

*JavaPC*<sup>™</sup>

*Installation Guide*

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# Preface

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JavaPC™ software is a solution based on the JavaOS operating system, that allows you to run Java applications and applets on a standard PC equipped with an Intel 486 CPU or Pentium, on top of the DOS operating system. JavaPC software allows you to deploy, manage and run the same Java applications that run on Java Network Computers, as well as other JDK 1.1 applications and applets.

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## Who Should Read This Book

Anyone who wants to install, configure, or reconfigure JavaPC™ software should use this guide. Some tasks you do on the client PC; some tasks you do on a server. Depending on the policies in effect at your site, different tasks may be performed by different types of users, such as the following.

### The JavaPC Software End-User

This person has worked with personal computers and understands how to use MS-DOS® operating system commands. This person may be a novice, intermediate, or advanced JavaPC software user, and does not necessarily have experience installing, or configuring PC or Java™ applications. On occasion, this person may need the assistance of a system or network administrator to perform the tasks described in this guide.

# System Administrator

This person understands how to set up and use PCs and workstations as standalone systems and as part of a network. Often, this person helps the end-user install, configure, and use JavaPC software. Specifically, this person troubleshoots network problems. This person monitors the network and uses network management tools.

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## What You Need To Know

The reader should be comfortable with the following topics:

- Operating a desktop PC.
  - Launching DOS applications from the DOS command line.
  - Configuring and modifying DOS system files such as AUTOEXEC.BAT and CONFIG.SYS.
  - Have a basic understanding about the networking environment the PC is connected to.
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## How This Book Is Organized

The information in this manual is organized as follows:

**Chapter 1, “JavaPC™ Software Product Overview,”** introduces the JavaPC product.

**Chapter 2, “Before Installing the JavaPC™ Software,”** discusses preparatory installation procedures.

**Chapter 3, “Installing the JavaPC™ Software,”** describes how to install the software.

**Chapter 4, “Configuring the JavaPC™ Software,”** discusses the various configuration options available when configuring the software.

**Chapter 5, “Networking Device Driver Support,”** discusses advanced network issues.

**Chapter 6, “CD Content and Structure,”** discusses the content and structure of the CD-ROM.

**Chapter 7, “Tested Configurations and Known Problems,”** describes the tested configurations and known problems with the product.

**Chapter 8, “Frequently Asked Questions,”** discusses some of the most frequently asked questions about the product.

**Chapter 9, “Customer Support,”** discusses the Log file. This chapter also contains the Problem Report.

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## Typographic Conventions

TABLE P-1 Typographic Conventions

Typeface or Symbol	Meaning	Examples
AaBbCc123	The names of commands, files, and directories; on-screen computer output.	Edit your <code>.login</code> file. Use <code>ls -a</code> to list all files. % You have mail.
AaBbCc123	What you type	% su Password:
CONFIG.SYS	DOS file type	AUTOEXEC.BAT and CONFIG.SYS files
<i>AaBbCc123</i>	Book titles, new words or terms, words to be emphasized. Command-line variable; replace with a real name or value.	Read Chapter 6 in the <i>User's Guide</i> . These are called <i>class</i> options. You <i>must</i> be <code>root</code> to do this. To delete a file, type <code>rm filename</code> .

# Related Documentation

TABLE P-2 Related Documentation

Application	Title	Part Number/Location
Product Information	<i>Installation Guide</i>	\DOCS\ directory on the CD
	<i>Administrator's Guide</i>	\DOCS\ directory on the CD
	<i>README.EXE</i>	CD root directory
Netra j 2.0	README	Included with Netra j Software
	<i>Netra j 2.0 Installation Guide</i>	805-3080-10
	<i>Sun Binary Code License Agreement</i>	804-6056-10
Netra j 2.0 Administration	<i>Netra j 2.0 Administrator's Guide</i>	805-3076-10 Included with Netra j software
	Netra j Administration Online Help	Included with Netra j Software
	HotJava Views Administration	Included with Netra j Software <a href="http://docs.sun.com">http://docs.sun.com</a>
	Solaris System Administrator AnswerBook	<a href="http://docs.sun.com">http://docs.sun.com</a>
	Solaris 2.6 System Administrator Collection Volume 1	<a href="http://docs.sun.com">http://docs.sun.com</a>
	■ <i>Solaris Naming Administration Guide</i> ■ <i>Solaris Naming and Setup and Configuration Guide</i>	
Solaris 2.6 System Administrator AnswerBook Volume 2		
Netra j 2.0 Development	<i>Customizing the JavaStation</i>	805-3234-10
HotJava™ Browser		See HotJava Browser online help.

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# Recommended Reading

TABLE P-3 Recommended Reading

<b>Title</b>	<b>Author</b>	<b>Publisher</b>	<b>ISBN</b>
<i>Networking Device Drivers</i>	S Dhawan	ITPA Division of International Thompson Publishing Inc.  Van Nostrand Reinhold Communications Library	0-442-01943-2

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## JavaPC™ Software Product Overview

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JavaPC software is a solution for running Java™ applications on a standard PC (Intel 486 CPU or Pentium), on top of the DOS operating system. Based on the JavaOS operating system, the product allows you to deploy, manage and run the same Java applications that run on Java Network Computers, as well as other JDK 1.1 applications.

JavaPC software is easy to install, requires only standard PC equipment, and protects your investment in current files and applications. The product enables corporations to manage their PCs as network computers, as well as to migrate existing 486 PCs (and low-end Pentium PCs) running DOS and Windows 3.x to the Java platform. The product includes the Java Virtual Machine™ and class libraries, based on the JDK™ 1.1.4 which enables Java applications to run directly on top of DOS. The JavaPC software takes advantage of existing DOS device drivers and uses them to access different PC peripherals such as network adapters, keyboards, pointing devices, and video adapters. The program runs in 32-bit Protected Mode through the use of an integrated DPMI server.

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## Flexible Configuration Options

The JavaPC software lets system administrators choose the configuration that best fits the needs of their corporation. Network configurations and user's preferences can be dynamically managed from a central server, or locally on each PC. It is this unmatched flexibility that provides IS managers with the means to migrate to a network computing environment at their own pace.

Java applications can be located on a network server, allowing faster rollouts of new applications and upgrades, while simplifying support operations. They can also be stored locally on a hard disk for faster access in low bandwidth network environments.

## Configuration Parameters

The JavaPC software requires specific configuration parameters to determine how the software will be deployed, and the level of central administration and configuration that will be enabled at startup. There are three types of configuration parameters:

1. **Peripheral configuration parameters** - these properties provide the product with information about standard peripherals such as mouse, keyboard and network adapter. Usually these properties are required at startup, and are stored in a local configuration file (`JAVAPC.INI`).
2. **TCP/IP configuration parameters** - these properties provide information on running the JavaPC software in a TCP/IP networking environment. The information consists of the machine's IP address, Router address, DNS address, as well as information about an authentication server. These properties can be centrally managed and obtained from a DHCP server, or can be stored in a local configuration file (`JAVAPC.INI`).
3. **Runtime configuration parameters** - these properties provide the information required to run Java applications, including the environment in which these applications will run. Such properties may include the URL for the application to be loaded, the locale, and other such data. These properties may be obtained from a DHCP and NIS server, or they can be stored in a local configuration file (`JAVAPC.INI`).

## Configuration Modes

You can configure the JavaPC software to run in one of four configuration modes:

1. NC mode
2. DHCP mode
3. Local mode
4. Stand Alone mode

Each mode determines how the JavaPC software and Java applications will be deployed, and the level of central administration and configuration that will be enabled at startup.

**NC Mode** - In NC mode the JavaPC software runs in the same environment as Sun Microsystems JavaStation™. TCP/IP and runtime configuration properties are centrally administrated. To work properly in this mode the JavaPC software requires the following services to be running and to be configured properly:

- DHCP – supplies TCP/IP and runtime configuration parameters.
- NIS – supply user authentication and related properties like user home directory.
- NFS – supply a file system for Java application
- HTTP – load Java application and applets.

The above services can be obtained from the Sun Microsystem Netra™ j server. The following specific features are available only in NC mode when using a Netra j server:

- Central administration of the client PC's network configuration settings and user profiles.
- Corporates deploying both JavaStation™ systems and PCs running the JavaPC software in NC mode can manage both devices from the same console and using the same user interface.
- Central support for international keyboard maps, foreign fonts and input methods (see Netra j software documentation for details). For more information about Netra j, see <http://www.sun.com/netra-j>.

When the JavaPC software is configured to work in NC mode all network configuration properties should be defined by the System Administrator and entered in the DHCP tables on the server. When configuring the JavaPC software on the client PC, the user only needs to select to use the software in a NC mode. No other configuration is required on the client side. In addition, applications such as HotJava™ Browser, can be loaded from an HTTP server.

**DHCP Mode** - In DHCP mode the JavaPC software obtains its TCP/IP configuration properties from a DHCP server, such as those supplied with Microsoft NT4.0 DHCP Server and Novell NetWare 4.11 DHCP Server. Other runtime properties may be obtained from the local configuration file (JAVAPC . INI). Java applications can be loaded from an HTTP server, or from a local DOS drive. In addition, the HotJava Browser software is configured to load by default from the local DOS drive when the JavaPC software is run.

**Local Mode** - To ease the initial deployment of the JavaPC software, the product can be configured to work in Local mode. In this mode, the PC's network configuration is stored locally; a DHCP server is not necessary. You are required to manually enter TCP/IP configuration parameters (such as your IP address, hostname, subnet mask, and gateway address), network server options (such as DNS and NIS information), and other information. In addition, the HotJava Browser software will be configured to load by default from the local hard drive when the software is run.

**Stand-Alone Mode** - In Stand Alone mode a TCP/IP network connection is not necessary to run the JavaPC software. There is no need to configure IP properties because the PC is disconnected from the TCP/IP network. However, User Profile information remains on the local disk in the JAVAPC.INI configuration file.

**Note:** The product may still use the DOS remote drive located on a file server, such as Novell Netware, as a file system to load and run Java applications.

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## System Requirements

This section describes the minimum hardware and software required to install and run the JavaPC software. You can install JavaPC on any standard Intel 486 DX-2 (and faster) or Pentium PC, that runs either IBM PC-DOS 6.3 and up, or MS-DOS 6.2 and higher. Other similar configurations may work as well, but were not tested and are currently not supported. Hardware and device driver requirements are discussed below.

### Client-Side System Requirements

**Memory** – 8MB of RAM are sufficient to run many custom Java applications. 16MB of RAM are required to run HotJava Browser. Note that the exact amount of RAM is dependent on the Java application that is being deployed. For more information on application memory requirements you may want to consult your Java application vendor.

**Video adapter** – A VESA 1.0 and up compatible adapter is required. For more information on VESA compatibility, please refer to **(TBD)** in this guide. In addition, JavaPC support the VGA 640X480 mode and SVGA 800X600 mode, but only in 16 colors.

**Pointing Device** – A mouse connected to the Serial port (COM1 or COM2), or to a PS/2 compatible port. A mouse DOS driver that supports the INT 33 API is also supported, but not required.

**Keyboard** – A standard PC 101/102 keys keyboard is required. JavaPC software supports in NC mode many keyboard languages. For a full list of supported languages see the Netra J manual. In other modes the following keyboard languages are supported:

- English (US)
- French
- Italian

- German
- Spanish
- Swedish

**Network adapter** – Ethernet adapter is supported. An appropriate network device driver, as specified below, is required.

**Network device drivers** – JavaPC supports the Packet Driver interface, as well as the ODI real mode device driver interface and NDIS 2.0 real mode device driver interface. JavaPC software comes equipped with drivers for popular Ethernet adapter. For a full list of supported Ethernet adapters, see **(TBD)** in this guide. If your Ethernet adapter is not listed there, or if you need to know more information on how the software can be configured to work with the various Network Device Drivers, see Chapter 5.

**TCP/IP stack** - JavaPC software includes a full TCP/IP stack. That is why you can not load JavaPC when a DOS TCP/IP stack like the Sun Microsystem PC/NFS or FTP Software TCP/IP software **(TBD Official name)**.

**Disk space** – About 10 MB of disk space is required.

**DOS file system** – Executables and configuration file (`JAVAPC.INI`) can be loaded from any DOS drive – local disk or remote drive that resides on a file server like Novell Netware.

## Server-Side System Requirements

The server-side requirements for deploying JavaPC may vary depending on the JavaPC operation mode and the environment in which JavaPC software is deployed.

For more information about Server-Side System Requirements, see the *JavaPC System Administrator Guide*.



## Getting Ready for the Installation

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This chapter describes how to get ready to install and configure the JavaPC software for the first time on your PC. For all new installations, read this chapter before moving on to Chapter 3.

In general, you get ready to install and configure the JavaPC software by being familiar with the configuration of the following items on your PC:

- Your video/graphics adapter
- Your mouse port
- Your Ethernet adapter
- Your installed network support and network drivers
- The keyboard language suitable for your environment

In addition you will need to determine in advance the configuration mode most suited for your PC (configuration modes are discussed in Chapter 1). If you are not sure which configuration mode best suits your installation, consult your system administrator.

### *Additional Installation Information*

Depending on the operation mode you intend to use, you may need to have the following information close at hand:

**NC mode** - If you intend configuring the software in NC mode you do not need any additional installation information. All TCP/IP and runtime information is centrally administered by your system administrator.

**DHCP mode** - If you intend configuring the software in DHCP mode, all TCP/IP configuration parameters are centrally administered by your system administrator. In addition, your system administrator might specify the name and location of a Central Configuration File (.CCF file) that may reside on a shared remote DOS drive. This file contains configuration properties shared by a group of users. You should obtain the full DOS path for this file.

You also need to determine which application will be loaded at start up. By default the software loads the HotJava Browser application. You can change the startup applications any time by running the configuration program (JPCCONF.EXE). For example, the Application Loader lets you select several applications, or you can configure the JavaPC software to load a custom application. If you are not sure which application to specify at startup, consult your system administrator.

**Local mode** - If you intend configuring the software in Local mode, you should have the following TCP/IP configuration parameters ready at hand in order to configure and run the software on your TCP/IP network environment:

- IP address – your PC IP address
- Host name – your PC host name
- Subnet mask – the value of your subnet mask.
- Gateway address – address of host on your network that provides routing to the internet or intranet.
- DNS IP – the IP address of the Dynamic Name resolver Server.
- DNS domain name – the domain name suffix that is appended to your host name.

If a NIS server is provided at your network you need the following additional information:

- NIS server – the IP address of the server that provides the NIS service.
- NIS domain name – the NIS server domain name.

Consult your system administrator to obtain the above information. In addition your system administrator may request you to specify the name and location of a Central Configuration File (.CCF file) that may reside on a shared remote DOS drive. This file may contain configuration properties shared by a group of users. You should have the full DOS path for this file.

You also need to determine the Java application that should be loaded by JavaPC software at start up. By default JavaPC software loads the HotJava Browser application. You can change it to load the Application Loader which allows you to select between several applications, or you can configure to load a custom application. Consult your system administrator for that information.

**Stand Alone mode** - If you intend configuring the software to run in Stand Alone mode you do not need to obtain any TCP/IP configuration properties. However, your system administrator might specify the name and location of a Central Configuration File (.CCF file) that may reside on a shared remote DOS drive. This file may contain configuration properties shared by a group of users. You should have the full DOS path for this file.

## Installing the JavaPC™ Software

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Installing the JavaPC software for the first time requires you, the PC user, to perform the following tasks:

- Before you start the installation you need to gather information about your PC hardware and your network environment, as discussed in Chapter 2.
- Run `INSTALL.EXE` from the distribution media (diskette, CD-ROM or from the server) and, when prompted, answer the installation questions.
- After the installation is complete the install program automatically runs the configuration program (`JPCCONF.EXE`). The configuration program and configuration step-by-step procedures are discussed in the next chapter.

You use the installation (`INSTALL.EXE`) and configuration (`JPCCONF.EXE`) programs together to install and configure the JavaPC software on your PC. The `INSTALL` program copies the software files from the distribution media to the destination path you specify. You can use the `INSTALL` program to install the software for the first time or to upgrade the version of the product on your PC.

You can also run `JPCCONF` directly as a standalone program to change your software configuration.

This chapter focuses on how to install the JavaPC software on your PC.

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# Starting the Installation from Different Devices

There are three ways to install the software:

1. Install the software directly from the CD-ROM.
2. Install the software from a set of installation diskettes.
3. Install the software from a local or redirected network drive.

Before installing the software, make sure you are in DOS and exit from any DOS programs that may be running. We also recommend that you backup your `AUTOEXEC.BAT` and `CONFIG.SYS` files at this point.

## Starting the Installation from a CD

Make sure you have a CD drive connected to your PC. Your PC must be configured to access your CD drive from DOS.

To install from the CD drive:

1. Navigate to the `INSTALL` directory on your CD. For example, assuming the CD is accessed as drive `d:`:  
Type `d:`  
Press the Enter key  
type `cd \INSTALL`  
Press the Enter key.
2. Run the JavaPC installation program by typing `install`.
3. For further installation instructions, see *Installing the Software* on the next page.

## Starting the Installation from a Set of Diskettes

To install from a set of diskettes:

1. Insert `disk1` into your diskette drive (typically the A drive).
2. At the command prompt, type `a:\install` or change the current drive to your diskette drive and type `install`. This runs the installation program.

3. For further installation instructions, see *Installing the Software* below.

## Starting the Installation from a Local or Redirected Network Drive

To install from a local or redirected network drive:

1. Change to the directory on the local or network drive where the JavaPC software installation file resides.
2. At the command prompt type `install`. This runs the install program.
3. For further installation instructions, see *Installing the Software* below.

**Note:** The JavaPC software will NOT ask you to insert diskettes as you are installing from a local or redirected network drive.

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## The Installation Process

To install the software:

1. After you have started the install program (by running `INSTALL.EXE` as described above) the Title screen appears. Press Enter to install the JavaPC software.
2. Specify a directory where the JavaPC files will be installed. The default directory is `C:\JAVAPC`. If you specify a directory that already exists, the Directory Already Exists Screen appears. Type `Y` to install the JavaPC software to the same directory.
3. After a short while the Proceed With Installation Screen appears. Type `Y` to copy the compressed installation files to the specified directory on your hard drive. Follow the onscreen instructions. (If you are installing from diskettes, you will be asked from time to time to change diskettes. When you are prompted to insert Disk 2, remove Disk 1 from the drive, insert Disk 2 and press Enter. And so on.)

The installation process takes a few more moments to copy, merge and uncompress the compressed files to your hard drive. The installation program can add the `JAVAPC` path to the list of directories specified by the `PATH` command. The installation program will ask you to update your `AUTOEXEC.BAT`. If you click `Y` the modifications will be saved into your `AUTOEXEC.BAT` and the original file will be named `AUTOEXEC.OLD`.

After the installation is complete the install program automatically runs the configuration program (`JPCCONF.EXE`). For more information about the configuration program and configuration step-by-step procedures, see Chapter 4.

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## Reinstalling the Software

You may reinstall the software at any time by running the installation program (`INSTALL.EXE`).

## Configuring the JavaPC™ Software

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Before starting the configuration program, make sure you have read *Additional Installation Information* discussed in Chapter 2

Configuring the JavaPC software for the first time requires you, the PC user, to perform the following tasks:

- Make sure you have installed the software according to the instructions discussed in the previous chapter.
- When installation is complete the install program automatically runs the configuration program (JPCCONF.EXE). You are required to answer questions about your network adapter configuration, your TCP/IP configuration and other hardware configuration information (such as your Mouse Port, Video resolution and Keyboard language).

You can also run JPCCONF directly as a standalone program to change your software configuration any time after the installation. To manually start the configuration program, at the DOS prompt, change to the directory on the local or network drive where the JavaPC software installation file resides type `jpcconf`, and press Enter. This runs the configuration program. Complete the configuration by following the step-by-step procedures discussed in this chapter.

This chapter focuses on how to use the configuration program JPCCONF.

---

## Navigating in JPCCONF Screens and Fields

Pressing Enter always confirms the current field and takes you to the next field. When you are at the last field in a screen, pressing Enter takes you to the next screen.

In a screen with multiple fields, pressing the Tab and Shift-Tab keys moves control back and forth among fields. These keys will not take you to the next or previous screen.

From most screens the PageUp key will return you to the previous screen. You must go through the fields on each screen and press Enter to proceed to the next screen. The PageDown key does not go to the next screen.

## Making Corrections and Confirming Your Entries

Before you leave a screen, you can move back and forth among fields and change your entries. After you confirm a screen and go to the next screen, you can press PageUp to go back and make corrections.

## Online Help

In most of the screens you may press F1 to access the comprehensive online help. If you are unsure about a certain topic, parameter, or subject, or you just want to learn more about a particular screen, the online help should see you through.

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## Configuring the Software

The configuration procedure is a three-staged process. You are required to answer a number of questions about the following configurations on your PC:

1. Your LAN adapter configuration.
2. Your network configuration.
3. Your hardware configuration.

Usually it is sufficient to select the default parameter (the highlighted parameter in the list). You should only select a different parameter to accommodate for special configurations.

# Summary of LAN Adapter Configuration

This section provides you with information to answer the network adapter configuration questions. If your PC is already configured with the appropriate networking driver support necessary to run the JavaPC software, you may not have to answer some (or any) of these questions.

**Note:** The network adapter (or network interface) in your PC sends and receives packets on the network. Without a network adapter the JavaPC software cannot communicate with the network. However, you can still work in Stand Alone mode.

Your PC connects to the network through a network adapter (interface card). The adapter configuration consists of driver software and a number of parameters that control the operation of the adapter.

## Configuring the LAN Adapter

You will be asked:

“Do you want to change your LAN adapter configuration? (Y/N).”

If you want to install or modify the network driver support, type "Y" and press Enter. If you do not want to modify it, and want to skip to the Hardware and TCP/IP configuration step, press "N" and press Enter.

The JavaPC software supplies the driver software for a number of network adapters. The JPCCONF program lists these drivers. Choosing a driver from this list ensures that JPCCONF installs and configures a driver with which the JavaPC software has been tested. Even if you already have a driver, you still may want to install the driver supplied by the JavaPC software. Afterwards, you can compare the two drivers to see which is newer or works better.

*Before* choosing a driver from the list, you should know what adapter is in your PC. Conversely, if you know you already have an ODI driver installed for NetWare and you want the JavaPC software to use that driver, you do *not* need to know what adapter is in your PC. If this is the case, you can select Other at the bottom of the list, regardless of the adapter in the PC.

The primary purpose of selecting Other is to install a driver *not* in the list (one that the JavaPC software does not supply). In that case you must supply the driver from the Other Equipment Manufacturer (OEM) diskettes (or a standard NDIS distribution directory structure on your hard disk) while configuring the JavaPC software. Even when the JavaPC software supplies an NDIS driver for your adapter, you have the option of selecting Other and supplying your own NDIS driver. You may want to use your own because it is the most recent.

For further detailed information about Network Driver Support, see Chapter 5.

# Summary of Hardware and TCP/IP Configuration

This section provides you with information to answer the hardware and TCP/IP configuration questions.

In the hardware section, you change your mouse, video resolution and keyboard language configurations. In the network section you can change your host name, IP address, subnet mask, and various other network related parameters.

Next you will be asked:

“Do you want to change your hardware or TCP/IP configuration?” (Y/N)

If you type “Y”, you will enter the hardware and network configuration screens (see the *Hardware Configuration* section below).

## Hardware Configuration

Next JPCCONF displays the Misc. Hardware Parameters screen. This screen contains three fields. You are required to fill in all three fields.

When you are asked:

“How would you like to access your mouse?”

The following parameters are displayed:

- **Auto Detect** (default) - Choose this parameter to let the JavaPC software automatically detect an installed mouse driver. If it doesn't find one, it will try to detect a mouse on a serial port (COM1 or COM2) or PS/2 port.
- **Use Mouse Driver** - Choose this parameter to let the JavaPC software use an existing mouse driver (usually DOSMOUSE.COM or MOUSE.EXE is loaded before the JavaPC software).
- **Use COM1** - Choose this parameter to instruct the JavaPC software to use a serial mouse connected to COM1.
- **Use COM2** - Choose this parameter to instruct the JavaPC software to use a serial mouse connected to COM2.
- **Use PS/2** - Choose this parameter to instruct the JavaPC software to use a mouse connected to the PS/2 port.

When you are asked:

“Which video resolution would you like to use?”

The following parameters are displayed:

- **Default** - Choose this parameter to instruct the JavaPC software to automatically detect a screen resolution that’s closest to 1024 x 768. This resolution supports 256 colors.
- **1280 x 1024** - Choose this parameter to instruct the JavaPC software to set the screen resolution to 1280 x 1024. This resolution supports 256 colors.
- **1024 x 768** - Choose this parameter to instruct the JavaPC software to set the screen resolution to 1024 x 768. This resolution supports 256 colors.
- **800 x 600** - Choose this parameter to instruct the JavaPC software to set the screen resolution to 800 x 600. This resolution supports 256 colors.
- **640 x 480** - Choose this parameter to instruct the JavaPC software to set the screen resolution to 640 x 480. This resolution supports 256 colors.
- **VGA** - Choose this parameter to instruct the JavaPC software to set the screen resolution to VGA. The VGA parameter works with most video adapters, not just VESA compatible. VGA supports 16 colors.
- **SVGA** - Choose this parameter to instruct the JavaPC software to automatically set the screen resolution to 800 x 600. SVGA supports 16 colors.

When you are asked:

“Which keyboard do you have?”

The following parameters are displayed:

- **English (US)** - Choose this parameter to let the JavaPC software select an English (US) keyboard.
- **French** - Choose this parameter to let the JavaPC software select a French keyboard.
- **Italian** - Choose this parameter to let the JavaPC software select an Italian keyboard.
- **German** - Choose this parameter to let the JavaPC software select a German keyboard.
- **Spanish** - Choose this parameter to let the JavaPC software select a Spanish keyboard.
- **Swedish** - Choose this parameter to let the JavaPC software select a Swedish keyboard.

## Configuration Modes

Next you will be asked:

“Which configuration mode would you like to use?”

You can configure the JavaPC software to run in one of four configuration modes:

- **Local Mode** - TCP/IP configuration parameters, as well as other parameters, are taken from the `JAVAPC.INI` file. For further information about the `JAVAPC.INI` file, see the *JavaPC Administrator's Guide*.
- **DHCP Mode** - TCP/IP parameters are taken from a DHCP server, such as MS NT 4.0 DHCP server. Other parameters are taken from the `JAVAPC.INI` file.
- **NC Mode** - Configuration parameters are managed by an NC server manager or by a Novell Network 4.11 DHCP server, such as Sun Microsystems Netra™ j.
- **Stand Alone Mode** - A TCP/IP connection is *not* required. All configuration parameters are taken from the `JAVAPC.INI` file.

Each mode determines how the JavaPC software and applications will be deployed, and the level of central administration and configuration that will be enabled at startup.

For further information about configuration modes, see Chapters 1, 2 and 5.

### *Local Mode*

In this mode, the PC's network configuration is stored locally; a DHCP server is not necessary. When you choose to configure the JavaPC software in Local mode, the Manual TCP/IP Configuration Parameters screen is displayed. This screen contains five fields. You are required to fill in all five fields. Consult your system administrator for the valid values.

- **Your computer's IP address** - Type your IP address. The IP address is a unique string of numbers that identifies a computer on the Internet. These numbers are usually shown in groups separated by periods, like this: 123.123.23.2. All resources on the Internet must have an IP address.
- **Your computer's host name** - Type the name your system administrator assigned to your computer. For example, if your full host name is `pc1.eng.sun.com`, type `pc1` in the field.
- **Network's subnet mask** - Type the value of your subnet mask. A subnet mask looks like an IP address (usually shown in groups separated by periods, like this: 123.123.23.2)
- **Network's gateway address** - Type the address of your network's gateway (router) IP address.
- **Does your network have a NIS server?** - If your network has a NIS (Network Information Server), type “Y.” If not, type “N.”

The Manual Network Server Parameters screen will be displayed. This screen has four fields. You are required to fill in three of the fields (the NIS Server field is not mandatory).

- **DNS Server IP** - Type your DNS server's IP address.
- **DNS Domain Name**- Type your DNS domain. For example, if your host name is `pcl.eng.sun.com`, type `eng.sun.com` in the field.
- **NIS Server** - Type your NIS server's IP address. If you are not sure of the value, you may leave this field blank and let JavaPC find it at run-time.
- **NIS Domain Name**- Type your NIS domain.

Next you will be asked to specify the following:

“[Optional] Location of centralized property file (\*.ccf)”

System administrators can use the Centralized Property file to point to a central file that will contain system-wide definitions. The file extension must be `.CCF`. You should fill in this value if your system administrator requested you to do so. The JavaPC software will ignore any reference to a non-existent file.

#### **Examples of CCF files:**

Novell redirected drive

```
z:/public/javapc/central.ccf
```

And for any configuration mode *except* Stand Alone:

NFS server

```
mywebserv:/export/javapc/central.ccf
```

Web server

```
http://mywebserv/central.ccf
```

When you are asked:

“What application do you want to load at startup?”

The following parameters are displayed:

- **Application Launcher** - Choose this parameter to load an icon based application loader at startup. Applications may be configured to appear in the Application Launcher by editing the `JCAPPS.HTM` file (discussed in the *JavaPC Administrator's Guide*).
- **HotJava Browser** (default) - Choose this parameter to load the HotJava Browser application at startup.
- **Custom Application** - Choose this parameter to retain the current custom application settings in your `JAVAPC.INI`

- **None** - Choose this parameter if you intend to modify `JAVAPC.INI` to launch applications.

### *DHCP Mode*

When you choose to configure DHCP mode the JavaPC software obtains its TCP/IP configuration properties from a DHCP server, such as those supplied with Microsoft NT4.0 DHCP Server and Novell NetWare 4.11 DHCP Server. Other runtime properties may be obtained from the local configuration file (`JAVAPC.INI`). Java applications can be loaded from an HTTP server, or from a local DOS drive. In addition, the HotJava Browser software is configured to load by default from the local DOS drive when the JavaPC software is run.

You will be asked the following questions:

“[Optional] Location of centralized property file (\*.ccf)”

“What application do you want to load at startup?”

The answers to these questions were discussed above in the *Local Mode* section.

### *NC Mode*

In NC mode the JavaPC software runs in the same environment as Sun Microsystems JavaStation™. TCP/IP and runtime configuration properties are centrally administrated.

You will not be asked any further questions.

### *Stand Alone Mode*

In Stand Alone mode a TCP/IP network connection is not necessary to run the JavaPC software. There is no need to configure IP properties because the PC is disconnected from the TCP/IP network. However, User Profile information remains on the local disk in the `JAVAPC.INI` configuration file.

**Note:** The product may still use the DOS remote drive located on a file server, such as Novell Netware, as a file system to load and run Java applications.

You will be asked the following questions:

“[Optional] Location of centralized property file (\*.ccf)”

“What application do you want to load at startup?”

The answers to these questions were discussed above in the *Local Mode* section.

# Confirming Configurational Changes

The configuration parameters and information you have defined have not been saved yet.

When you are asked:

“Do you want JPCCONF to update your autoexec.bat and config.sys for you?”  
(Y/N)

Type “Y” and press Enter to make JPCCONF confirm changes to the configuration and to update your autoexec.bat and config.sys as needed. Type “N” to have JPCCONF create autoexec.jpc and config.jpc in your root directory. These files will include the changes JPCCONF recommends you perform in your configuration files. You should later review these files using a text editor and incorporate the required lines into the original AUTOEXEC.BAT and CONFIG.SYS.

**Note:** JPCCONF will also create or update the JavaPC configuration file (JAVAPC.INI) in the JAVAPC\ installation directory. This file is a text file and can be edited by an advanced user or a system administrator. For more information about the JAVAPC.INI file, see the *JavaPC Administrator’s Guide*. Original copies of your original AUTOEXEC.BAT and CONFIG.SYS files are backed up with a numerical file extension (such as AUTOEXEC.001 and CONFIG.001).

Press any key to continue. You will be asked if you would like to view the README.TXT file. This file contains last minute information that wasn’t included in the main documentation set. We recommend you read through it.

**Note:** You can read this document any time by typing the following at the DOS command line:

```
CD \JAVAPC  
README
```

Type Y and press Enter. The JPCCONF.EXE program has completed configuring your copy of the JavaPC software. Your new configuration will not take effect until you reboot the PC. If you want to review your configuration files before rebooting, press any key to return to DOS.

**Note:** Before rebooting your PC, remove any diskettes and CD-ROM disks from their drives.

To reconfigure the information, run the JPCCONF.EXE again.

---

# Running the Software

Now that you have installed and configured the software, you are ready to run it.

To run the software:

1. Make sure you have installed and configured the software.
2. Navigate to the directory where the software has been installed (typically `C:\JAVAPC`).
3. Type `javapc`. This runs the `JAVAPC.EXE` program.

What happens next depends upon the configured mode and your network setup. If an NIS server is available (NC Mode) you will be asked to provide your User Name and Password. If an NIS server is not available (Local, DHCP or Stand Alone Mode), the default application, or the application you specified during configuration, will appear at start-up.

4. You can exit from the JavaPC software back to DOS by closing all of the application windows or by choosing Exit from the File menu in the Application Loader menu bar.

# Networking Device Driver Support

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## Overview

The information detailed in this section is intended for **advanced users** and system administrators who feel comfortable with the idea of modifying DOS system files like `CONFIG.SYS` and `AUTOEXEC.BAT`. This section describes what is required to be installed and configured on your PC in order for the JavaPC software to communicate with a network adapter. Usually the JavaPC configuration utility (`JPCCONF.EXE`) is able to install the required device drivers automatically. However, there may be cases where the configuration utility is not sufficient.

## Overview of DOS Network Device Driver Support

A Network Device Driver is a software that is used as an interface between an Ethernet adapter and standard applications. In the DOS world there are three popular network device driver standards:

1. Packet Driver
2. ODI
3. NDIS.

Most DOS Network Device Drivers are supplied as real mode DOS device driver or as a Terminate and Stay Resident (TSR) DOS program. The rest of this section discusses how the JavaPC software interacts with these Network Device Drivers. For more information on configuring Network Device Drivers to work with the JavaPC software, see *Configuring JavaPC Software to Work with Network Device Drivers* later in this guide.

**Packet Driver** - is a real mode device driver specification that was defined by FTP Software Inc and was made popular by DOS TCP/IP applications. The JavaPC software conforms to the Packet Driver standard. The JavaPC software comes with Packet Driver for many popular Ethernet adapters. For a full list of those Packet Drivers see (...TBD...) in this guide. If your Ethernet Adapter is not listed there, you will usually find a Packet Driver on the diskette supplied by the adapter vendor, or on the adapter vendor's Internet site. There are many Packet Drivers that can be downloaded from the Internet and used as shareware or freeware, such as (**TBD URL**).

If your PC is already running a Packet Driver, the JavaPC configuration utility will detect it, and will allow you to use it. You should be aware that popular DOS TCP/IP packages that use Packet Drivers may already be installed on your PC. If this is the case, you should manually disable the TCP/IP programs from loading, by removing the appropriate commands from your `CONFIG.SYS` and `AUTOEXEC.BAT` files that also loads the JavaPC software. This is best done by creating a menu configuration for JavaPC software in your `CONFIG.SYS` and `AUTOEXEC.BAT`. For more information about creating a menu configuration, see your DOS User's Guide.

**Note:** The JavaPC software is a protected mode application (as opposed to the Packet Driver, which is a real mode code). We have found in our tests that certain Packet Drivers do not behave well when run under the JavaPC software. If you encounter such a problem, you are advised to let the JavaPC software install and configure NDIS or ODI drivers.

**NDIS** (Network Driver Interface Specification) - is a standard defined by Microsoft and 3COM. It is most popular in networking environments where DOS PCs, Microsoft Windows For Workgroup, Microsoft Windows 95, Windows NT and IBM LAN manager are deployed. There are several revisions of this standard. NDIS 2.0 is used by DOS and Windows For Workgroups. Newer revisions of NDIS are used by Windows 95 and Windows NT.

The JavaPC software can work with real mode NDIS 2.0 drivers. JavaPC configuration utility, `JPCCONF.EXE` is able to install the required NDIS 2.0 drivers, if none are available. If the JavaPC software detects NDIS 2.0 drivers are loaded, it will install the NDIS Packet Driver (`DIS_PKT.DOS`).

There are two versions of NDIS 2.0. One that came with MS Windows 3.1 (hereby called "old NDIS"), and another one that came with MS Windows For Workgroups 3.11 and MS Client for NT server 4.0 (hereby called "new NDIS"). The difference is that the "old NDIS" would load the NDIS device drivers in `CONFIG.SYS`, while the

“new NDIS” would load them when the `NET START` command was executed (usually in `AUTOEXEC.BAT`). The “new NDIS” also contains a configuration file, `SYSTEM.INI`, in the NDIS installation directory.

The JavaPC configuration utility installs the “old NDIS” support files. For more information see the section *NDIS Driver Configuration* below.

If your PC is configured to run “new NDIS” you must install the NDIS packet driver manually. For more information, see *Manually Configuring a “New NDIS” Packet Driver* below.

**ODI** (Open Data Interface) - is a Network Device Driver standard defined by Novell. It allows your DOS applications to use several networking protocols such as TCP/IP and Novell’s IPX/SPX on the same client PC. If your PC is connected in a Novell network environment, most probably ODI device drivers are already installed and loaded on your PC. If this is the case, the JavaPC software configuration utility, `JPCCONF.EXE` will identify the situation and will install an ODI Packet Driver (`ODIPKT.COM`) that is used by the JavaPC software to communicate with the lower layer of the ODI drivers.

## Determining Which Network Device Driver to Use

In order to determine which Network Device Driver to use with the JavaPC software you should note the following:

- If one of the above Network Device Drivers is installed and loaded, the JavaPC software configuration utility will detect it and will allow you to use the existing drivers (Packet Driver) or add the NDIS Packet Driver or ODI packet driver on top of it.
- If a Network Device Driver is not installed on the PC, you'll need to decide whether you want the JavaPC software to install a Packet Driver or NDIS driver from scratch. If your Ethernet adapter model is listed under the supplied Packet Driver list, you are advised to allow the JavaPC software to install the Packet Driver. A Packet Driver is easier to install and configure than the other Network Device drivers, and consumes less memory.
- If your Ethernet adapter model is not listed under the supplied Packet Driver list, you should obtain the appropriate NDIS 2.0 device drivers software from your Ethernet adapter vendor. Usually this software comes on a diskette, or may be downloaded from the vendor web site. During the configuration process, you will be asked for the directory where this software resides.

## Installing and Configuring Network Device Drivers

This section describes the different possible scenarios that the JavaPC software configuration utility `JPCCONF.EXE` may encounter during configuration.

The JavaPC software can detect existing network drivers from the following three network driver configurations:

1. ODI
2. NDIS
3. Packet Drivers.

In order to detect these configurations, the network drivers should be loaded before running the JavaPC software configuration program.

At this initial stage one of three screens will be displayed depending upon your PC's configuration. Follow the scenarios discussed below:

### Scenario #1: "Packet Driver Detected"

If the configuration utility has detected that a Packet driver has already been installed on your PC, you will be greeted with a confirmation message "*Packet Driver Detected*". Usually you should answer "Y" to let JavaPC use the existing driver. No changes will be made to the DOS configuration files. If you want the JavaPC software to install a different packet driver, answer "N", and continue with the instruction in scenario #3.

### Scenario #2: "ODI or NDIS With No Packet Driver"

If the configuration utility has detected an existing ODI or NDIS 2.0 driver, the configuration utility installs the appropriate ODI or NDIS packet driver. For more information about ODI or NDIS packet drivers see *Network Device Drivers Overview*. The JavaPC software configuration utility may change several DOS configuration files. For more information about DOS configuration files, see *ODI Driver Configuration* and *NDIS Driver Configuration* later in this chapter.

### Scenario #3: “Network Driver Not Detected”

If a network driver has not been detected, JPCCONF displays a list of supported adapters. If your network adapter is included in the list you should select it. If not, you should select Other from the list. Next you will be asked for the type of network driver support. You may select from the list ODI, NDIS or Packet Driver. To determine which type of driver you should install refer to *Understanding Network Driver Support* in this chapter.

If you select Packet Driver you should refer to *Packet Driver Configuration* below.

If you select ODI refer to *ODI Driver Configuration* below.

If you select NDIS refer to *NDIS Driver Configuration* below.

## Installing Support for Network Device Drivers

This section discusses the files involved during configuration of support for the network device drivers. In most cases JPCCONF.EXE will accomplish this automatically. However, there may be cases in which you may need to manually install the network device drivers, and configure them accordingly.

### Packet Driver Configuration

If you instruct JPCCONF.EXE to install a packet driver, it will ask you to enter the command line to run the packet device driver from DOS. Here is an example of the command line for the 3COM 3C509 Ethernet adapter:

```
C:\JAVAPC\3C5X9PD 0x60
```

0x60 (Hex 60) is the number of the software interrupt used to communicate with the application. You can use other numbers in the range of 0x60 to 0x7F.

Sometimes you might need to add additional command line parameters. For more information about adding additional command line parameters, consult your network adapter vendor documentation.

JPCCONF.EXE will add this command line to the end of your DOS AUTOEXEC.BAT file. You will need to boot your PC before the packet driver support will take effect.

## ODI Driver Configuration

If you instruct `JPCCONF.EXE` to install an ODI support, `JPCCONF` actually *only* installs the ODI packet driver “shim.” If you already have ODI driver loaded, you will be able to run JavaPC software after you boot your PC. If ODI drivers were not previously installed, you’ll need to install the drivers from the Novell Client Installation diskette. For more information about the Novell Client, see the Novell documentation.

`JPCCONF.EXE` will do the following:

- Will add the following line to `AUTOEXEC.BAT`:

```
ODIPKT.COM <logical-board> <software-interrupt #>
```

Example: `ODIPKT.COM 1 96`

`<logical-board>` - the number of the logical adapter `ODIPKT` should bind to. For more information refer to the description of `NET.CFG` below.

`<software-interrupt #>` is a number in the range of 96 to 127 (Hex 60 to Hex 7F), that specified the software interrupt number that the application uses to communicate with the driver. The default is 96.

- Will check for the existence of the following lines in `NET.CFG`, and if missing will add them: `NET.CFG` is Novell ODI configuration file that is located at the Novell Client installation directory (by default - `C:\NWCLIENT`). It’s a DOS text file that consists of several sections. For a full information on `NET.CFG` structure refer to Novell documentation.

`NET.CFG` should contain a section of the form:

```
Link Driver <adapter-name>
```

```
    FRAME <frame type 1>(refers to <logical-board> = 0)
```

```
    FRAME <frame type 2>(refers to <logical-board> = 1)
```

The frame type for TCP/IP running over Ethernet is `ETHERNET_II`. Thus the line:

```
FRAME ETHERNET_II
```

Will be added. The `<logical-board #>` that was referred above, refers to the line number that is located under the “Link Driver” section where counting starts from Zero.

- Will check for the existence of the following lines in `NET.CFG`, and if missing will add them:

```
Link Support
```

```
Buffers 5 1600
```

- Will copy the `ODIPKT.COM` file `shim` from `JAVAPC\DRIVERS\` directory to the Novell Client Installation directory (`NWCLIENT\`)

As an example, here is a description of the relevant configuration files in case of an ODI installation that runs over the 3COM 3C509 Ethernet adapter. We assume that a standard Novell network is being used at the same time on the client PC:

NET.CFG (in NWCLIENT directory):

```
LINK DRIVER 3C5X9
      FRAME ETHERNET_802.3
      FRAME Ethernet_II
```

```
Link Support
      Buffers 5 1600
```

AUTOEXEC.BAT:

```
CALL C:\NWCLIENT\STARTNET.BAT
REM *** The following line was added by JavaPC ***
C:\NWCLIENT\ODIPKT 1 96
```

**Note:** some times it may be more convenient to add the line that loads ODIPKT.COM to the STARTNET.BAT file that loads your Novell Client support. In that case you can do it manually by removing the ODIPKT line from your AUTOEXEC.BAT and add it to the STARTNET.BAT file that is loaded from the Novell Client installation directory (NWCLIENT\). A typical file might look like this:

```
NWCLIENT\STARTNET.BAT:

@ECHO OFF
C:
CD \NWCLIENT
SET NWLANGUAGE=ENGLISH
LSL
3C5X9.COM
ODIPKT.COM 1 96      (the new line)
IPXODI
VLM
```

For further information on the ODI packet driver, see <http://www.danlan.com>, (C) Copyright Daniel D. Lanciani 1991-1996. All rights reserved.

## NDIS Driver Configuration

If you instruct JPCCONF.EXE to install NDIS support, JPCCONF will install the required NDIS 2.0 support files. Even if NDIS 2.0 is already installed, JPCCONF will override this installation. That's why it is recommended that you backup the relevant DOS files before you start JPCCONF.

Selecting NDIS installation should be your best bet if your network adapter is not listed in the list of supported adapters by the JavaPC software. You need to have the appropriate NDIS adapter drivers from your adapter vendor.

JPCCONF will ask you for a path (directory) to install the NDIS support files. By default it's C:\LANMAN. JPCCONF will start copying the NDIS support files to the selected directory. If you have selected "Other" from the list of supported adapters, at this stage you will be asked for the path (directory) that the vendor NDIS driver can be located. Vendor's NDIS drivers are, by convention, located in a directory that ends with MSLANMAN.DOS\DRIVERS\NIF. If this path is located in your C:\ directory, just enter C:\ JPCCONF will copy the vendor's NDIS driver.

Next JPCCONF will ask you for the driver name. This name will be used in the NDIS PROTOCOL.INI configuration file to identify your adapter. Next JPCCONF will ask for the IO Address. Enter the appropriate IO address that your adapter is using.

JPCCONF will modify the following DOS system files:

- *CONFIG.SYS*. JPCCONF will add the following line that loads the NDIS packet driver shim in your *CONFIG.SYS*:

```
Device=<path>\DIS_PKT.DOS
```

This line will be added between the line that loads the Protocol Manager (PROTMAN) driver and the adapter NDIS driver.

*PROTOCOL.INI*. JPCCONF will add the following section:

```
[pktdrv]

drivername = pktdrv$
bindings = <adapter driver name>
intvec = <software-interrupt #>
novell = no
```

An example of a typical installation of a 3COM 3C509 adapter:

*CONFIG.SYS*:

```
DEVICE=C:\LANMAN\PROTMAN.SYS /I:C:\LANMAN
DEVICE=C:\LANMAN\DIS_PKT.SYS(the packet shim that was added
by JPCCONF)
DEVICE=C:\LANMAN\ELNK3.DOS
```

*AUTOEXEC.BAT*:

```
C:\LANMAN\NETBIND.EXE
```

*PROTOCOL.INI*:

```
; Section for Protocol Manager
```

```

[PROTOCOL MANAGER]

DriverName = PROTMAN$
;
; Section for 3Com Etherlink III Family
[ELNK3_NIF]
DRIVERNAME = ELNK3$
;

; Section for the JavaPC software Packet Drivers

[pktdrv]

drivername = pktdrv$
bindings = ELNK3_NIF
intvec = 0x60
novell = no

```

For further information on the NDIS packet driver, see <http://www.danlan.com>, (C) Copyright Daniel D. Lanciani 1991-1996. All rights reserved.

## Manually Configuring “New NDIS”

JPCCONF is not capable of installing a packet driver “shim” for new NDIS support files. Following is a detailed description of how to manually configure a packet driver “shim”:

1. The “new NDIS” support is installed by default in C:\NET.
2. Edit C:\CONFIG.SYS. Make sure that the following driver is loaded:  
device=c:\net\ifshelp.sys
3. If you want to start the network after each boot, add C:\NET\NET START to the AUTOEXEC.BAT:

```
Copy DIS_PKT.DOS from C:\JAVAPC\DRIVERS to C:\NET.
```

4. Edit C:\NET\SYSTEM.INI:

Under [network driver] section there should be a line as follows:

```
transport=ndishlp.sys,*netbeui
Modify it to be:
transport=ndishlp.sys,*netbeui,c:\net\dis_pkt.dos
```

This will cause the NDIS packet driver DIS\_PKT.DOS to be loaded when NET START is run.

5. Edit C:\NET\PROTOCOL.INI and enter the following section:

```
drivename = pktdrv$
bindings = <adapter driver name>
intvec = <software-interrupt #>
novell = no
```

An example of a typical installation of a 3COM 3C509 adapter:

CONFIG.SYS:

```
device=c:\net\ifshelp.sys
```

AUTOEXEC.BAT:

```
C:\NET\NET START
```

PROTOCOL.INI:

; Section for Protocol Manager

```
[PROTOCOL MANAGER]
```

```
DriverName = PROTMAN$
```

```
;
```

; Section for 3Com Etherlink III Family

```
[ELNK3_NIF]
```

```
DRIVERNAME = ELNK3$
```

```
;
```

; Section for the JavaPC software Packet Drivers

```
[pktdrv]
```

```
drivename = pktdrv$
```

```
bindings = ELNK3_NIF
```

```
intvec = 0x60
```

```
novell = no
```

**SYSTEM.INI:**

```
[network drivers]
netcard=elnk3.dos
transport=ndishlp.sys,*netbeui,C:\NET\DIS_PKT.DOS
devdir=C:\NET
LoadRMDrivers=YES
```



## CD Content and Structure

---

The CD contains the following items:

- Installation files for installing the software directly from the CD.
- The required files for creating a set of software installation diskettes for PCs not equipped with a CD device.
- Online documentation (in ASCII text, HTML and Acrobat Reader PDF formats).

### Common Directory Structure

**Table 6-1** Top Level Directories

Directory Name	Directory Contents
\	README.EXE
\INSTALL\	INSTALL.EXE and all JavaPC installation files (unzipped).
\DISKS\	MAKEDISK.BAT- Create installation disk. Under it DISK1\ .. DISK4\. Each directory contains the content of a 3.5" disk image (unzipped)
\DOCS\	ADMINING.PDF - Administration guide in PDF format INSTALL.PDF - Installation Guide HTML\ subdirectory will contain the HTML documents. (see below).
\NETRAJ\	Chgnetra
\HJB\	HJB.ZIP
\MISC\	Unsupported and samples (TBD)

**Table 6-2** Documentation Subdirectories

<b>Directory Name</b>	<b>Directory Contents</b>
\DOCS\HTML\ADMINING	INDEX.HTM. Additional subdirectories as appropriate with the other HTML pages.
\DOCS\HTML\INSTALL	INDEX.HTM. Additional subdirectories as appropriate with the other HTML pages.

## Supported and Tested Configurations

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### Mouse Devices

- Microsoft mouse (and compatible) connected to a Serial port or PS/2 port.
- Toshiba Accu Point in the following models:
  - Tecra 730 CDT
  - Portege 660 CDT
  - T440 CDX

### Mouse Drivers

- Logitech mouse driver Version 8.2
- Microsoft mouse driver Version 6.3
- Genius Mouse Driver Version 10.20
- Cute mouse driver Version 1.2 (Mouse System)

### Network Adapters

These adapters have been tested:

- 3Com EtherLink 16
- 3Com Etherlink I 3C501
- 3Com EtherLink II 3C503
- 3Com EtherLink III 3C509
- 3Com EtherLink Plus 3C505
- 3Com Etherlink 905 3C905

- 3Com PCMCIA EtherLink III 3C589
- Intel EtherExpress PRO/10+
- Intel 82557 based 10/100 Ethernet
- Novell NE2000
- RealTeak PnP 8019
- SMC EtherCard PLUS Family (80xx)
- TE2000N 16 bit

## Network Driver Support

The following network drivers are included with the configuration program:

- (TBD)

## Video Cards

- ATI SVGA (Mach 64 264vt) with 1MB
- Cirrus Logic SVGA (CL-GD 5420) with 512 KB
- Cirrus Logic SVGA (CL-GD 5422) with 1 KB
- Cirrus Logic SVGA (CL-GD 5428) with 1 KB
- Chips & Technologies 65550 with 2 MB
- Diamond Stealth 3D 2000 with 1 MB
- ET 4000 with 1 MB
- Mattrox (MGA Millennium) with 4 MB
- OAK (OT-067) with 512 KB
- OAK (037C) with 512 KB
- Paradise S3 SuperVGA with 2 MB
- RealTeak 3106 with 1 MB
- Trident 8900 SVGA with 1MB

## DOS OS

- DOS 6.2
- DOS 7
- IBM PS-DOS 7

- Caldera OpenDos

## Server Interoperability

- UNIX – Solaris 5.6 (NetraJ 2.0)
- MS NT Server 4.0
- Novell Netware 4.11



## Frequently Asked Questions

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This chapter answers the questions most frequently asked of our support staff. If your questions are not answered here, please feel free to contact us.

### Client System Requirements:

How much disk space do I need to install the JavaPC software?

How much memory do I need to run the JavaPC software?

Does the JavaPC software run on a 386 PC?

Does the JavaPC software provide access to the PC local file system?

Do I need a TCP/IP stack?

Does the JavaPC software support Token Ring adapters?

Will the JavaPC software work with my current network?

### Running Java Applications:

What version of the Java™ Development Kit does the JavaPC software support?

Can I run a Java application developed with the JDK™ 1.0 with the JavaPC software?

Can I run HotJava™ Browser with the JavaPC software?

Can I run other Java applications with the JavaPC software?

Does the JavaPC software support native methods?

## Windows and the JavaPC Software:

Can the JavaPC software run inside a Windows 3.1, Windows 95 or Windows NT DOS box?

Can I run the JavaPC software alongside Windows on the same PC?

Can I run both Windows and the JavaPC software simultaneously?

Can I run remote Windows applications?

## Server Requirements:

I've heard an "NC server" is required to run the JavaPC software. Is this true?

Will the JavaPC software support my NetWare network?

Will the JavaPC software support my Windows NT network?

Do I need an HTTP server?

## Miscellaneous:

How do I get the JavaPC software? Where can I buy it?

Can I read and write e-mail with the JavaPC software?

Can I use the JavaPC software with a modem connection?

Is the JavaPC software available in languages other than English?

Where does the JavaPC software store my preferences and bookmarks?

Does the JavaPC software support standard html?

## Client System Requirements:

**Q:** How much disk space do I need to install the JavaPC software?

**A:** The JavaPC software requires 10 MB of free disk space.

**Q:** How much memory do I need to run the JavaPC software?

**A:** The JavaPC software requires 8 MB of RAM to run small Java applications and applets directly, and 16 MB to run HotJava Browser. We recommend using 32 MB of RAM to run memory intensive Java applications.

**Q:** Does the JavaPC software run on a 386 PC?

**A:** No. The JavaPC software has been designed to run on 486-DX2 and faster PCs.

**Q:** Does the JavaPC software provide access to the PC local file system?

**A:** Yes.

**Q:** Do I need a TCP/IP stack?

**A:** No. The JavaPC software contains a full TCP/IP stack implementation.

**Q:** Does the JavaPC software support Token Ring adapters?

**A:** No. Future releases may include this option.

**Q:** Will the JavaPC software work with my current network?

**A:** The product is compatible with the *packet driver* specification. It can be configured to work in ODI or NDIS 2.x environments by installing an ODI or NDIS shim that provides a packet driver interface to the JavaPC software.

## Running Java Applications:

**Q:** What version of the Java™ Development Kit does the JavaPC software support?

**A:** The JavaPC software is fully compatible with the JDK™ 1.1.4.

**Q:** Can I run a Java application developed with the JDK™ 1.0 with the JavaPC software?

**A:** Yes.

**Q:** Can I run HotJava™ Browser with the JavaPC software?

**A:** Yes. HotJava Browser is part of the JavaPC software, and can run either from the local hard drive, or be loaded from a server.

**Q:** Can I run other Java applications with the JavaPC software?

**A:** The JavaPC software supports most 100% Pure Java™ applications.

**Q:** Does the JavaPC software support native methods?

**A:** No. The JavaPC software does not allow you to add or link to native C code.

## Windows and the JavaPC software:

**Q:** Can the JavaPC software run inside a Windows 3.1, Windows 95 or Windows NT DOS window?

**A:** No.

**Q:** Can the JavaPC software run alongside Windows on the same PC?

**A:** Yes. Both Windows 3.x and the JavaPC software can be started from the DOS prompt. In order to select between the JavaPC software and Windows at boot time, some changes might be required to specific configuration files (CONFIG.SYS, AUTOEXEC.BAT, and MSDOS.SYS).

**Q:** Can I run both Windows and the JavaPC software simultaneously?

**A:** No. You cannot run both Windows and the JavaPC software at the same time. However, they can both reside on the same disk. When you exit Windows and go back to the DOS prompt, you can load the JavaPC software, and vice-versa.

**Q:** Can I run remote Windows applications?

**A:** Yes. Remote windowing products are offered by several companies. GraphOn's™ GO-Joe™ with RapidX™ and Citrix&REG; Systems' WinFrame&REG; Thin-Client/Server Software with ICA&REG; -- provide appropriate solutions for access to UNIX and Microsoft 32-bit Windows applications.

## Server Requirements:

**Q:** I've heard an "NC server" is required to run the JavaPC software. Is this true?

**A:** If the NC mode was chosen at installation time, then the JavaPC software will require an "NC server", such as Sun's Netra™ j software. In this mode, the PC running the JavaPC software operates like a dedicated Network Computer, and applications can be loaded from the same NC server, from an HTTP server, or from the PC local hard disk. By using an NC server, system administrators can set user profiles and access rights to specific applications.

When running in other modes, the JavaPC software doesn't require an NC server. In this mode, users simply access Web pages on the Internet/intranet, and can download applications on demand.

**Q:** Will the JavaPC software support my NetWare network?

**A:** Yes.

**Q:** Will the JavaPC software support my Windows NT network?

**A:** Yes.

**Q:** Do I need an HTTP server?

**A:** An HTTP server can be used to load applications, such as HotJava Browser, and applets written in the Java programming language. However, the JavaPC software can be configured to load applications locally from the PC hard disk.

## Miscellaneous:

**Q:** How do I get the JavaPC software? Where can I buy it?

**A:** The JavaPC software will be available through different channels. More details will be provided when the product is released.

**Q:** Can I read and write e-mail with the JavaPC software?

**A:** You can run an e-mail client on the JavaPC software. HotJava Browser, which is included in the JavaPC software, let's you send - but not receive - e-mail messages.

**Q:** Can I use the JavaPC software with a modem connection?

**A:** No. The JavaPC software doesn't support PPP connections yet, but this feature will be included in a future release.

**Q:** Is the JavaPC software available in languages other than English?

**A:** The JavaPC software will be initially available in English only. Other languages will be available at a later date.

**Q:** Where does the JavaPC software store my preferences and bookmarks?

**A:** Either on an NFS server (NC and DHCP modes) or on your local disk drive (Local and Stand Alone modes).

**Q:** Does the JavaPC software support standard HTML?

**A:** Yes. HotJava Browser supports the HTML 3.2 specification.

## Customer Support Information

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For 90 days from the date of purchase, customers are entitled to installation assistance on this product.

For Warranty/Installation Support in the U.S. call 1-800-USA-4SUN (1-800-872-4786).

For all other countries, please call +1-650-336-9510.

Please have your Serial Number available at the time of your call (the Serial Number is located inside the CD package).

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### Log File

You can record console output as a text log file. Attaching this file to the Problem Report (below) can speed up problem solving and customer support. The log file is created in the directory where the JavaPC software program(`javapc.exe`) resides. The log file will be labelled as `jpcllog.txt`. Old log files are saved with a BAK extension, such as `jpcllog.bak`.

*To append the log to an existing file:*

1. Use the command `javapc -djavapc.log` to run JavaPC. For example:
2. `C:\JAVAPC> javapc -djavapc.log`

*To create a new log file:*

1. Use the command `javapc -djavapc.log=new` to run JavaPC. For example:
2. `C:\JAVAPC> javapc -djavapc.log=new`

**Note:** You can also create a log file by adding the appropriate the `-djavapc.log` string to the `JAVAOS.INI` file.

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# JavaPC Software Problem Report

**JavaPC Release:**\_\_\_\_\_

**Target machine model and manufacturer:**\_\_\_\_\_

**Processor:**\_\_\_\_\_

**DOS Version:**\_\_\_\_\_

**RAM:**\_\_\_\_\_

**Video Card Type:**\_\_\_\_\_

**Network Card Type:**\_\_\_\_\_

**Problem Description:**\_\_\_\_\_

\_\_\_\_\_

**Can you reproduce the problem on the target machine?**\_\_\_\_\_

**What type of Network Drivers are you using?** (Packet Driver / Packet Driver SHIM over ODI / Packet Driver SHIM over NDIS) \_\_\_\_\_

**If the problem you are reporting is with your video screen configuration, please specify what version of VESA is supported by your video adapter:**

(VESA 1.1 / VESA 2.0 / Other)\_\_\_\_\_

**If the JAVAPC program reports on your screen a "Page Fault" or "Stack Fault", please copy from your screen the following values:**

EIP:

CS:

ESP:

SS:

DS:

**Is JavaPC configured to work with a DHCP server (NC configuration) or Stand-alone configuration?**

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**Please attach the following files from the target machine**

AUTOEXEC.BAT

CONFIG.SYS

JAVAOS.INI (from the javapc install directory)

If your installation is ODI please attach your NET.CFG.

If your installation is NDIS2 please attach your PROTOCOL.INI.

If additional batch file is used to load your Network Drivers (like STARTNET.BAT), please attach this file available.

