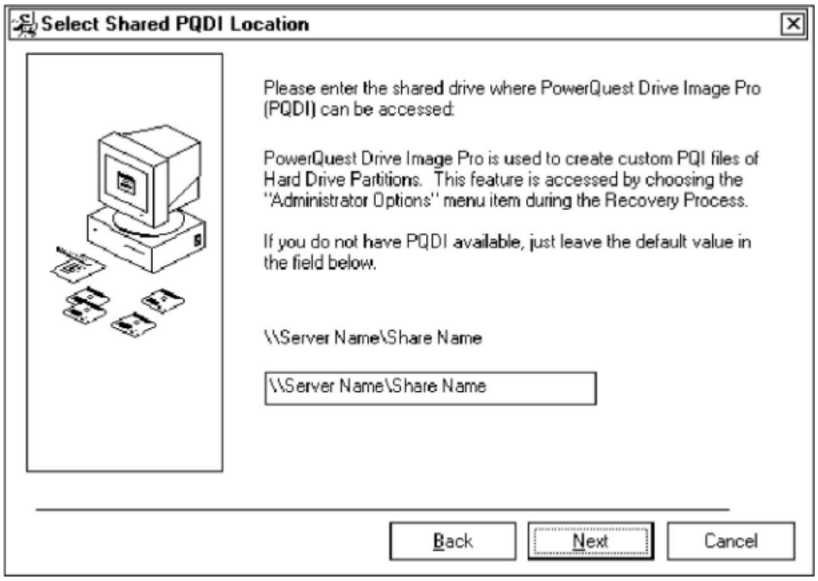
- *If both protocols are selected*, enter the information required in all three of the screens shown in this step.

3. Enter the shared location and PQI file to be recovered, then click **Next**.

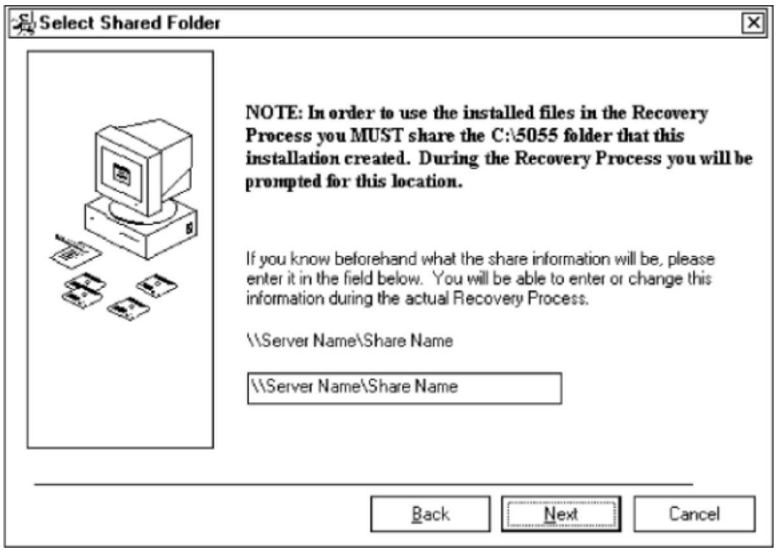


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4. Enter the shared drive where the PowerQuest Drive Image Pro (PQDI) application is to be accessed, then click **Next** to continue. If the Drive Image Pro application is not available, do not change the default value.

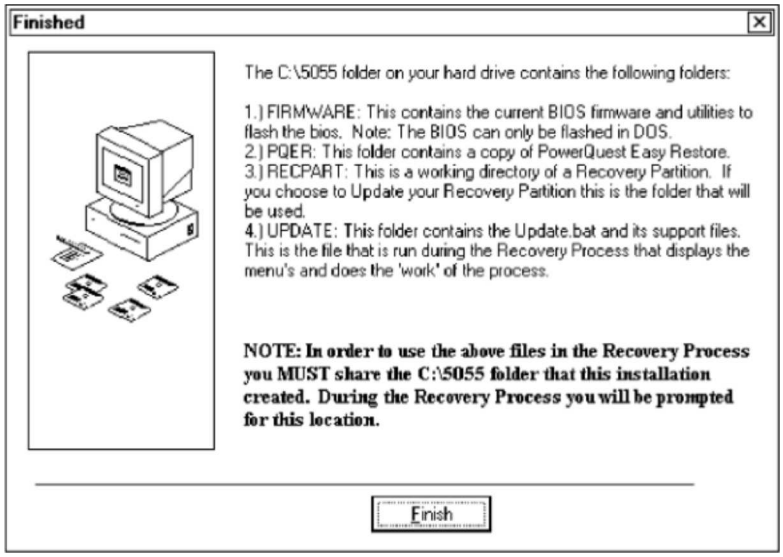


5. Enter the share information required for the recovery process. If the share information is not known, the information can be entered during the recovery process. Click **Next** to continue.



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6. The final screen displays information about the recovery process files installed on the server. Click **Finish** to exit the installation wizard.



Client (5055 PC)

The client 5055 PC must have the following before doing the recovery partition: SCU version 1.21 or later, a 10BaseT connection to a NetBEUI Network, and an attached PS/2 keyboard.

1. Reboot the 5055 PC, wait for the following prompt after the system memory tests, then simultaneously press <**Ctrl**>, <**Alt**>, **[R]**.

```
<CTRL-ALT-S> to enter the System Configuration Utility
```

2. If the following appears, go to the "Original Recovery Partition" section.

```
[1] Restore Normal Operation
[2] Boot to DOS Network
```

3. If the following menu appears, go to the "New Recovery Partition" section.

```
1. NetBEUI Recovery
2. TCP/IP Recovery
3. Boot to DOS Network
```

Original Recovery Partition

Do the following to update the recovery partition to the latest files:

1. Press **[2]** to select **Boot to DOS Network**, then press <**Enter**>.
2. Check the server's network share name and the network cable connections. Change to the folder that has the NET.EXE file, then type **Net Use Q: \\SERVER\CDROM**, then press <**Enter**>. "SERVER" is the name of the computer in which the CD-ROM is installed.
3. Type **Q: \UPDATE\UPDATE**, then press <**Enter**> to display the "Main Menu."
4. Press **[2]** to select **Administration Options**, then press **[3]** to select **Update Recovery Partition**. At the warning prompt, press **[Y]** to continue. *See the "Administration Menu Options" section for a brief description of each option.*
5. Reboot the 5055 PC, wait for the following prompt after the system memory tests, then simultaneously press <**Ctrl**>, <**Alt**>, **[R]** to enter the recovery partition, then go to the "New Recovery Partition" section.

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New Recovery Partition

Do the following to restore the main partition.

1. Press **[1]** to select **NetBEUI Recovery** or **[2]** to select **TCP/IP Recovery**, then press <**Enter**>. Answer the appropriate questions or wait 10 seconds at each prompt for the default information.

∀ **NOTE:** *If **TCP/IP Recovery** is elected, the default gateway (defaultgateway0), the subnet mask (subnetmask0), and the ip address (ipaddress0) are to be entered. Use spaces between digits instead of periods. For example: type "225 255 255 0" instead of "225.255.255.0" for the default gateway.*

2. Enter the network share name with the UPDATE.BAT file. If a "custom" UPDATE.BAT file is saved on a server, enter its shared path. The shared location of the 5055 Toolkit CD can also be entered, for example: **\SERVER\CDROM**
3. Press **[1]** to select **Restore Main Partition from a PQI file**. This will require PowerQuest EasyRestore (PQER). *See the following "Administration Menu Options" section for a brief description of each option.*
4. *Note that the folder **must** be shared.* Enter the path to the PQI image to be restored, for example: **\\SERVER NAME\SHARE NAME**

   If the PQI image is on a CD-ROM that is shared as "CDROM" on a computer called "MYPC," then type: ***MYPC\CDROM***

   If a custom PQI file is located in an "Images" folder on the PC, then type: ***MYPC\IMAGES***
5. Type the name of the PQI file to be restored. If this file is in a folder below the shared folder, type the path. Note that the default PQI file name will change for each version of the released toolkits.

   If the root of the CD-ROM drive is shared and the W2K_V100.PQI file is in the images folder, then type: ***IMAGES\W2K_V100.PQI***

Administration Menu Options

Below is a description of each of the options available on the "Administration Menu" via the toolkit CD-ROM:

[1] Save Main Partition as a PQI file *(requires PQDI)*:
This menu option uses PowerQuest's Drive Image Pro to save the main partition as a PQI file so that is can be easily restored at a later date. After electing this option, provide the shared location of PowerQuest Drive Image Pro 3.0, such as *****SERVER******PQDIPRO3*. Then give the location where the PQI file is to be created and the name of the PQI file to be created.

∀ **NOTE:** *If the PQI file is to be used on hard drives of different sizes, create the base PQI file on the smallest drive OR use PowerQuest's Partition Magic to shrink the drive before saving the file.*

[2] Restore Main Partition from a PQI file *(requires PQER)*:
This option performs the basic hard drive recovery process as described earlier in this section.

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CAUTION: **If Option [3] is run after booting from the internal SanDisk card, the SanDisk card is rendered unbootable.**

[3] Update Recovery Partition *(do not run when booting from the internal SanDisk)*:
This item overwrites the current recovery partition with either the default recovery partition contained on the toolkit CD or with a custom recovery partition created with the MKRECOV.EXE file *(see next page for more information)*. The current recovery partition is deleted if this option is selected and replaced with the recovery partition located in the ..*RECPART* folder on the CD or under a chosen shared folder.

[4] Flash BIOS
This menu item flashes the BIOS to the version in the ..*FIRMWARE* folder in the shared location chosen for the UPDATE.BAT file.

[5] DOS Prompt
Select this option to go to a DOS prompt. Type "UPDATE" in the *UPDATE* folder in the current folder to return to the recovery menus.

[6] Legacy Update *(SanDisk boot required)*
This menu option is displayed if the toolkit CD was chosen as the location of the UPDATE.BAT file. See the "Legacy Update" procedure below for more information.

Legacy Update (5055 PC)

NOTE: *Performing a legacy update requires a high degree of familiarity with the 5055 PC.*

The legacy update creates a recovery partition on the main hard drive of a 5055 PC that does not have a recovery partition. The 5055 PC *must* have an internal SanDisk card to install a recovery partition.

1. Remove the hard drive from the 5055 PC, add a jumper to set the drive as a "Slave," put the "Slave" hard drive back into the 5055 PC, and boot the unit.
2. Simultaneously press <**Ctrl**>, <**Alt**>, **[S]** to enter the SCU.
3. Press <**Alt**>, **[D]**, **[R]** to remove a check mark to disable **Removable is C**.
4. Press <**Alt**>**, [X]**, **[S]** to save the changes and reboot the 5055 PC.
5. Access the 5055 Toolkit CD from a shared CD-ROM drive via DOS Networking.

EXAMPLE: If the computer uses "COMPUTERNAME" as its name and the CD-ROM drive is shared as "CDROM," type the following command from the C:\NDIS folder:

```
NET USE D: \\COMPUTERNAME\CDROM
```

6. Change to the shared drive with the CD-ROM, such as **D:**, then change to the \UPDATE (CD\UPDATE) folder on that drive.
7. Type "UPDATE" from the D:\UPDATE folder, then press <**Enter**> to access the menu.
8. Press **[2]** to select **Administration Options**, then press **[6]** to select **Legacy Update**. Press **[Y]** to continue.

Power off the 5055 PC, remove the hard disk. remove the "Slave" jumper from the hard disk, and insert the hard drive into the 5055 PC. Repeat steps 2 through 4 to enable **Removable is C**.

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Booting

If the system freezes or locks up during normal operation, the system can be reset by performing a reboot. The reboot method depends on the desired state of the 5055 PC system.

Warm Boot

Perform a warm boot when you need to clear the system's memory to run another program but do not want the PC to perform a self-test. Note that this procedure requires an external keyboard.

1. Press <**Ctrl**> + <**Alt**> + <**Del**> on the keyboard to force the system to boot.
2. Reload the desired software application, if necessary.

Cold Boot

Perform a cold boot when the screen is frozen, or the system is otherwise locked up. The cold boot is essentially a power-up sequence. Turn the power ON/OFF switch off, then back on to reset the 5055 PC.

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NOTE:

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