Data General
Data General Corporation, Westboro, Massachusetts 01580

Customer Documentation

NetWare® for AViiON® Systems: Utilities

069-000484-02

AViiON®
PRODUCT LINE

NetWare® for AViiON® Systems: Utilities

069–000484–02

For the latest enhancements, cautions, documentation changes, and other information on this product, please see the Release Notice (085–series) and/or Update Notice (078–series) supplied with the software.

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NetWare® for
AViiON® Systems:
Utilities
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DG/UX 5.4R3.00 and 5.4R3.00T
NetWare® 3.11 for AViiON®
Systems, Rev. 3.00

We list enhancements to this revision on the Summary of Changes page. These enhancements are *not* marked by change bars in the manual.

Summary of Changes

This revision of *NetWare® for AViiON® Systems: Utilities* describes the following enhancements to NetWare 3.11 for AViiON 3.00 Systems utilities:

- NVT.VLM is a new utility. NVT. EXE has been revised. These utilities let you emulate a UNIX® terminal on your PC workstation. Both utilities include new command options.
- *nwbackup* and *nwrestore* are new utilities that let you backup NetWare–specific file information and trustee rights before installation, and then restore this information afterward.
  Since installing NetWare 3.11 for AViiON 3.00 software on an existing system deletes this information, you must back it up before the installation.
  Both utilities include a command option to restrict the backup or restore to trustee rights only.
- *ulist* has new options ([–a], [–c] and [–o]) that modify the content or format of displayed information.
- *rprinter* has a new option ([–n]) that removes the trailing form feed from the end of a print job.

How to Use This Manual

This manual is your reference for NetWare® for AViiON® Systems utilities. Network supervisors use the utilities to maintain the network after installation. Network users use them to perform network tasks.

This manual uses abbreviated titles (shown in italics) when referring to other manuals in the NetWare for AViiON Systems document set, as follows:

Abbreviated title	Full title or Description
Administration	*NetWare® for AViiON® Systems: System Administration*
Concepts	*NetWare® for AViiON® Systems: Concepts*
DOS Client	DOS workstation documentation
Installation	*NetWare® for AViiON® Systems: Installation*
Macintosh Client	Macintosh workstation documentation
Messages	*NetWare® for AViiON® Systems: Troubleshooting and System Messages*
OS/2 Client	OS/2 workstation documentation
Print Server	*NetWare® for AViiON® Systems: Print Server*

You can find information on OS/2 and Macintosh utilities in their respective manuals. You received these manuals in your NetWare client software package.

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Four types of utilities

This manual contains explanations for four types of utilities: command line utilities, menu utilities, host utilities, and console utilities.

Command line utilities

This icon marks command line utilities. You execute command line utilities at the DOS command line. Using command line utilities, you can do such things as view lists of files, directories, file servers, users, and user rights; copy and print files; map network drives; grant and revoke trustee rights; and log in to and out of file servers. Some workstation command utilities have counterparts by the same name that run on the AViiON server. When this is the case, the description of the utility makes a note of it.

Command line utilities perform tasks directly, without leading you through menus and screens. If you are familiar with the command line utilities, they are faster and easier to use than the menu utilities.

Menu utilities

This icon marks menu utilities. You can perform most tasks by using either menu utilities or command line utilities. Some tasks, however, can be completed only with menu utilities. Some menu utility tasks can be performed only by supervisors or users who have SUPERVISOR equivalence or operator status. Some menu utilities run only on the workstation, and others have counterparts by the same name which run on the AViiON server. When this is the case, the description of the utility makes a note of it.

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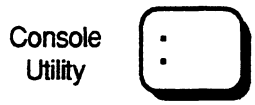
Host utilities

This icon marks host utilities, utilities that allow you to work with the AViiON server environment. These utilities are executed from a DG/UX command line and are case sensitive. Some utilities are menu-driven.

Console utilities



This icon marks console utilities, which work only with Native NetWare. You use console utilities from a workstation functioning as a server console. These utilities allow you to view and manipulate the server environment. We include them here as a courtesy for users in environments that include both Native NetWare and NetWare for AViiON Systems.

Command format

The command format displays the syntax for command line utilities. It appears at the beginning of each utility.

The following is an example of the command format for the REMOVE utility:

REMOVE [USER | GROUP] *name* [[FROM] *path*] [*option...*] <Enter>

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Conventions

The conventions for the previous example command format are explained in the following table.

Format Convention	Explanation
REMOVE	Words that appear in all capital letters must be spelled exactly as shown, in either upper- or lower-case letters.
path	Variables appear in italics. They should be replaced with the information pertinent to your task. In this case, *path* would be replaced with the path leading to and including the file you want to indicate, and you would replace *option* with any REMOVE options you want to specify. Options for each command are listed with the command. Options can often be abbreviated and are indicated by bold letters.
[ ]	Square brackets indicate that the enclosed item is optional: you can enter a command with or without it. In this case, *option* is optional.
...	Ellipses indicate that more than one *option* can be used with the command. In this case, more than one REMOVE option can be entered in the command.
|	A vertical bar means "either, or." You can use either the item to the left of the vertical bar or the item to the right, but not both.
[[ ]]	Nested square brackets indicate that all enclosed items are optional. However, if you use the items within the innermost brackets, you must also use the items within the outer brackets.
<Enter>	The angle brackets indicate that you should press the key whose name appears between them. Always press <Enter> after typing the command format for command line utilities.

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Wildcard characters

Wildcard characters (* and ?) are characters that DOS and NetWare recognize as universal replacements for any other character or set of characters. Wildcards can be used to search for groups of volumes, directories, or files, or they can be used to search for a particular file when you are unsure of its complete name.

For example, an asterisk (*) in a filename indicates that any character can occupy that position and all remaining positions in the filename. To search for all filenames with the extension .EXE in your default directory, type "NDIR *.EXE" and press <Enter> to display the list.

In contrast, a question mark (?) in a filename indicates that any character can occupy that position, and that position only. So, if you were to type "NDIR *.?", you would see a list of all files in your default directory with a single-character extension or no extension at all.

For more information about wildcard characters (global filename characters), see your DOS manual.

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Using menu utilities

Accessing a menu utility

To access a menu utility, type the utility's name at the DOS prompt and press <Enter>. The utility's main menu is displayed, along with a screen header.

Exiting a menu utility

There are two ways to exit a menu utility:

- Press <Escape> until an exit confirmation box appears. Then highlight Yes and press <Enter>.
- Press the Exit key (usually <Alt><F10>). Do not press the Exit key to exit a menu utility if you have made changes within the utility; if you do, the changes are not saved.

Additional information

Once you have accessed a menu utility and the main menu is displayed, you are ready to work. Menu utilities use certain keys to perform special functions and have certain standard components. This documentation uses some terms in specialized ways. The keys, components, and terms are described in the following three sections.

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Keys

The following keys are used to perform specific functions in the menu utilities.

Key	Function
F1	The F1 or Help key allows you to get help from anywhere within the menu utility. If you press the Help key once, a help screen that applies to the task you are currently working on appears. If you press the Help key twice, your computer's function key assignments are listed. Three screens contain function key assignments; press the PageDown key to see subsequent screens.
F5	The F5 or Mark key can be used with lists that allow you to mark multiple items for addition or deletion.
<Escape>	The Escape key has three functions: • If you are on a menu screen, pressing <Escape> allows you to return to a previous menu. • If you are at the main menu, pressing <Escape> causes an exit confirmation box to appear. By highlighting Yes and pressing <Enter>, you exit the menu utility and return to the DOS prompt. • If you are performing a process, pressing <Escape> allows you to continue.

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Menu windows

When you first access a menu utility, the main menu is displayed. Menus contain options you can choose from. Options can be selected one of two ways:

- You can use the arrow keys to highlight the option you want. Then press <Enter>.
- You can type the first letter of an option to highlight that option. If more than one option in the menu starts with the same letters, type enough additional letters to distinguish one option from the others. (For example, if both "Search" and "Select" are options, you need to type "Sel" to highlight "Select.") Once the option you want is highlighted, press <Enter>.

When you select an option from the main menu, additional windows appear on the screen. These windows either display information or allow you to enter information.

Select

Whenever this manual uses the term *select* in a procedure, choose the option you want by highlighting it and pressing <Enter>.

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ALLOW

Command Line Utility

Why use ALLOW?

Use ALLOW to view, set, or modify the Inherited Rights Mask of a directory or a file.

Setting or modifying the Inherited Rights Mask allows you (or a user who has the Access Control right) to block or add inherited rights that would otherwise remain unchanged through all levels of the directory structure. You can revoke a right by excluding that right when you use ALLOW.

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Command format

ALLOW [*path* [TO INHERIT] [*rightslist*]]

Parameter	Explanation
path	Replace *path* with the directory path or file whose Inherited Rights Mask you want to view, set, or modify. ALLOW supports wildcard characters.
rightslist	Replace *rightslist* with one or more of the following, or leave blank to view the Inherited Rights Mask: **ALL, Create, No Right, Erase, Supervisory, Modify, Read, File Scan, Write, Access Control** Type the full name or the bold abbreviation to designate each right. Insert a space between rights. An explanation of each right follows.

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Rights

Right	Explanation
ALL	Allows users all eight trustee rights.
Supervisory	Allows users all rights to the directory, its files, and its subdirectories. It overrides restrictions placed on subdirectories or files with an Inherited Rights Mask.
Read	Allows users to open and read files.
Write	Allows users to open and write to files.
Create	Allows users to create and write to files.
Erase	Allows users to delete a directory, its files, and its subdirectories.
Modify	Allows users to change directory and file attributes. Also allows users to rename the directory, its files, and its subdirectories.
File Scan	Allows users to see files in a directory.
Access Control	Allows a user to modify file or directory trustee assignments and Inherited Rights Masks. But users can grant only the rights they have been given.
No Right	Revokes all rights from the Inherited Rights Mask except the Supervisory right.

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Use ALLOW to revoke or to allow rights

Revoke rights

Suppose you have set the Inherited Rights Mask of USERS/SYS:FILES with Read, Write, and Create rights. However, you want to prevent users from writing to or creating files in your personal subdirectory, MINE.

As SUPERVISOR (or equivalent), use ALLOW to revoke the Write and Create rights in the Inherited Rights Mask of subdirectory MINE. To do this, allow only the Read right in the Inherited Rights Mask. Change to subdirectory MINE and type

```
ALLOW USERS/SYS:FILES/MINE TO INHERIT R <Enter>
```

Directory FILES retains Read, Create, and Write rights, but the modified Inherited Rights Mask for subdirectory MINE now prevents other users from writing to or creating files in your personal subdirectory.

Allow rights using wildcards

If you want to allow Read, Write, Erase, and Modify rights to all files with a similar extension, use ALLOW to set those rights. For example, to allow these rights to all files with the extension .FUN, type

```
ALLOW *.FUN R W E M <Enter>
```

All files with the extension .FUN inherit the Read, Write, Erase, and Modify rights.

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ATOTAL
(Accounting Services TOTAL)

Command Line Utility

Why use ATOTAL?

Use ATOTAL to total the use of accounting services on your network. Accounting must be installed on your file server.

Command format

ATOTAL

Additional information

ATOTAL compiles information from the system accounting records and lists the following:

- Connect time in minutes
- Service requests
- Blocks read
- Blocks written
- Disk storage in blocks per day

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View a summary of the network accounting services

Change to the SYS:SYSTEM directory or map a search drive to it.

Type

ATOTAL <Enter>

You see the following message:

```
Processing accounting records...
```

The accounting records are processed, and the daily and weekly totals for each service are listed.

Redirect ATOTAL data to a file and print a copy

ATOTAL generates a large amount of data. You can redirect the output to a file to make it more accessible.

Redirect ATOTAL data

To redirect ATOTAL data to a file, use the DOS redirection feature. Type

ATOTAL > *filename* <Enter>

Print the ATOTAL data file

To print the file, type

NPRINT *filename* <Enter>

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ATTACH

Command Line Utility

Why use ATTACH?

Use ATTACH to access another file server while remaining logged in to your current file server.

Command format

ATTACH [*fileserver*[*/name*]]

Parameter	Explanation
fileserver	Replace *fileserver* with the name of the file server you want to attach to.
name	Replace *name* with the username you want to use on that file server. If you do not specify the file server name and username, you are prompted to enter each one individually.

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Additional information

You must be logged in to a file server before you can use ATTACH to access additional file servers. Use WHOAMI to verify that you are logged in to a file server.

Although ATTACH connects you to a file server, it does not create a drive mapping to that file server. To map a network drive to a directory on the newly attached file server, use MAP or SESSION.

The usage screen for ATTACH includes the options [/Private] and [/Global]. These options apply to OS/2 software, but not to NetWare functionality. Consult your OS/2 documentation, if necessary.

Access additional file servers

You can use ATTACH from any network drive or local drive. Suppose you are user TERRY on file server MKTG and you want to attach to file server ACCT.

Type

ATTACH ACCT/TERRY <Enter>

If a password is required, the following prompt appears:

```
Password:
```

Once you enter your password, a message similar to the following appears:

```
You are attached to server ACCT.
```


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BNETX
(Burst NETX)

Command Line
Utility

See the NETX section of this manual.

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CAPTURE

Command Line Utility

Why use CAPTURE?

Use CAPTURE to do the following:

- Print screen dumps
- Save data to a network file
- Print to a network printer from an application not designed to run on a network

Command format

CAPTURE [*option...*]

CAPTURE works for up to 255 copies. For a complete explanation of CAPTURE, see *Print Server*.

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CASTOFF
(BroadCAST OFF)

Command Line Utility

Why use CASTOFF?

Use CASTOFF to block messages sent from network stations.

Command format

CASTOFF [All]

Include All to block messages from all network stations, including the file server console.

Additional information

Before starting a process that can run unattended on a workstation (such as compiling, recalculating, and remote hookup), use CASTOFF to prevent other stations from interrupting the process.

Use CASTON to allow messages.

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Block messages sent from other network stations

Block messages from workstations

To prevent messages sent by other workstations from reaching your workstation, type

CASTOFF <Enter>

The following message appears:

```
Broadcasts from other stations will now be rejected.
```

Block messages from all network stations

To prevent messages sent by workstations and the file server console from reaching your workstation, type

CASTOFF ALL <Enter>

or

CASTOFF A <Enter>

The following message appears:

```
Broadcasts from the console and other stations will now be
rejected.
```


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CASTON
(BroadCAST ON)

Command Line Utility

Why use CASTON?

Use CASTON to allow your workstation to again receive messages from other network users after you have used CASTOFF.

Command format

CASTON

Allow your workstation to receive messages

To allow your workstation to receive messages from other stations, type

CASTON <Enter>

The following message appears:

```
Broadcast messages from the console and other stations will now
be accepted.
```

When a network station receives a message, the station cannot execute any further instructions until the message is cleared. Clear the message by pressing <Ctrl><Enter>.

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CHKDIR
(CHecK DIRectory)

Command Line Utility

Why use CHKDIR?

Use CHKDIR to view information about a directory and a volume.

Command format

CHKDIR [*path*]

Replace *path* with any directory path leading to and including the directory you want to check, or leave it blank to check the current directory.

Additional information

CHKDIR displays the following information:

- The maximum storage capacity of the volume in kilobytes and the maximum storage capacity of the specified directory, if a restriction has been placed on the directory
- The number of kilobytes currently in use on the volume and in the specified directory
- The number of kilobytes available on the volume and in the specified directory

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View information about your directories and volumes

Check your default directory

Type

CHKDIR <Enter>

Information similar to the following appears:

```
Directory Space Limitation Information For:
COUNT/SYS:SYSTEM

Maximum         In Use          Available
17,600K         5,756K          11,844K   Volume Size
39,652K         8,776K          30,876K   \SYSTEM
```

Check directories on your default volume

Suppose file server COUNT has two directories on volume SYS, SYSTEM and ACCT, and drive P is mapped as follows:

Drive P: = COUNT/SYS:SYSTEM

To view information about SYSTEM, type

CHKDIR COUNT/SYS:SYSTEM <Enter>

or

CHKDIR SYSTEM <Enter>

or

CHKDIR P: <Enter>

Substitute ACCT for SYSTEM to view information about directory ACCT.

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Check a directory not in your default volume

If your default volume is SYS and you want to view information about directory SALES on volume MKTG, type

```
CHKDIR COUNT/MKTG:SALES <Enter>
```

If you have a drive letter mapped to directory SALES on volume MKTG, you can use CHKDIR with the drive letter. Suppose the drive letter is J. Type

```
CHKDIR J: <Enter>
```

You see the directory and volume information for directory SALES on volume MKTG.

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CHKVOL
(CHecK VOLume)

Command Line Utility

Why use CHKVOL?

Use CHKVOL to view information about a volume.

Command format

CHKVOL [*path*]

Replace *path* with any path leading to and including the file server and volume you want to check, or leave it blank to check the current volume.

Additional information

CHKVOL displays the following information (space values are given in kilobytes):

- The name of the file server on which the volume is located
- The volume name
- The total volume space
- The space used by files (including file data, information in the File Allocation Table, and information in the directory table)
- The space remaining on the volume

CHKVOL supports wildcard characters.

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NOTE

"Space available to USER" shows the amount of additional volume space you can use, provided you have rights to work in directories on the volume.

Use RIGHTS to see if you have rights to create or write to files in a particular directory.

View information about your default volume

View your volume information by typing

CHKVOL <Enter>

Information similar to the following appears:

```
Statistics for fixed volume COUNT/SYS:

Total volume space:      20,000 K Bytes
Space used by files:      5,344 K Bytes
Space in use by deleted
    files:               13,344 K Bytes
Space available from
    deleted files:       13,344 K Bytes
Space remaining on
    volume:              14,656 K Bytes
Space available to
    USER:                14,656 K Bytes
```


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View information about any volume on your file server

Suppose your default file server COUNT has two volumes, SYS and ACCT. Also suppose drive P is mapped as follows:

Drive P: = COUNT/ACCT:PROGRAMS

To view information about volume ACCT, type

CHKVOL ACCT: <Enter>

or

CHKVOL P: <Enter>

View information about volumes on other file servers

Before you can use CHKVOL to check a volume on a file server other than your default server, you must be attached to that server. (See ATTACH.)

Suppose your default file server is COUNT, and you want to view information about volume SYS on server SALES. Do the following.:

First, use ATTACH to attach to server SALES. Then, type

CHKVOL SALES/SYS: <Enter>

View information about several volumes

You can use one CHKVOL command to view information about more than one volume. If you want to view volume information about two volumes on two different file servers, you must be attached to both file servers. As you type the command, leave a space before each *path* that you identify.

For example, type the following command to view information about volume SYS on server SALES (identified by SALES/SYS) and volume SYS on server MFG (identified by MFG/SYS):

CHKVOL SALES/SYS: MFG/SYS: <Enter>

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Use wildcard characters

You can use wildcard characters (* and ?) in CHKVOL commands. For example, type the following command to view information for all volumes on all file servers you are attached to:

```
CHKVOL */* <Enter>
```

The first asterisk represents all file servers you are attached to. The second asterisk represents all volumes.

Type the following command to view information for all the volumes on your default file server:

```
CHKVOL * <Enter>
```

One question mark (?) in a CHKVOL command stands for all your drive letters:

```
CHKVOL ? <Enter>
```

Use this command to view information for all volumes your network drives are mapped to.

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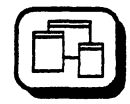
COLORPAL
(COLOR PALette)

Menu Utility



Why use COLORPAL?

Use COLORPAL to select colors for your menu screens. COLORPAL works for all the NetWare menu utilities (including menus you create with MENU). Each color scheme is called a palette. For menus you create with the MENU utility, you define which palettes affect which windows. NetWare menu utilities use five palettes for the following windows of the display.

Palette	Affected NetWare menu windows
0	Lists, menus, normal text
1	Main headers and screen background
2	Help screens
3	Error messages
4	Exit and alert portals

Each palette defines the color for five window attributes.

Window attribute	Affected fields
Background Normal	Field behind window text
Background Reverse	Highlight bar
Foreground Intense	Active option text and border
Foreground Normal	Normal text and borders
Foreground Reverse	Text in the highlight bar

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Define an attribute's color by selecting from the following options.

Attributes	Colors
Background (normal and reverse)	Black, blue, brown, cyan, dark gray, green, intense white, light blue, light cyan, light green, light magenta, light red, magenta, red, white, yellow
Foreground (normal, intense, reverse)	Black, blue, brown, cyan, green, magenta, red, white

Any user can

- Change the colors of the palettes that already exist.
- Add new color palettes.
- Delete unwanted color palettes.

IMPORTANT ⚠

If you have a COMPAQ® or AT&T® 6300 computer (or any computer that runs a monochrome monitor from a composite color adapter), you may have trouble reading your menu screens until you change the default color palettes or modify your current color palettes. For more information about this menu screen problem and how to fix it, see "Change the default color palettes for non-IBM computers."

Additional information

NetWare's default color palettes are set to blue, yellow, and white.

You cannot change the default setting for one utility only; any change you make affects every menu utility on the system.

You can create your own color palettes for custom menus, as explained under "Create new color palettes."

The color palettes defined in COLORPAL affect both color and monochrome monitors, as explained in the following two sections.

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How COLORPAL affects color monitors

On a color monitor, your menus appear in blue and white when you run any NetWare menu utility, unless the supervisor changes the IBM$RUN.OVL file in SYS:PUBLIC.

IMPORTANT

Only the system supervisor should make changes to the IBM$RUN.OVL file in SYS:PUBLIC. Changes made to it affect all color monitors on the network (unless the short machine type in the SHELL.CFG file for one or more computers is something other than IBM).

How COLORPAL affects monochrome monitors

COLORPAL does not affect monochrome monitors in most cases. However, some non-IBM computers with monochrome monitors that run on composite color adapters may be affected by COLORPAL's default settings. This happens on AT&T 6300 computers and some COMPAQ computers. Menu screens may not be readable unless you change the default color palettes.

The CMPQ$RUN.OVL file, located in SYS:PUBLIC, contains default color palettes (set to black and white) that you should use if your monitor is unreadable. You can use these defaults by changing the short machine type in the SHELL.CFG file to "CMPQ." (The SHELL.CFG file contains information that the shell uses to set shell options.)

If you need to change the short machine type, see "Change the short machine type in the SHELL.CFG file." If you don't want to change the short machine type, you can change the default color palettes to black and white with COLORPAL.

Run COLORPAL

Create your own color defaults by using COLORPAL in any directory other than SYS:PUBLIC.

Action	Explanation
1. Access COLORPAL from a network directory.	You need Read, Write, Create, and Erase rights in the directory. When you access COLORPAL from a directory other than SYS:PUBLIC, the IBM$RUN.OVL file is copied from SYS:PUBLIC into that directory. For example, if your home directory is F:\SYS:HOME\JODI, change to drive F and run COLORPAL. The new IBM$RUN.OVL file is saved on drive F.
2. Change the color palettes.	See "Create new color palettes." Changes you make in COLORPAL are saved in the new IBM$RUN.OVL file.
3. Map your first search drive to the directory containing the new IBM$RUN.OVL file.	The file is a hidden file and does not appear in directory searches. For example, map your first search drive to your home directory by inserting the following line into your personal login script: `MAP INS S1:=`*`FILE_SERVER_NAME`*`/SYS:HOME/JODI`
4. Run the menu utilities from any drive.	Whenever you run a menu utility, the system looks for the IBM$RUN.OVL file in your first search drive. However, if your first search drive is mapped to SYS:PUBLIC, the system defaults are used instead of the defaults you set.

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Change the default color palettes

Change your default color palettes by using COLORPAL in any directory other than SYS:PUBLIC.

Action	Explanation
1. Ensure that the IBM$RUN.OVL or CMPQ$RUN.OVL file in the SYS:PUBLIC directory is flagged Normal.	You must have Read, Write, and Erase rights to modify this file.
2. Enter COLORPAL.	The "Defined Palettes" menu is displayed, listing palettes 0 through 4 and any other palettes you have defined.
3. Select the default palette you want to change.	The "Edit Attribute" and "Current Palette" windows appear. The "Current Palette" window shows how the current settings look.
4. Select the attribute you want to change from the "Edit Attribute" menu.	The "Select Color" window appears, with the current color highlighted.
5. Select the new color.	The "Current Palette" window reflects any color changes you make. Repeat Steps 2 through 5 to change as many color attributes in the default palette as you want. If you want to change to black and white screens with good contrast, select the following: Background Normal = Black Background Reverse = White Foreground Intense = Intense white Foreground Normal = White Foreground Reverse = Black
6. To exit the program, press <Escape> until you see the "Save Changes" prompt. Select Yes to save the changes or No to discard them.	The "Exit ColorPal" confirmation box appears.
7. Select Yes to exit.	

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Change the default color palettes for non-IBM computers

NetWare's default color palettes, which are set to blue and white, affect all NetWare menu utilities run on monitors connected to color adapters. The default color palettes work with color monitors. When a monochrome monitor is connected to a composite color adapter, the default foreground and background colors appear with the same intensity, and the monitor display is unreadable. This problem generally occurs on COMPAQ and AT&T 6300 computers.

NetWare v2.1 and above includes a file called CMPQ$RUN.OVL in the SYS:PUBLIC directory, which contains black and white default color palettes. Use these defaults for computers that have problems using the blue and white defaults.

If you have a computer that runs a monochrome monitor from a composite color adapter and menu screen displays appear on your screen with little or no contrast, you can solve the problem by completing any one of the following:

- Change the short machine type specified in the SHELL.CFG file to CMPQ.
- Change the prefix of the CMPQ$RUN.OVL file to match the short machine type (such as AT&T).
- Change the default color palettes to black and white using COLORPAL.

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Change the short machine type in the SHELL.CFG file

If you change a workstation's short machine type (in a SHELL.CFG file on the boot disk) from "IBM" to "CMPQ," the computer then accesses the CMPQ$RUN.OVL file (with the black and white color palette defaults) when you run NetWare menu utilities.

Action	Explanation
1. To change the short machine type, make sure the following line is in the SHELL.CFG file: `SHORT MACHINE TYPE = CMPQ`	If you do not have a SHELL.CFG file on your boot diskette, you can create one by following the instructions in *Installation*.
2. If you are upgrading and you plan to continue using the NetWare Electronic Mail utility, copy the following files in the SYS:PUBLIC directory: IBM$EMS.OVL to CMPQ$EMS.OVL IBM$EMS.HLP to CMPQ$EMS.HLP IBM$DRV.OVL to CMPQ$DRV.OVL	

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Change the prefix of the CMPQ$RUN.OVL file

You can change the prefix of the CMPQ$RUN.OVL file to match your short machine type. For example, you could change the file to AT&T$RUN.OVL if your short machine type is AT&T in your SHELL.CFG file.

Action	Explanation
1. Copy CMPQ$RUN.OVL to AT&T$RUN.OVL in the SYS:PUBLIC directory.	If you have more than one type of computer with a monochrome monitor attached to a composite color adapter, you can copy the CMPQ$RUN.OVL file again so that you have overlay files for each type of computer on your network. You must have Read, Create, and Erase rights in SYS:PUBLIC.
2. If you are upgrading and you plan to continue using the NetWare Electronic Mail utility, you must also copy the following files: IBM$EMS.OVL to AT&T$EMS.OVL IBM$EMS.HLP to AT&T$EMS.HLP IBM$DRV.OVL to AT&T$DRV.OVL	

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Create new color palettes

Although NetWare utilities use color palettes 0 through 4, you can create new color palettes for your customized menus.

Action	Explanation
1. Enter COLORPAL.	The "Defined Palettes" menu is displayed. NetWare-supplied menus use these palettes.
2. Press <Insert>.	Color palette 5 is added to the list of defined palettes. You can add several palettes this way. For example, if you press <Insert> three times, the list of palettes increases by three. The new palettes have default attribute colors. To change those colors, see "Change the default color palettes."
3. To use your own color palettes with the menus you create with the MENU program, see the MENU utility section in this manual.	

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Delete color palettes

Color palettes 0 through 4 are used by NetWare. Palette 0 cannot be deleted, but you can delete any other palatte.

Action	Explanation
1. Enter COLORPAL.	The "Defined Palettes" menu is displayed, listing any palettes that you have defined. Color palettes 0 through 4 are used by NetWare.
2. Highlight the palette you want to delete and press <Delete>.	The "Delete Palette" confirmation box appears.
3. Select Yes to delete the palette.	
4. Exit COLORPAL.	To exit COLORPAL, press <Escape> until the "Save Changes" prompt appears. Answer Yes to save the changes or No to discard them. The "Exit Colorpal" confirmation box then appears. Select Yes to exit.

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COMCHECK
(COMmunications CHECK)

Command Line Utility

Why use COMCHECK?

Use COMCHECK (found on the *DOS/DOS ODI WORKSTATION SERVICES* diskette) to test the communications between the file server and its workstations.

Command format

COMCHECK

Test network communications

Action	Explanation
1. Make sure at least three workstations are connected to the network.	
2. Make sure all connectors and terminators are secure.	A partial connection can cause a continual reconfiguration of the network that does not let the workstations communicate with the file server. A bad connection can also cause the network to hang or give the appearance that it is hanging.
3. Boot DOS on the workstation or file server.	
4. Type **IPX** <Enter> **COMCHECK** <Enter>	

(continued)

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Action	Explanation
5. Type a unique name at the "Unique User Information" prompt.	Select a name that distinguishes this station from others. A window similar to the following appears: Netwk. Node User Yr Mo Dy Hr MnSc* 0000000 00000110 Doug 94/12/7 09:36:45 * Network Displays 00000000 if the shell has not been loaded. Node Indicates the network board is communicating with the rest of the network. Unique User Shows the unique name you gave the current workstation. Yr Mo Dy Hr MnSc Indicates the current time and date. This entry is updated every 15 seconds to indicate that the board is still communicating. * Indicates that this station is the current workstation.
6. If the workstation does not show information similar to that shown in Step 5, replace the network cable and rerun COMCHECK.	
7. Repeat Steps 1 through 6 for the next workstation on the file server.	With each workstation added to COMCHECK, the window looks similar to the following: Netwk. Node User Yr Mo Dy Hr MnSc* 0000000 00000110 Doug 94/12/7 09:36:45 0000000 00000FA1 Judy 94/12/7 09:36:45 0000000 0000002A Server 94/12/7 09:36:45

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Action	Explanation
8. If there is only one workstation on the screen when there should be more, boot an additional workstation (Steps 1 through 5). If the new workstation is displayed, replace the network board and cable of the one not being displayed.	
9. If you see all the workstations that share the same network cabling but you can't see any other workstations, check the cabling and connectors that join this group to the network trunk.	

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DCONFIG
(Driver CONFIGuration)

Command Line Utility

Why use DCONFIG?

If you are not using ODI, use DCONFIG (found on the *DOS/DOS ODI WORKSTATION SERVICES* diskette) to change the configuration option of the IPX.COM shell file to match the configuration setting of the network board in the workstation.

Command format

DCONFIG IPX.COM SHELL:,*number*

Replace *number* with the configuration option number for the network board.

Change the configuration option of the IPX.COM file

Action
1. At the workstation, change your default directory to the directory containing the boot files.
2. To view the current configuration for the IPX.COM file, type **IPX I** <Enter>
3. Insert the *DOS/DOS ODI WORKSTATION SERVICES* diskette into drive A.
4. To change to another option, such as option 4, type **A:DCONFIG IPX.COM SHELL:,4** <Enter>

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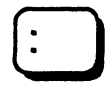
DISPLAY NETWORKS

Console Utility



Why use DISPLAY NETWORKS?

Use DISPLAY NETWORKS to list all networks and assigned network numbers that the file server router recognizes. All network numbers (internal and cabling system) are listed.

To see a list of servers on the network, use DISPLAY SERVERS.

Command format

DISPLAY NETWORKS

Display a list of networks

To display a list of networks, type

DISPLAY NETWORKS <Enter>

The list shows the following:

- The IPX network number
- The number of hops (networks that must be crossed) to reach the network
- The estimated time in ticks (1/18 of a second) for a packet to reach the network
- The number of known networks

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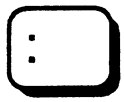
DISPLAY SERVERS

Console Utility



Why use DISPLAY SERVERS?

Use DISPLAY SERVERS to list all servers that the file server router recognizes.

To see a list of networks, use DISPLAY NETWORKS.

Command format

DISPLAY SERVERS

Display a list of file servers

To display a list of file servers, type

DISPLAY SERVERS <Enter>

The list shows the server's name and the number of hops (networks that must be crossed) to reach the server. The number of known servers is displayed at the end of the list.

If your file server's name does not appear, the SYS volume is not mounted or the server is not configured correctly.

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DOSGEN

(**DOS** Remote Image File **GEN**eration)

Command Line Utility

Why use DOSGEN?

Use DOSGEN to allow DOS workstations to boot from remote boot image files on the file server's hard disk rather than from a boot diskette in a local drive.

Command format

DOSGEN

Additional information

For additional information on DOSGEN, see "NetWare Workstation for DOS" in *Installation*.

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DROUTER
(Display ROUTER)

Command Line Utility

Why use DROUTER?

Use DROUTER to display the routing table of IPX.

Command format

DROUTER [-1] [-C] [-H]

Command options

[-1]
Include this option to specify single column mode.

[-C]
Include this option to specify multi-column mode (default).

[-H]
Include this option to display a help message.

Additional information

The following output is an example of the routing table of IPX in multi-column mode.

```
NET       HOPS  TIME  NODE          NET       HOPS  TIME  NODE

80DD0100  0001  0002  000077018791  80DD0200  0002  0003  00000C01EAF6
80DDfE42  0004  0005  000077018791  80DDFE47  0003  0004  00000C01EAF6

END OF TABLE     4 Known networks
```


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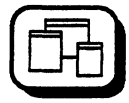
DSPACE
(Disk SPACE)

Menu Utility



Why use DSPACE?

Use DSPACE to do the following:

- List and change current file server attachments
- View user disk space limitation information
- View directory disk space limitation information

The tasks in DSPACE are organized according to the "Available Options" menu:

```
Available Options

Change File Server
User Restrictions
Directory Restrictions
```

NOTE

DSPACE is not supported on NetWare for AViiON Systems because there are no disk space limitations.

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List and change current file server attachments

While you are in DSPACE, you can list or change your current file server attachments.

Action
1. Select "Change File Server" from the "Available Options" menu to see the list of file servers.
2. Press <Insert> to list the file servers you can attach to.
3. To attach to a server, highlight the server name and press <Enter>.
4. To delete a file server attachment, highlight the name of the file server and press <Delete>.

View user disk space limitation information

To view user disk space limitation information, complete the following:

Action	Explanation
1. Enter DSPACE and select "User Restrictions" from the Available Options" menu.	You see a list of the users for the current file server.
2. Select a user.	You see a list of the volumes for the current server.
3. Select a volume.	You see the "User Disk Space Limitation Information" window. This information cannot be changed using DSPACE.

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View directory disk space limitation information

To view directory disk space limitation information, complete the following:

Action	Explanation
1. Enter DSPACE and select "Directory Restrictions" from the "Available Options" menu.	You see the "Directory for Space Restriction Information" menu, showing the current file server and volume name.
2. Enter the directory path.	If you know the full directory path, type it. If you do not know the full directory path, press <Insert> to select the path from the "Network Directories" menu. If the directory is on a different volume, delete the current volume and insert the new volume and directory path. The "Directory Disk Space Limitation Information" menu appears. This information cannot be changed using DSPACE.

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ECONFIG
(Ethernet **CONFIG**uration)

Command Line Utility

Why use ECONFIG?

If you are not using ODI, use ECONFIG to configure the IPX.COM file to use either the standard Ethernet or the IEEE 802.3 frame format. If you use the standard Ethernet frame format, ECONFIG allows you to specify a protocol type number.

ECONFIG embeds a protocol number in the workstation shell file IPX.COM.

Command format

To view your Ethernet configurations:

[*drive1:*] ECONFIG *drive2:* IPX.COM

To configure the workstation shell:

[*drive1:*] ECONFIG *drive2:* IPX.COM SHELL:*frame* [*protocolnumber*]

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Parameters

The following table describes the ECONFIG parameters.

Parameter	Description
drive1:	The drive letter indicating the *WSGEN* diskette, where ECONFIG.EXE is located.
drive2:	The drive letter indicating where the IPX.COM file is located.
frame	N (NetWare) if the driver uses the IEEE 802.3 standard frame format. E (Ethernet II) if the driver uses the Ethernet II standard frame format.
ProtocolNumber	You can specify any number that is registered with your file server. The default is Novell's IPX protocol number (8137).

Additional information

If you need more information about Ethernet cabling systems, see **Ethernet configuration** in *Concepts*.

If you need to configure router LAN drivers for Ethernet II, see "Router Installation and Management" in the *Installation* manual.

View your current Ethernet shell configurations

Suppose the *WSGEN* diskette containing ECONFIG.EXE is in drive A and your IPX.COM file is located on drive B. To view the current Ethernet configuration for IPX.COM, type

A:ECONFIG B:IPX.COM <Enter>

If the shell file is Ethernet configurable but has not been configured, a message similar to the following appears:

```
SHELL: Novell Ethernet   (IEEE 802.3 compatible)
```

If the shell file has been configured with ECONFIG, a message similar to the following appears:

```
SHELL:   Ethernet Typefield:  8137 (Assigned Novell type
constant)
```


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Configure the workstation shell

Complete the following steps to configure the NetWare workstation shells and embed the unique NetWare protocol number.

Action	Explanation
1. Insert the *WSGEN* diskette containing ECONFIG.EXE into drive A and the diskette containing the IPX.COM file you want to configure into drive B.	
2. To embed NetWare's protocol number 8137 in the IPX.COM file, type **A:ECONFIG B:IPX.COM SHELL:E** <Enter>	A message similar to the following appears: `SHELL: Ethernet Typefield: 8137 (Assigned Novell type constant)` Note that the shell and the OS drivers must be configured to the same network address for the workstation and file server to communicate.

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EMSNETX
(Expanded Memory Shell NETX)

Command Line
Utility

See the NETX section of this manual.

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ENDCAP
(END CAPture)

Command Line
Utility

Why use ENDCAP?

Use ENDCAP to end the capture of one or more of your workstation's LPT (local parallel printing) ports. You can also use ENDCAP to send data to a network printer or file. (Always use CAPTURE before using ENDCAP; see CAPTURE.)

Command format

ENDCAP [*option ...*]

For a complete explanation of ENDCAP, see *Print Server.*

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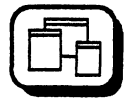
FILER

Menu
Utility



Why use FILER?

Use FILER to control volume, directory, and file information, and to change directory and file security.

Users who do not have SUPERVISOR equivalence do not have access to certain FILER options.

The tasks in FILER are arranged according to the "Available Topics" menu:

```
Available Topics

Current Directory Information
Directory Contents
Select Current Directory
Set Filer Options
Volume Information
```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Main menu item	Task	Page
Current Directory Information	View and modify the directory's owner, creation date, and time	58
	View directory's effective rights	59
	View, add, or delete directory attributes	59
	View, revoke, or grant rights in the Inherited Rights Mask	60
	View, add, or delete user or group trustees	61
	View, revoke, or grant user or group trustee rights	62
Directory Contents	View or modify the current directory and its subdirectories	63
	Delete subdirectories and files	65
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Set Filer Options	Set confirm-file-deletions option	105
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	Preserve file attributes	108
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	Add, delete, or modify an include file pattern	114
	Add or delete file search attributes	115
	Add or delete directory search attributes	117
Volume Information	View volume information	118

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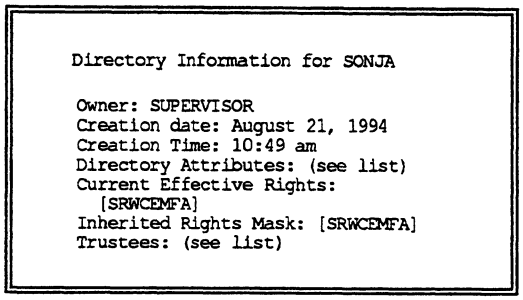
Current Directory Information

Use the "Current Direction Information" option to view or modify the current directory.

View and modify the directory's owner, creation date, and time

Users must have SUPERVISOR equivalence.

To view the current directory's owner, creation date, and time, complete the following steps.

Action	Explanation
1. Enter FILER and select "Current Directory Information" from the "Available Topics" menu.	The following screen appears: 
2. To modify the directory's owner, select "Owner" in the "Directory Information" window.	The "Known Users" window appears. Select the user you want to change to.
3. To modify the directory's creation date or time, select "Creation Date" or "Creation Time" in the "Directory Information" window. Type the new information.	

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View directory's effective rights

Action	Explanation
Enter FILER and select the "Current Directory Information" option from the "Available Topics" menu.	The "Directory Information" window appears, displaying the current effective rights.

View, add, or delete directory attributes

Users must have the Modify right.

Action	Explanation
1. Enter FILER and select "Current Directory Information" from the "Available Topics" menu.	
2. Select "Directory Attributes" in the "Directory Information" window.	The "Current Flags" window appears, displaying the directory's attributes.
3. To add or delete an attribute, complete the steps in one of the following two tables.	

Add an attribute

Action	Explanation
1. Press <Insert> at the "Current Flags" window to view the directory's "Other Search Attributes."	
2. Select the attribute you want to add; then press <Enter>.	To add more than one attribute, mark each attribute by highlighting it and pressing the Mark key (<F5>); then press <Enter>.

Delete an attribute

Action	Explanation
Highlight the attribute you want to delete and press <Delete>.	To delete multiple attributes, mark each attribute by highlighting it and pressing the Mark key (<F5>); then press <Delete>.

View, revoke, or grant rights in the Inherited Rights Mask

Users must have the Access Control right.

Action	Explanation
1. Enter FILER and select "Current Directory Information" from the "Available Topics" menu.	
2. Select "Inherited Rights Mask."	The "Inherited Rights" window appears, displaying the directory's inherited rights.
3. To revoke or grant a right, complete the steps in one of the following two tables.	

Revoke a right

Action	Explanation
Highlight the right you want to revoke and press <Delete>.	To revoke more than one right, mark each right by highlighting it and pressing the Mark key (<F5>); then press <Delete>.

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Grant a right

Action	Explanation
Press <Insert> and select the right you want from the "Other Rights" window; then press <Enter>.	To grant more than one right, mark each right by highlighting it and pressing the Mark key (<F5>); then press <Enter>.

View, add, or delete user or group trustees

Users must have the Access Control to add or delete user or group trustees.

Action
1. Enter FILER. Select "Current Directory Information" from the "Available Topics" menu.
2. Select "Trustees" to view the current directory's trustees and trustee rights.
3. Press <Insert> to view a list of other users and groups defined on your file server.
4. To add or delete user or group trustees, complete the steps in one of the following two tables.

Add a new user or group trustee

Action	Explanation
Select the user or group you want to add; then press <Enter>.	To add more than one user or group, mark each by highlighting it and pressing the Mark key (<F5>); then press <Enter>.

Delete a user or group trustee

Action	Explanation
Highlight the user or group you want to delete; then press <Delete>.	To delete more than one user or group, mark each by highlighting it and pressing the Mark key (<F5>); then press <Delete>.

View, revoke, or grant user or group trustee rights

Users must have the Access Control.

Action
1. Enter FILER. Select "Current Directory Information" from the "Available Topics" menu.
2. Select "Trustees" to view the current directory's trustees and trustee rights.
3. To view the "Trustee Rights" window, press <Enter>.
4. To revoke or grant user or group trustee rights, complete the steps in one of the following two tables.

Revoke a right

Action	Explanation
Highlight the right you want to revoke; then press <Delete>.	To revoke more than one right, mark each right by highlighting it and pressing the Mark key (<F5>); then press <Delete>.

Grant a right

Action	Explanation
Press <Insert> and select the right you want to grant; then press <Enter>.	To grant more than one right, mark each right by highlighting it and pressing the Mark key (<F5>); then press <Enter>.

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Directory contents

Use the "Directory Contents" option to complete the following tasks.

Mark a directory structure to be copied

Action
1. Enter FILER and select "Directory Contents" from the "Available Topics" menu.
2. Mark the directory structure to be copied by highlighting it and pressing the Mark key (<F5>).
3. Press <Enter>

Change the ownership of a directory structure

Action	Explanation
1. Select "Owner" in the "Directory Information" window.	The "Known Users" window appears.
2. Select the user you want to change to by highlighting it; then press <Enter>).	

View or modify the current directory and its subdirectories

To view or modify the current directory and its subdirectories, complete the steps in one of the following five tables.

View directory contents

Action	Explanation
Enter FILER and select "Directory Contents" from the "Available Topics" menu.	The "Directory Contents" window appears, listing all subdirectories and files.

Change the current directory path

Action
1. Enter FILER and select "Directory Contents" from the "Available Topics" menu.
2. Press <F2> to bring up the "Current Directory Path" window.
3. Delete information you don't want and then type in the path, or press <Insert> to bring up a series of menus from which you can choose your path.
4. After you select your directory path, press <Escape> to bring your cursor back to the "Current Directory Path" window.
5. Press <Enter>.

Make parent directory your current directory

Action
1. Enter FILER and select "Directory Contents" from the "Available Topics" menu.
2. Select the parent directory from the "Directory Contents" window.
3. Select Yes in the confirmation box.

Make root directory your current directory

Action
1. Enter FILER and select "Directory Contents" from the "Available Topics" menu.
2. Select the root directory from the "Directory Contents" window.
3. Select Yes in the confirmation box.

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Create a new subdirectory

Users must have the Create right.

Action
1. Enter FILER and select "Directory Contents" from the "Available Topics" menu.
2. Press <Insert>; then type in the name of the new subdirectory.

Delete subdirectories and files

Users must have the Erase right.

To delete subdirectories and files, complete the steps in one of the following three tables.

Delete entire subdirectory structure

Action
1. Enter FILER and select "Directory Contents" from the "Available Topics" menu.
2. Highlight the subdirectory whose structure you want to delete and press <Delete>.
3. Select "Delete Entire Subdirectory Structure" from the "Delete Subdirectory Options" window.
4. Answer Yes in the confirmation box.

Delete subdirectory files only

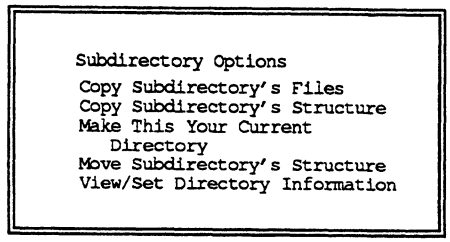
Action
1. Enter FILER and select "Directory Contents" from the "Available Topics" menu.
2. Highlight the subdirectory whose files you want to delete, and press <Delete>.
3. Select "Delete Subdirectory Files Only" from the "Delete Subdirectory Options" window. Answer Yes in the confirmation box.

Delete current directory's files

Action	Explanation
1. Enter FILER and select "Directory Contents" from the "Available Topics" menu.	
2. Highlight the file you want to delete from the "Directory Contents" window.	To delete more than one file, use the Mark key (<F5>) to highlight multiple files.
3. Press <Delete>.	
4. Answer Yes in the confirmation box.	

Use subdirectory options

If you selected "Directory Contents" from the "Available Topics" menu, you can use subdirectory options by selecting one of the subdirectories in your default directory. The following screen shows the options you have:



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Copy subdirectory's files

Users must have Read and File Scan rights in the directory they are copying from, and Create, Write, and Erase rights in the directory they are copying to.

Action	Explanation
1. Enter FILER and select "Directory Contents" from the "Available Topics" menu.	
2. Select the subdirectory you want to copy from the "Directory Contents" window.	The "Subdirectory Options" window appears.
3. Select "Copy Subdirectory's Files."	The "Copy Subdirectory To:" window appears.
4. To copy subdirectory files, complete the steps in one of the following three tables.	

Copy to a subdirectory in your current directory

Action	Explanation
1. Type in the name of the directory; then press <Enter>.	You can also use <Insert> to bring up the "File Servers/Local Drives" window, from which you can select your directory path by selecting file server, volume, and directory options.
2. Press <Escape> to bring your cursor back to the "Copy Subdirectory To:" window.	
3. Press <Enter>.	

Copy to a directory on another volume on your file server

Action	Explanation
1. Type in the name of the volume and directory; then press <Enter>.	You can also use <Insert> to bring up the "File Servers/Local Drives" window, from which you can select your directory path by selecting file server, volume, and directory options.
2. Press <Escape> to bring your cursor back to the "Copy Subdirectory To:" window.	
3. Press <Enter>.	

Copy to a directory on another file server

Action	Explanation
1. Press <Insert> to bring up the "File Servers/Local Drives" window.	
2. Press <Insert> again at the "File Server/Local Drives" window.	A list of "Other File Servers" is displayed.
3. Select the file server you want to attach to.	
4. Continue to select the file server, volume, and directory options by pressing <Enter>.	
5. After you select your directory path, press <Escape> to bring your cursor back to the "Copy Subdirectory To:" window.	
6. Press <Enter> to copy your subdirectory's files.	

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Log out of another file server

Action
1. Highlight the file server you want to log out of in the "File Server/Local Drives" window and press <Delete>.
2. Answer Yes in the confirmation box.

Copy subdirectory's structure

Users must have Read and File Scan rights in the directory they are copying from, and Create, Write, and Erase rights in the directory they are copying to.

Action	Explanation
1. Enter FILER and select "Directory Contents" from the "Available Topics" menu.	
2. Select the subdirectory structure you want to copy from the "Directory Contents" window.	The "Subdirectory Options" window appears.
3. Select "Copy Subdirectory's Structure."	The "Copy Subdirectory To:" window appears.
4. Complete the steps in one of the following three tables.	

Copy to a subdirectory in your current directory

Action	Explanation
1. Type in the name of the directory; then press <Enter>.	
2. Press <Escape> to bring your cursor back to the "Copy Subdirectory To:" window.	
3. Press <Enter>.	

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Copy to a directory on another volume on your file server

Action	Explanation
1. Type in the name of the volume and directory; then press <Enter>.	
2. Press <Escape> to bring your cursor back to the "Copy Subdirectory To:" window.	
3. Press <Enter>.	

Copy to a directory on another file server

Action	Explanation
1. Press <Insert> to bring up the "File Servers/Local Drives" window.	
2. Press <Insert> again at the "File Server/Local Drives" window.	A list of "Other File Servers" is displayed.
3. Select the file server you want to attach to.	
4. Continue to select the file server, volume, and directory options by pressing <Enter>.	
5. Press <Escape> to bring your cursor back to the "Copy Subdirectory To:" window.	
6. Press <Enter>.	

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Log out of another file server

Action
1. Highlight the file server you want to log out of in the "File Server/Local Drives" window and press <Delete>.
2. Answer Yes in the confirmation box.

Make subdirectory your current directory

Action	Explanation
1. Enter FILER and select "Directory Contents" from the "Available Topics" menu.	
2. Select the subdirectory you want to make your current directory.	The "Subdirectory Options" window appears.
3. Select "Make This Your Current Directory."	
4. Answer Yes in the confirmation box.	

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Move subdirectory's structure

Follow this procedure to move only the subdirectory's structure to another subdirectory on your current file server and volume.

Action	Explanation
1. Enter FILER and select "Directory Contents" from the "Available Topics" menu.	
2. Select the subdirectory whose structure you want to move.	
3. Select "Move Subdirectory's Structure" from the "Subdirectory Options" window.	The "Destination Directory" window appears.
4. Type the directory path.	You can also use <Insert> to bring up the "File Servers/Local Drives" window, from which you can select your directory path by selecting file server, volume, and directory options.
5. Press <Escape> to bring your cursor back to the "Destination Directory" window.	
6. Press <Enter> to move the subdirectory's structure.	The "New name" confirmation box appears.
7. To keep the current name, press <Enter>. To rename the subdirectory's structure, backspace to delete the current name; then type in the new name and press <Enter>.	

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View/set directory information

Action	Explanation
1. Enter FILER and select "Directory Contents" from the "Available Topics" menu.	
2. Select the subdirectory whose information you want to view/set.	The "Subdirectory Information" window for that directory appears. For a complete explanation on how to use the "Directory Information" window, see the section titled "Current Directory Information."

View who has rights here

Users must have the Supervisory right.

Action	Explanation
1. Enter FILER and select "Directory Contents" from the "Available Topics" menu.	
2. Select the subdirectory whose trustee rights you want to view.	The "Subdirectory Options" window appears.
3. Select "Who has rights here."	The subdirectory's trustees, trustee rights, and security equivalences are displayed.

Use file options

Users must have the Supervisory right to view who has rights in the file.

When you copy Macintosh files, both the resource and data forks are copied.

Copy file

Users must have Read and File Scan rights in the directory they are copying from, and Create, Modify, Write, and Erase rights in the directory they are copying to.

Action	Explanation
1. Enter FILER and select "Directory Contents" from the "Available Topics" menu.	
2. Select the file you want to copy from the "Directory Contents" window and press <Enter>.	The "File Options" window appears.
3. Select "Copy File."	The "Destination Directory" window appears.
4. To copy a file, complete the steps in one of the following three tables.	

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Copy to a subdirectory in your current directory

Action	Explanation
1. Type in the name of the directory; then press <Enter>.	The "Destination File Name" window appears.
2. If you want to change the name of the file you are copying, type the new name and press <Enter>. If not, just press <Enter>.	You can also use <Insert> to bring up the "File Servers/Local Drives" window, from which you can select your directory path by selecting file server, volume, and directory options.
3. Press <Escape> to bring your cursor back to the "Destination Directory" window.	
4. Press <Enter>.	

Copy to a directory on another volume on your file server

Action	Explanation
1. Type in the name of the volume and directory; then press <Enter>.	The "Destination File Name" window appears.
2. If you want to change the name of the file you are copying, type the new name and press <Enter>. If not, just press <Enter>.	You can also use <Insert> to bring up the "File Servers/Local Drives" window, from which you can select your directory path by selecting file server, volume, and directory options.
3. Press <Escape> to bring your cursor back to the "Destination Directory" window.	
4. Press <Enter>.	

Copy to a directory on another file server

Action	Explanation
1. Attach to the file server you want to copy files to.	
2. Type the name of the file server, volume, and directory; then press <Enter>.	The "Destination File Name" window appears.
3. If you want to change the name of the file you are copying, type in the new name and press <Enter>. If not, just press <Enter>.	

Attach to another file server

Action	Explanation
1. Press <Insert> to bring up the "File Servers/Local Drives" window.	
2. Press <Insert> again at the "File Server/Local Drives" window.	A list of "Other File Servers" is displayed.
3. Select the file server you want to attach to.	Continue to select the file server, volume, and directory options by pressing <Enter>.
4. Press <Escape> to bring your cursor back to the "Destination Directory" window.	
5. Press <Enter> to copy the file.	

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Log out of another file server

Action
1. Highlight the file server you want to log out of in the "File Server/Local Drives" window and press <Delete>.
2. Answer Yes in the confirmation box.

Move file

You can move a file to another directory or subdirectory only on your current file server and volume.

Action	Explanation
1. Enter FILER and select "Directory Contents" from the "Available Topics" menu.	
2. Select the file you want to move from the "Directory Contents" window and press <Enter>.	The "File Options" window appears.
3. Select "Move File."	The "Destination Directory" window appears.
4. Type the directory path, or use <Insert> to bring up menus from which to select your directory path.	
5. Select your options by pressing <Enter>.	
6. Press <Escape> to bring your cursor back to the "Destination Directory" window.	
7. Press <Enter> to move the file.	The "New name" confirmation box appears.
8. To keep the current name, press <Enter>. To rename the subdirectory's structure, backspace to delete the current name; then type in the new name and press <Enter>.	

View file

Action	Explanation
1. Enter FILER and select "Directory Contents" from the "Available Topics" window.	
2. Select the file you want to view from the "Directory Contents" window.	
3. Select "View File."	The file's contents are displayed.

View/set file information: effective rights and file size

Action	Explanation
1. Enter FILER and select "Directory Contents" from the "Available Topics" menu.	
2. Select the file whose effective rights and file size you want to view. Continue with Step 3 (next page).	

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Action	Explanation
3. Select "View/Set File Information."	The "File Information" screen for the file appears:

```
File Information for FILE1.DOT

Attributes: [Rw-A------]

Owner: SUPERVISOR

Inherited Rights Mask: [SRWCEMFA]
Trustees: (see list)
Current Effective Rights: [SRWCEMFA]

Owning Name Space: DOS
File Size: 21049 bytes
EA Size: 0 bytes

Short Name: FILE1.DOT

Creation Date:       August 1, 1994
Last Accessed Date: November 17, 1994
Last Archived Date: (NOT ARCHIVED)
Last Modified Date: November 17, 1994
```

If your file server is set up to support Macintosh files and folders, the "File Information" screen is similar to this:

```
File Information for HONORSPS

Attributes: [Rw-A------]

Owner: SUPERVISOR

Inherited Rights Mask: [SRWCEMFDA]
Trustees: (see list)
Current Effective Rights: [SRWCEMFDA]

Owning Name Space: Macintosh
File Size: 19461 bytes
EA Size: 0 bytes

Short Name: HONORSPS

Creation Date:       August 24, 1994
Last Accessed Date: November 20, 1994
Last Archived Date: November 17,1994
Last Modified Date: November 20, 1994
```


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View/set file information: attributes

Users must have the Modify right to add, delete, or modify file attributes.

Action	Explanation
1. Enter FILER and select "Directory Contents" from the "Available Topics" menu.	
2. Select the file whose attributes you want to view, add, or delete.	
3. Select "View/Set File Information."	The file's information is displayed.
4. To add or delete an attribute, complete the steps in one of the following two tables.	

Add an attribute

Action	Explanation
1. Select the "Attributes" list in the "File Information" screen.	The "Current File Attributes" window appears.
2. Press <Insert> to view "Other File Attributes."	
3. Select the attribute you want to add; then press <Enter>.	To add more than one attribute, mark each attribute by highlighting it and pressing the Mark key (<F5>); then press <Enter>.

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Delete an attribute

Action	Explanation
1. Select the "Attributes" list in the "File Information" screen.	The "Current File Attributes" window appears.
2. Highlight the attribute you want to delete and press <Delete>.	To delete more than one attribute, mark each attribute by highlighting it and pressing the Mark key (<F5>); then press <Delete>.
3. Answer Yes in the confirmation box.	

View/set file information: owner and dates

Users must have SUPERVISOR equivalence.

Action
1. Enter FILER and select "Directory Contents" from the "Available Topics" menu.
2. Select the file whose owner and dates you want to view or modify.
3. Select "View/Set File Information." The file's information is displayed.
4. To modify the file's owner or dates, complete the steps in one of the following two tables.

Modify file's owner

Action	Explanation
1. Select the current owner in the "File Information" screen.	The "Known Users" window appears.
2. Select the user you want to change to.	

Modify file's dates

Action
1. Select the date you want to modify in the "File Information" screen.
2. Type the new information.

View/set file information: Inherited Rights Mask

Users must have the Access Control right.

Action	Explanation
1. Enter FILER and select "Directory Contents" from the "Available Topics" menu.	
2. Select the file whose Inherited Rights Mask you want to view or change.	
3. Select "View/Set File Information."	The file's information is displayed.
4. To revoke or grant an Inherited Rights Mask right, complete the steps in one of the following two tables.	

Revoke a right

Action	Explanation
1. Select the "Inherited Rights Mask" list in the "File Information" screen.	The "Inherited Rights" window appears.
2. Highlight the right you want to revoke, and press <Delete>.	To revoke more than one right, mark each right by highlighting it and pressing the Mark key (<F5>); then press <Delete>.
3. Answer Yes in the confirmation box.	

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Grant a right

Action	Explanation
1. Select the "Inherited Rights Mask" list from the "File Information" screen.	The "Inherited Rights" window appears.
2. Press <Insert> to view the "Other Rights" window.	
3. Select the right you want to grant.	To grant more than one right, mark each right by highlighting it and pressing the Mark key (<F5>); then press <Enter>.

View/set file information: trustees

Users must have the Access Control right.

Action	Explanation
1. Enter FILER and select "Directory Contents" from the "Available Topics" menu.	
2. Select the file whose trustees you want to view, add, or delete.	
3. Select "View/Set File Information." To add or delete a trustee, complete the steps in one of the following two tables.	The file's information is displayed.

Add a new user or group trustee

Action	Explanation
1. Select the "Trustee" list from the "File Information" window.	The user and group trustee window appears, listing the assigned trustee rights.
2. Press <Insert> to view the "Others" window.	
3. Select the trustee you want to add.	To add more than one user or group trustee, mark each user or group by highlighting it and pressing the Mark key (<F5>); then press <Enter>.

Delete a user or group trustee

Action	Explanation
1. Select the "Trustee" list from the "File Information" screen.	
2. Select the trustee you want to delete, and press <Delete>.	To delete more than one trustee, mark each user or group by highlighting it and pressing the Mark key (<F5>); then press <Delete>.

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View/set file information: trustee rights

Users must have the Access Control right.

Action	Explanation
1. Enter FILER and select "Directory Contents" from the "Available Topics" menu.	
2. Select the file whose trustee rights you want to view, revoke, or grant.	
3. Select "View/Set File Information." To revoke or grant a trustee right, complete the steps in one of the following two tables.	The file's information is displayed.

Revoke a right

Action	Explanation
1. Select the "Trustee" list from the "File Information" screen.	
2. Select the trustee whose right you want to revoke.	The "Trustee Rights" window appears.
3. Highlight the right you want to revoke and press <Delete>.	To revoke more than one right, mark each right by highlighting it and pressing the Mark key (<F5>); then press <Delete>.

Grant a right

Action	Explanation
1. Select the "Trustee" list from the "File Information" screen.	
2. Select the trustee you want to grant a right to.	The "Trustee Rights" window appears.
3. Press <Insert> to view the "Other Rights" window.	
4. Select the right you want to grant; then press <Enter>.	To grant more than one right, mark each right by highlighting it and pressing the Mark key (<F5>); then press <Enter>.

View who has rights here

Users must have the Supervisory right.

Action	Explanation
1. Enter FILER and select "Directory Contents" from the "Available Topics" menu.	
2. Select the file whose trustees you want to view.	
3. Select "Who has rights here" from the "File Options" window.	The file's trustees, trustee rights, and security equivalences are displayed.

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Mark subdirectories and files

To bring up FILER's multiple subdirectory and file operations options, you must first use either the Mark key or the Mark Pattern key to mark your subdirectories and files.

When using the Mark keys, you must mark either subdirectories or files exclusively.

The instructions in the following two tables apply to both subdirectories and files.

Using the Mark key

Action	Explanation
1. Enter FILER and select "Directory Contents" from the "Available Topics" menu.	
2. Select the subdirectories or files you want to mark by highlighting each and pressing the Mark key (<F5>).	The marked subdirectories or files blink when highlighted. To unmark a subdirectory or file, highlight it and press the Mark key (<F5>). The subdirectory or file no longer blinks when highlighted.
3. Press <Enter>.	The "Multiple Subdirectory Operations" or "Multiple File Operations" window appears.

Using the Mark Pattern key

Action	Explanation
1. Enter FILER and select "Directory Contents" from the "Available Topics" menu.	
2. Press the Mark Pattern key (<F5>).	The "Mark Pattern" window appears.
3. The default pattern is an asterisk (*). Type in a period (.) followed by the extension you want, or delete the asterisk (*) and enter any valid wildcard pattern. Then press <Enter>.	All the subdirectories or files with that pattern are now marked and blink when highlighted. To unmark the pattern on your subdirectories or files, press the Unmark Pattern key (<F8>). The "Unmark Pattern" window appears. Type the pattern you marked the subdirectories or files with; then press <Enter>. The subdirectories or files are now unmarked and no longer blink when highlighted.
4. Press <Enter>.	The "Multiple Subdirectory Operations" or "Multiple File Operations" window appears.

Use multiple subdirectory operations

Multiple subdirectory operations allow you to perform specific tasks for multiple subdirectories. To use the multiple subdirectory operations, you must first mark selected subdirectories, as explained in "Mark subdirectories and files."

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Copy subdirectories' files

Users must have Read and File Scan rights in the directory they are copying from, and Create, Modify, Write, and Erase rights in the directory they are copying to.

Action	Explanation
1. Enter FILER and select "Directory Contents" from the "Available Topics" menu.	
2. Mark the subdirectories you want to copy in the "Directory Contents" window; then press <Enter>.	
3. Select "Copy Subdirectories' Files." To copy subdirectories' files, complete the steps in one of the following three tables.	The "Copy Subdirectory To:" window appears.

Copy to a subdirectory in your current directory

Action	Explanation
1. Type the name of the directory; then press <Enter>.	You can also use <Insert> to bring up the "File Servers/Local Drives" window, from which you can select your directory path by selecting file server, volume, and directory options.
2. Press <Escape> to bring your cursor back to the "Copy Subdirectory To:" window.	
3. Press <Enter>.	

Copy to a directory on another volume on your file server

Action	Explanation
1. Type in the name of the volume and directory; then press <Enter>.	You can also use <Insert> to bring up the "File Servers/Local Drives" window, from which you can select your directory path by selecting file server, volume, and directory options.
2. Press <Escape> to bring your cursor back to the "Copy Subdirectory To:" window.	
3. Press <Enter>.	

Copy to a directory on another file server

Action	Explanation
1. Press <Insert> to bring up the "File Servers/Local Drives" window.	
2. Press <Insert> again at the "File Server/Local Drives" window.	A list of "Other File Servers" is displayed.
3. Select the file server you want to attach to. Continue to select the file server, volume, and directory options by pressing <Enter>.	
4. Press <Escape> to bring your cursor back to the "Copy Subdirectory To:" window.	
5. Press <Enter>.	

Log out of another file server

Action
1. Highlight the file server you want to log out of in the "File Server/Local Drives" window and press <Delete>.
2. Answer Yes in the "Logout From Server" confirmation box.

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Copy subdirectories' structures

Users must have Read and File Scan rights in the directory they are copying from, and Create, Modify, Write, and Erase rights in the directory they are copying to.

Action	Explanation
1. Enter FILER and select "Directory Contents" from the "Available Topics" menu.	
2. Mark the subdirectories whose structures you want to copy in the "Directory Contents" window; then press <Enter>.	
3. Select "Copy Subdirectories' Structure." To copy subdirectories' structures, complete the steps in one of the following three tables.	The "Copy Subdirectory To:" window appears.

Copy to a subdirectory in your current directory

Action	Explanation
1. Type in the name of the directory; then press <Enter>.	You can also use <Insert> to bring up the "File Servers/Local Drives" window, from which you can select your directory path by selecting file server, volume, and directory options.
2. Press <Escape> to bring your cursor back to the "Copy Subdirectory To:" window.	
3. Press <Enter> to copy your subdirectories' structures.	

Copy to a directory on another volume on your file server

Action	Explanation
1. Type in the name of the volume and directory; then press <Enter>.	You can also use <Insert> to bring up the "File Servers/Local Drives" window, from which you can select your directory path by selecting file server, volume, and directory options.
2. Press <Escape> to bring your cursor back to the "Copy Subdirectory To:" window.	
3. Press <Enter> to copy your subdirectories' structures.	

Copy to a directory on another file server

Action	Explanation
1. Press <Insert> to bring up the "File Servers/Local Drives" window.	
2. Press <Insert> again at the "File Server/Local Drives" window.	A list of "Other File Servers" is displayed.
3. Select the file server you want to attach to. Continue to select the file server, volume, and directory options by pressing <Enter>.	
4. After you select your directory path, press <Escape> to bring your cursor back to the "Copy Subdirectory To:" window.	
5. Press <Enter> to copy your subdirectories' structures.	

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Log out of another file server

Action
1. Highlight the file server you want to log out of in the "File Server/Local Drives" window and press <Delete>.
2. Answer Yes in the "Logout From Server" confirmation box.

Set creation dates and times

Users must have SUPERVISOR equivalence.

Action	Explanation
1. Enter FILER and select "Directory Contents" from the "Available Topics" menu.	
2. Mark the subdirectories whose dates or times you want to change from the "Directory Contents" window; then press <Enter>.	
3. Select "Set Creation Date."	The "New Directory Creation Date" window appears.
4. Type the new date and press <Escape>.	
5. To view the "New Directory Creation Time," press <Enter> at the "New Directory Creation Date" window. Type the new time and press <Enter>.	

Set inherited rights

Users must have the Access Control right.

Action	Explanation
1. Enter FILER and select "Directory Contents" from the "Available Topics" menu.	
2. Mark the subdirectories whose inherited rights you want to set from the "Directory Contents" window; then press <Enter>.	
3. Select "Set Inherited Rights" from the "Multiple Subdirectory Operations" window. To grant or revoke rights in the marked subdirectories, complete the steps in one of the following two tables.	The "Inherited Rights" window appears.

Grant a right

Action	Explanation
1. Press <Insert> and select the right you want from the "Other Rights" window.	To grant more than one right, mark each right by highlighting it and pressing the Mark key (<F5>); then press <Enter>.
2. Press <Escape>.	
3. Answer Yes in the comfirmation box.	

Revoke a right

Action	Explanation
Highlight the right you want to revoke and press <Delete>.	To revoke more than one right, mark each right by highlighting it and pressing the Mark key (<F5>); then press <Delete>.

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Set owners

Users must have SUPERVISOR equivalence.

Action	Explanation
1. Enter FILER and select "Directory Contents" from the "Available Topics" menu.	
2. Mark the subdirectories whose owners you want to change in the "Directory Contents" window; then press <Enter>.	
3. Select "Set Owner" from the "Multiple Subdirectory Operations" window.	The "New Directory Owner" window appears.
4. To set the directory's new owner, press <Insert>.	The "Users" window appears.
5. Select the user you want to name as the directory's new owner.	

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Use multiple file operations

To use the multiple file operations, you must first mark selected files, as explained in "Mark subdirectories and files."

Copy marked files

Users must have Read and File Scan rights in the directory they are copying from, and Create, Modify, Write, and Erase rights in the directory they are copying to.

Action	Explanation
1. Enter FILER and select "Directory Contents" from the "Available Topics" menu.	
2. Mark the files you want to copy in the "Directory Contents" window; then press <Enter>.	
3. Select "Copy Marked Files" from the "Multiple File Operations" window. To copy the marked files, complete the steps in one of the following three tables.	The "Copy Files To:" window appears.

Copy to a subdirectory in your current directory

Action	Explanation
1. Type in the name of the directory and press <Enter>.	You can also use <Insert> to bring up the "File Servers/Local Drives" window, from which you can select your directory path by selecting file server, volume, and directory options.
2. Press <Escape> to bring your cursor back to the "Copy Files To:" window.	
3. Press <Enter> to copy your marked files.	

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Copy to a directory on another volume on your file server

Action	Explanation
1. Type in the name of the volume and directory; then press <Enter>.	You can also use <Insert> to bring up the "File Servers/Local Drives" window, from which you can select your directory path by selecting file server, volume, and directory options.
2. Press <Escape> to bring your cursor back to the "Copy Files To:" window.	
3. Press <Enter> to copy your marked files.	

Copy to a directory on another file server

Action	Explanation
1. Press <Insert> to bring up the "File Servers/Local Drives" window.	
2. Press <Insert> again at the "File Server/Local Drives" window.	A list of "Other File Servers" is displayed.
3. Select the file server you want to attach to. Continue to select the file server, volume, and directory options by pressing <Enter>.	
4. Press <Escape> to bring your cursor back to the "Copy Files To:" window.	
5. Press <Enter> to copy your marked files.	

Log out of another file server

Action
1. Highlight the file server you want to log out of in the "File Server/Local Drives" window and press <Delete>.
2. Answer Yes in the "Logout From Server" confirmation box.

Set attributes

Users must have the Modify and Access Control rights.

Action	Explanation
1. Enter FILER and select "Directory Contents" from the "Available Topics" menu.	
2. Mark the files whose attributes you want to set in the "Directory Contents" window; then press <Enter>.	
3. Select "Set Attributes" from the "Multiple File Operations" window.	The "File Attributes" window appears.
4. To add an attribute to your marked files, press <Insert> to view "Other File Attributes" window.	
5. Select the attribute you want to add.	To add more than one attribute, mark each attribute by highlighting it and pressing the Mark key (<F5>); then press <Enter>.
6. Press <Escape>. Answer Yes in the confirmation box.	

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Set creation dates

Users must have SUPERVISOR equivalence.

Action	Explanation
1. Enter FILER and select "Directory Contents" from the "Available Topics" menu.	
2. Mark the files whose creation dates you want to set in the "Directory Contents" window; then press <Enter>.	
3. Select "Set Creation Date."	The "New File Creation Date" window appears.
4. Type in the new file date and press <Enter>.	

Set inherited rights

Users must have the Access Control right.

Action	Explanation
1. Enter FILER and select "Directory Contents" from the "Available Topics" menu.	
2. Mark the files whose inherited rights you want to set in the "Directory Contents" window; then press <Enter>.	
3. Select "Set Inherited Rights" from the "Multiple File Operations" window. To grant or revoke rights in the marked files, complete the steps in one of the following two tables.	The "Inherited Rights" window appears.

Grant a right

Action	Explanation
1. Press <Insert> and select the right you want from the "Other Rights" window.	To grant more than one right, mark each right by highlighting it and pressing the Mark key (<F5>).
2. Press <Escape>. Answer Yes in the comfirmation box.	

Revoke a right

Action	Explanation
Highlight the right you want to revoke and press <Delete>.	To revoke more than one right, mark each right by highlighting it and pressing the Mark key (<F5>); then press <Delete>.

Set last accessed dates

Users must have SUPERVISOR equivalence.

Action	Explanation
1. Enter FILER and select "Directory Contents" from the "Available Topics" menu.	
2. Mark the files whose last accessed dates you want to set in the "Directory Contents" window; then press <Enter>.	
3. Select "Set Last Accessed Date."	The "New File Last Accessed Date" window appears.
4. Type the new date and press <Enter>.	

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Set last modified dates

Users must have SUPERVISOR equivalence.

Action	Explanation
1. Enter FILER and select "Directory Contents" from the "Available Topics" menu.	
2. Mark the files whose last modified dates you want to set in the "Directory Contents" window; then press <Enter>.	
3. Select "Set Last Modified Date."	The "New File Last Modified Date" window appears.
4. Type in the new date and press <Enter>.	The "New File Last Modified Time" window appears.
5. Type the new time and press <Enter>.	

Set owners

Users must have SUPERVISOR equivalence.

Action	Explanation
1. Enter FILER and select "Directory Contents" from the "Available Topics" menu.	
2. Mark the files whose owners you want to set in the "Directory Contents" window; then press <Enter>.	
3. Select "Set Owner" from the "Multiple File Operations" window.	The "New File Owner" window appears.
4. To change the file's owner, press <Insert>.	The "Users" window appears.
5. Select the user you want to name as the file's new owner.	

Select current directory

Your current directory is the directory you are working in. You may want to change your current directory in FILER for various reasons. For example, you must change your current directory to access files from a directory other than your current directory or to add a trustee to another directory.

Change the current directory path

Action	Explanation
1. Enter FILER and select "Select Current Directory" from the "Available Topics" menu.	The "Current Directory Path" box is displayed.
2. Backspace to delete the parts of the current directory path you want to change.	You must delete all levels that you want to change. For example, suppose your current directory path were PRUFROCK/SYS:HOME/JODI/PROJECTS. To change to PRUFROCK/SYS:HOME/MARCI/REVS, you would delete JODI/PROJECTS.
3. Type in the new information that completes the path you want.	If you already know the exact names of the file server, volume, and directory you want to use, type the new directory path. If you do not know the directory path, complete the procedures in the next three tables as needed. (For example, if you know the names of the file server and volume, type them in and skip to "Choose the directory.")

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Choose the file server

Action	Explanation
1. After deleting the entire directory path listed in the "Current Directory Path" box, press <Insert>.	The "File Servers" list is displayed.
2. Select the file server you want to attach to.	If the file server you want to choose is not in the list, press <Insert>. The "Other File Servers" list is displayed. Select the file server and follow the prompts to attach to it.

Choose the volume

Action	Explanation
1. If you have just chosen a file server, the "Volumes" list should be displayed on your screen. Otherwise, be sure that only the file server has been specified in the directory path and press <Insert>.	
2. Select the volume you want for your current directory path.	Choosing ".." takes you back a level in the directory structure. The ".." option appears in the "Available Volumes" and "Network Directories" lists. If ".." appears as the only entry in the "Network Directories" list, no directories exist below the current level.

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Choose the directory

Action
1. If you have added the volume to your directory path, the "Network Directories" list is displayed on your screen. Otherwise, be sure that only the file server and volume have been specified in the directory path, and press <Insert>.
2. Select the directory you want for your current directory path.
3. Repeat Steps 1 and 2 as many times as necessary to complete the directory path; then press <Escape>.
4. Press <Enter>.

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1. Enter FILER and select "Set Filer Options" from the "Available Topics" menu.

The following screen appears:

```
Filer Settings

Confirm Deletions: No
Confirm File Copies: No
Confirm File Overwrites: Yes
Notify Extended Attributes: No
Preserve File Attributes: Yes

Exclude Directory Patterns: (see list)
Include Directory Patterns: (see list)

Exclude File Patterns: (see list)
Include File Patterns: (see list)

File Search Attributes: (see list)
Directory Search Attributes: (see list)
```

2. Select "Confirm File Deletions" from the "Filer Settings" list.

3. Select Yes or No.

When you enter FILER, the "Confirm Deletions" option defaults to No.

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Set confirm-file-copies option

To copy a group of marked files without confirming each file that you are copying, set the "Confirm File Copies" option to No. With the option set to No, you are asked only once to confirm that you intend to copy all the files in the group. However, if you copy a single file, you still receive the "Copy File" prompt.

If "Confirm File Copies" is set to Yes, you are asked to confirm the copying of each file individually.

To specify whether you want to confirm the copying of each file in a group, complete the following steps.

Action	Explanation
1. Enter FILER and select "Set Filer Options" from the "Available Topics" menu.	
2. Select "Confirm File Copies" from the "Filer Settings" list.	When you enter FILER, the "Confirm File Copies" option defaults to No.
3. Select Yes or No.	

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Set confirm-file-overwrites option

The "Confirm File Overwrites" option determines whether an existing file is automatically overwritten by a new file with the same name. If you copy a file to a directory where a file by the same name exists, the existing file is overwritten.

If the option is set to Yes, you are asked if you want to overwrite the existing file before it is overwritten. If the option is set to No, the file is overwritten automatically.

To specify whether you want to overwrite an existing file, complete the following steps.

Action	Explanation
1. Enter FILER and select "Set Filer Options" from the "Available Topics" menu.	
2. Select "Confirm File Overwrites" from the "Filer Settings" list.	When you enter FILER the "Confirm File Overwrites" option defaults to Yes.
3. Select Yes or No.	

Notify when extended attributes are lost

When you copy files in FILER, you can choose whether to be notified if extended attributes are lost after the copy. The default is no notification. Extended attributes are lost if you copy files with extended attributes to a server that does not support those features.

Action	Explanation
1. Enter FILER and select "Set Filer Options" from the "Available Topics" menu.	
2. Select "Notify Extended Attributes Lost" from the "Filer Settings" list.	
3. Select Yes to receive a message when extended attributes are lost.	The default is No.

Preserve file attributes

When you copy files in FILER, you can choose whether to preserve file attributes. (These are regular file attributes, not extended attributes.) The default is to preserve file attributes.

Action	Explanation
1. Enter FILER and select "Set Filer Options" from the "Available Topics" menu.	
2. Select "Preserve File Attributes" from the "Filer Settings" list.	
3. Select No if you do not want to preserve file attributes.	The default is Yes.

Add, delete, or modify an exclude directory pattern

When you list directories in FILER, you can exclude from the list directories that fit certain patterns. Exclude patterns override include patterns where there is overlap.

Action	Explanation
1. Enter FILER and select "Set Filer Options" from the "Available Topics" menu.	
2. Select "Exclude Directory Patterns" from the "Filer Settings" list.	When you enter FILER, the "Exclude Directory Patterns" list defaults to empty.
3. To add, delete, or modify an exclude directory pattern, complete the steps in one of the following three tables.	

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Add an exclude pattern

Action	Explanation
1. Press <Insert>.	The "New Pattern" entry box is displayed.
2. Type the directory exclude pattern that you want; then press <Enter>.	Directories that match the pattern you specified are now excluded from directory searches while you are using FILER.

Delete an exclude pattern

Action	Explanation
1. Highlight the exclude pattern you want to delete; then press <Delete>.	The "Delete Pattern" confirmation box is displayed.
2. Select Yes.	The exclude pattern you deleted no longer applies to your directories list.

Modify an exclude pattern

Action	Explanation
1. Select the exclude pattern you want to modify.	The pattern you have chosen is displayed in the "Edit Pattern" entry box.
2. Edit the pattern as you want; then press <Enter>.	The pattern you have edited is displayed in the "Excluded Directory Patterns" list.

Add, delete, or modify an include directory pattern

When you list directories in FILER, you can choose to include only those directories that fit certain patterns. Exclude patterns override include patterns where there is overlap. Changes you make to the directory patterns are deleted when you exit FILER.

The default include pattern is an asterisk (*). To list directories with a pattern other than an asterisk (which includes all directories), you must delete or modify the pattern.

Action	Explanation
1. Enter FILER and select "Set Filer Options" from the "Available Topics" menu.	
2. Select "Include Directory Patterns" from the "Filer Settings" list.	The "Included Directory Patterns" list is displayed. The list shows an asterisk (*), which includes all directory patterns.
3. To add, delete, or modify an include directory pattern, complete the steps in one of the following three tables.	

Add a directory include pattern

Action	Explanation
1. Press <Insert>.	The "New Pattern" entry box appears.
2. Type the directory include pattern that you want; then press <Enter>.	The include pattern is added to the "Include Directory Patterns" list.

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Delete an include pattern

Action	Explanation
1. Highlight the include pattern you want to delete; then press <Delete>.	The "Delete Pattern" confirmation box appears.
2. Select Yes.	The include pattern you deleted no longer applies to your directories list.

Modify an include pattern

Action	Explanation
1. Select the asterisk (*) to modify the default pattern.	The "Edit Pattern" entry box appears.
2. Type the characters you want before or after the asterisk, as if you were using a wildcard character.	For example, to include all directories that begin with "ANY", type "ANY*."

Add, delete, or modify an exclude file pattern

When you list files in FILER, you can exclude files that fit certain patterns. The "Exclude File Patterns" option allows you to specify the patterns you want to exclude. Exclude patterns override include patterns where there is overlap.

Action	Explanation
1. Enter FILER and select "Set Filer Options" from the "Available Topics" menu.	
2. Select "Exclude File Patterns" from the "Filer Settings" list.	The "Excluded Directory File Patterns" list appears. When you enter FILER, the "Excluded Directory File Patterns" list defaults to empty.
3. To add, delete, or modify an exclude file pattern, complete the steps in one of the following three tables.	

Add an exclude file pattern

Action	Explanation
1. Press <Insert>.	The "New Pattern" entry box is displayed. The default is no pattern. Therefore, to exclude files from a list, you must add an exclude pattern.
2. Type the exclude file pattern you want; then press <Enter>.	Files that fit the specified pattern do not apppear in the "Files" list.

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Delete an exclude file pattern

Action	Explanation
1. Highlight the exclude pattern you want to delete; then press <Delete>.	The "Delete Pattern" confirmation box appears.
2. Select Yes.	The exclude pattern you have deleted is no longer used.

Modify an exclude file pattern

Action	Explanation
1. Select the exclude pattern you want to modify.	The pattern you choose is displayed in the "Edit Pattern" entry box.
2. Edit the pattern; then press <Enter>.	Files that fit the edited pattern do not appear when you list files.

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Add, delete, or modify an include file pattern

When you list files, you can choose to include files that fit certain patterns. The "Include File Pattern" option allows you to specify the patterns you want to include. Exclude patterns override include patterns.

The default include pattern is an asterisk (*). If you want to list files with a pattern other than an asterisk (which includes all files), you must delete or modify the pattern.

Action	Explanation
1. Enter FILER and select "Set Filer Options" from the "Available Topics" menu.	
2. Select "Include File Patterns" from the "Filer Settings" list.	The "Included File Patterns" list appears.
3. To add, delete, or modify an include file pattern, complete the steps in one of the following three tables.	

Add an include file pattern

Action	Explanation
1. Press <Insert>.	The "New Pattern" entry box appears.
2. Type the file include pattern that you want; then press <Enter>.	The files with the specified patterns are listed.

Delete an include file pattern

Action	Explanation
1. Highlight the include pattern you want to delete, and press <Delete>.	The "Delete Pattern" confirmation box appears.
2. Select Yes.	The include pattern you deleted no longer applies to your files list.

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Modify an include file pattern

Action	Explanation
1. Select the include pattern you want to modify.	The "Edit Pattern" entry box appears.
2. Backspace to delete characters. Then type the characters you want before or after the asterisk, just as you would if you were using a wildcard character.	For example, to include all directories that begin with "ANY", type "ANY*".

Add or delete file search attributes

When you list files in FILER, files that are flagged System or Hidden are not shown. However, in FILER, adding search file attributes enables you to see system and hidden files. Search file attributes you set are deleted when you exit FILER.

Action	Explanation
1. Enter FILER and select "Set Filer Options" from the "Available Topics" menu.	
2. Choose "File Search Attributes" from the "Filer Settings" list.	The "Search File Attributes" list appears. A blank list indicates that you don't have any search file attributes.
3. To add or delete file search attributes, complete the steps in one of the following two tables.	

Add a file search attribute

Action	Explanation
1. Press <Insert>.	The "Other Search Attributes" list appears.
2. Select the search file attribute you want to add; then press <Enter>.	Use the Mark key (<F5>) to highlight multiple search file attributes; then press <Enter>. The attribute appears in the "Search File Attributes" list.
3. Press <Escape>.	

Delete a file search attribute

Action	Explanation
1. Highlight the file search attribute you want to delete; then press <Delete>.	Use the Mark key (<F5>) to highlight multiple search file attributes; then press <Delete>.
2. Select Yes.	The deleted attributes are no longer used.

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Add or delete directory search attributes

When you list directories in FILER, directories that are flagged System or Hidden are not shown. However, in FILER, adding search directory attributes enables you to see system and hidden directories. Search directory attributes you set are deleted when you exit FILER.

Action	Explanation
1. Enter FILER and select "Set FILER Options" from the "Available Topics" menu.	
2. Choose "Directory Search Attributes" from the "Filer Settings" list.	The "Directory Search Attributes" list appears. A blank list indicates that you don't have any search directory attributes.
3. To add or delete search directory attributes, complete the steps in one of the following two tables.	

Add a directory search attribute

Action	Explanation
1. Press <Insert>.	The "Other Search Attributes" list appears.
2. Select the search directory attribute you want to add; then press <Enter>.	Use the Mark key (<F5>) to highlight multiple search directory attributes; then press <Enter>. The attribute appears in the "Search File Attributes" list.
3. Press <Escape>.	

Delete a directory search attribute

Action	Explanation
1. Highlight the directory search attribute you want to delete; then press <Delete>.	Use the Mark key (<F5>) to highlight multiple search directory attributes; then press <Delete>.
2. Select Yes.	The deleted attributes are no longer used.

View volume information

You can use the "Volume Information" option to view information about the volume on which the current directory is located.

Action	Explanation
Enter FILER and select "Volume Information" from the "Available Topics" menu.	A screen with the following information appears:

```
Volume Information

Server Name:                    PD3CPU
Volume Name:                    MAC
Volume Type:                    fixed
Total Kbytes:                   20,476
KBytes Available:               19,968
Maximum Directory Entries:      228
Directory Entries Available:    235
```


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FLAG

Command Line Utility

Why use FLAG?

Use FLAG to view or to change the attributes of files in a given directory. (You can also use FILER to set file attributes.)

Command format

FLAG [*path* [TO INHERIT] [*flaglist*...]]

Replace *path* with a directory path leading to and including the name of the file you want to view or change. FLAG supports wildcard characters.

Replace *flaglist* with one or more of the following attributes. Only the abbreviations are allowed at the command line. You must insert a space between attributes.

Archive Needed	Read Audit
Execute Only	Write Audit
Read Only	Copy Inhibit
Shareable	Delete Inhibit
Hidden	Rename Inhibit
SYstem	ALL
Transactional	Normal
Purge	SUBdirectory

Explanations of the attributes begin on the next page.

NOTE

The constants - or + can be used to add or delete file attributes with any of the attributes except Normal, ALL, and SUBdirectory. When adding and deleting attributes in the same command, all the + attributes must be grouped together. The same is true for the - attributes.

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Attributes

Attribute	Description
Archive Needed	This attribute is automatically assigned to any file that is modified after the last backup. It is DOS's archive bit.
Execute Only	This attribute can be assigned only by the supervisor and only to files with an .EXE or .COM extension. Execute Only prevents these files from being copied; once assigned, this attribute cannot be removed.
Read Only	Include this attribute to flag a file Read Only. NetWare automatically assigns the Delete Inhibit and Rename Inhibit attributes with Read Only. This attribute prevents users from writing to, erasing, or renaming the files even if they have been granted the Write and Erase rights at the directory or file level. If users have the Modify right, they can remove the Read Only attribute (and Delete Inhibit and Rename Inhibit). Users can also modify other attributes of the file.
Shareable	Include this attribute to flag a file as Shareable. This attribute allows the file to be used by more than one user at a time and is usually used in combination with Read Only.
Hidden	Include this attribute to flag a file as Hidden. This attribute hides the file from DOS DIR scans. However, the file appears with an NDIR scan if the user has the File Scan right. You cannot copy or delete files that are flagged Hidden.
SYstem	Include this attribute to flag a file as a System file. This attribute hides the file from DOS DIR scans. However, the file appears with an NDIR scan if the user has the File Scan right. You cannot copy or delete files that are flagged System.
Transactional	Include this attribute to flag a file Transactional. You can set and view the Transactional attribute in FLAG, but it has no effect, because this version of NetWare does not support the Transaction Tracking System.
Purge	Include this attribute to flag a file as Purge. You can set and view the Purge attribute in FLAG, but it has no effect, because this version of NetWare does not allow you to salvage files.

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Attribute	Description
Read Audit	You can set and view the Read Audit attribute in FLAG; however, if you are running 2.*x* software on a Netware 3.*x* network, this attribute does not function.
Write Audit	You can set and view the Write Audit attribute in FLAG; however, if you are running 2.*x* software on a NetWare 3.*x* network, this attribute does not function.
Copy Inhibit	You can set and view the Copy Inhibit attribute in FLAG. This attribute works only for Macintosh files, not PC files.
Delete Inhibit	Include this attribute to flag a directory or a file Delete Inhibit. This attribute prevents users from erasing the directory or file even if they have been granted the Erase right at the file or directory level. If users have been granted the Modify right, they can remove the Delete Inhibit attribute and delete the file.
Rename Inhibit	Include this attribute to flag a file Rename Inhibit. This attribute restricts users from renaming the directory or file even if they have been granted the Modify right at the file or directory level. If users have the Modify right, they must first remove the Rename Inhibit attribute before renaming the directory or file. Renamed files cannot be moved.
ALL	Include this attribute to flag a file with all available attributes.
Normal	Include this attribute to clear all flags. The default is Read Write. No other attributes are set.
SUBdirectory	Include this attribute to view or to change file attributes in directories and their subdirectories.

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Additional information

You must be attached to a file server before you can use FLAG to view or change file attributes on that server. (See ATTACH.)

To use FLAG to change file attributes in a given directory, you need Read Only, File Scan, and Modify rights in that directory. (For more information about rights, see **Security** in *Concepts*.)

Use of wildcard characters with FLAG has changed. For example, if you have files FILE1, FILE2, FILE1.1, and FILE2.1 in a subdirectory and you flag the files using "FLAG *.* SRO", it flags only files with extensions. If you use "FLAG* SRO", it flags all the files. This was not the case in previous NetWare versions.

Add and delete file attributes

The constants - or + can be used to add or delete file attributes except Normal, ALL, and SUBdirectory. When adding and deleting attributes in the same command, all the + attributes must be grouped together. The same is true for the - attributes.

Add file attributes to a file

Suppose you flagged a file, SYSTEM.EXE, with Read Only and Shareable attributes. Now you want to add the Hidden attribute. Type

FLAG SYSTEM.EXE +H <Enter>

The following confirmation appears:

```
SYSTEM.EXE              [ Ro S A - H -- - - -- -- - D R ]
```


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Delete file attributes from a file

Suppose you flagged file REPORT with all attributes and you want to delete Purge and Copy Inhibit. Type

FLAG REPORT -P C <Enter>

The following confirmation appears:

```
REPORT                    [ Ro S A - H Sy T - Ra Wa - D R ]
```

Add and delete attributes from a file

Suppose you have file INVENTORY flagged with the Read Only and Shareable attributes. You want to flag the file Read Write and Rename Inhibit. Type

FLAG INVENTORY -RO R <Enter>

The following confirmation appears:

```
INVENTORY                 [ Rw S A - - - - - - - - - R ]
```

View and change file attributes in your default directory

Use the procedures that follow to view or change the attributes for a single file or for multiple files in your current directory.

View attributes in your default directory

Choose one of the following procedures to view attributes of all files, of a selected group of files, or of a single file.

View the file attributes

Type

FLAG <Enter>

Depending on how your files are flagged, information similar to the following appears:

```
SALES.EXE                [ Ro S - - - — - - -- — - D R ]
SALES.BAT                [ Rw S A - - — - - -- — - - - ]
SALES.HLP                [ Ro S - - - — - P -- — - D R ]
SALES.DAT                [ Ro S - - - — T P Ra Wa C D R ]
```

View the attributes of all files with the same extension

Include an asterisk (*) with the extension. Type

FLAG *.DAT <Enter>

View the attributes of a single file

Specify the filename in your command. For example, to view the attributes of the file SALES.DAT, type

FLAG SALES.DAT <Enter>

Change file attributes in your default directory

Choose one of the following procedures to change attributes of all files, of a select group of files, or of a single file.

Change the attributes of all the files

Include an asterisk (*) and the attributes in your command. The asterisk replaces *path* and represents all the files in your default directory. For example, to flag all the files in your default directory as Read Only and Shareable, type

FLAG * RO S <Enter>

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Change the attributes of several related files

Include wildcard characters and the attributes in your FLAG command. For example, to flag all files with the extension .DAT as Read Only and Shareable, type

FLAG *.DAT RO S <Enter>

Change the attributes of a single file

Specify the file and the options. For example, to flag the SALES.DAT file as Read Only and Shareable, type

FLAG SALES.DAT RO S <Enter>

View and change file attributes in any directory

Use the following procedures to view or change file attributes in the directory you specify.

View file attributes in any directory

The following procedures tell how to view file attributes in the directory you specify.

View the attributes of all the files

Specify the directory path in your command. For example, suppose you want to view the attributes of all the files in the PROGRAMS directory. Also suppose drive P is mapped to the PROGRAMS directory as follows:

```
Drive P: = SALES/SYS:  PROGRAMS
```

To view file attributes, type

FLAG P: <Enter>

View the attributes of several related files

Include wildcard characters in your command. For example, to view the attributes of all files with the extension .DAT in the PROGRAMS directory, type

FLAG P:*.DAT <Enter>

View the attributes of a single file

Specify the directory path in your command. For example, to view the attributes of a file called SALES.DAT in the PROGRAMS directory, type

FLAG P:SALES.DAT <Enter>

Change file attributes in any directory

Choose one of the following procedures to change the attributes of all files, of a group of files, or of a single file.

Change the attributes of all the files

Specify the directory path and the attributes in your command. For example, suppose you want to flag all the files in the PROGRAMS directory as Read Only and Shareable. Also, suppose drive P is mapped to the PROGRAMS directory as follows:

```
Drive P: = SALES/SYS:  PROGRAMS
```

To flag all the files in the PROGRAMS directory as Read Only and Shareable, type

FLAG P: RO S <Enter>

P: replaces *path* in the FLAG command to specify the directory you want to affect.

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Change the attributes of several related files

Include wildcard characters and the attributes in your command. To flag all files with the extension .DAT in the PROGRAMS directory as Read Only and Shareable, type

```
FLAG P:*.DAT RO S <Enter>
```

P:*.DAT replaces *path* in the command to indicate the files you want to affect.

Change the attributes of a single file

Specify the directory path and the attributes in your command. For example, if you want to flag the SALES.DAT file in the PROGRAMS directory as Shareable and Read Only, type

```
FLAG P:SALES.DAT RO S <Enter>
```

P:SALES.DAT replaces *path* in the command to indicate the files you want to affect.

FLAGDIR
(FLAG DIRectory)

Command Line Utility

Why use FLAGDIR?

Use FLAGDIR to view or to change the attributes of subdirectories in a given directory (including volumes).

Command format

FLAGDIR [*path* [*flaglist* ...]]

Replace *path* with a directory path leading to the directory you want to view or change. FLAGDIR supports wildcard characters.

Replace *flaglist* with one or more of the following attributes. Only the abbreviations are recognized at the command line. You must insert a space between attributes. The attributes are explained on the next page.

Normal	Delete Inhibit
Hidden	Rename Inhibit
SYstem	HELP
Purge	

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Attributes

Attribute	Description
Normal	Include this attribute to cancel other directory attributes that have been set. Normal is always overridden by any other attribute you might include in the command. Normal corresponds with the public folder in the Macintosh environment.
Hidden	Include this attribute to hide a directory from a DOS DIR scan. However, this attribute does not prevent a user from changing to the directory, and the directory appears in an NDIR scan if the network user has the File Scan right. You cannot copy directories that are flagged Hidden.
SYstem	Include this attribute if the directory is used for the system to function. A directory flagged with this attribute does not appear with a DOS DIR scan. However, the directory does appear with an NDIR scan if the network user has the File Scan right. You cannot copy or delete directories flagged System.
Delete Inhibit	Include this attribute to prevent network users from erasing a directory or its subdirectories even when they have been granted the Erase right at the directory level.
Rename Inhibit	Include this attribute to restrict network users from renaming directories even if they have the Modify right.
HELP	Include this attribute to display the FLAGDIR command format and the available attributes.
Purge	Include this attribute to flag a directory as Purge. You can set and view the Purge attribute in FLAGDIR, but it has no effect, because this version of NetWare does not allow you to salvage files.

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Additional information

You must be logged in to a file server to use FLAGDIR to view or change directory and volume attributes on that server.

You cannot set attributes on local drives.

To change a directory's or a volume's attributes, you must have the Modify right for that directory or volume. However, you cannot set the Delete Inhibit and Purge attributes unless you have the Erase right. (For more information about directory rights, see **Security** in *Concepts*.)

View attributes of your default directory

Choose one of the following procedures to view attributes of a subdirectory or all subdirectories in your default directory.

View attributes of default directory

To view the attributes of your default directory, type

FLAGDIR <Enter>

Information similar to the following appears:

```
MARKETING/SYS:  HOME
CINDY   Normal
```

View attributes of a subdirectory

To view the attributes of a subdirectory in your default directory, specify the subdirectory name in your command. For example, to view the attributes of a directory called SALES in your default directory, type

FLAGDIR SALES <Enter>

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View attributes of all subdirectories

To view the attributes of the subdirectories in your default directory, include wildcard characters in your FLAGDIR command:

```
FLAGDIR * <Enter>
```

Change attributes of your default directory

Choose one of the following procedures to change the attributes of your default directory, of one subdirectory, or of all subdirectories.

Change attributes of default directory

To change the attributes of your default directory, SYS:HOME/SALLY, to Rename Inhibit, type

```
FLAGDIR . R <Enter>
```

The period (.) represents your default directory.

Change attributes of one subdirectory

To change the attributes of a subdirectory in your default directory, include the name of the subdirectory and the appropriate attributes in your FLAGDIR command.

For example, to change the directory attributes of SYS:HOME/TERRI, you must have SYS:HOME as your current directory and you must have the Access Control and Modify rights in SYS:HOME. To flag SYS:HOME/TERRI as Hidden, type

```
FLAGDIR TERRI H <Enter>
```

Change attributes of all subdirectories

To change the attributes of the subdirectories in your default directory, include wildcard characters in your FLAGDIR command. For example, if you want to flag all subdirectories as Hidden, type

FLAGDIR * H <Enter>

View attributes of any directory

To view the attributes of any directory on your network, specify the directory path in your command. For example, suppose you want to view the attributes of the PROGRAMS directory, which is in the SYS volume on the MARKETING file server. Also, suppose drive P is mapped to PROGRAMS as follows:

```
Drive P: = MARKETING/SYS:  PROGRAMS
```

View attributes in any directory

To view the attributes of the PROGRAMS directory, type

FLAGDIR P: <Enter>

View attributes of a subdirectory

To view the attributes of a single subdirectory in any directory on your network, specify the directory path in your command. For example, to view the attributes of a subdirectory called PROMO in the PROGRAMS directory, type

FLAGDIR P:PROMO <Enter>

View attributes of all subdirectories

To view the attributes of the subdirectories in any directory on your network, use wildcard characters. For example, to view the attributes of all subdirectories in the PROGRAMS directory, type

FLAGDIR P:* <Enter>

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Change attributes of any directory

Choose one of the following procedures to change the attributes of a directory or its subdirectories.

Change attributes in a directory

To change the attributes of a specific directory on another drive, include the directory path in your command. For example, suppose drive J is mapped to SOCCER as follows:

```
Drive J: = PROJECT/SYS:  SOCCER
```

To flag the SOCCER directory as Normal, type

FLAGDIR J: N <Enter>

Change attributes of all subdirectories

To change the attributes of all subdirectories in any directory on your network, include wildcard characters in your FLAGDIR command. For example, suppose that drive P is mapped to the PROGRAMS directory as follows:

```
Drive P: = MARKETING/SYS:  PROGRAMS
```

If you want to flag all subdirectories in the PROGRAMS directory as Hidden, type

FLAGDIR P:* H <Enter>

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View volume attributes

View default volume attributes

To view the attributes of volume SYS on your default file server, type

```
FLAGDIR SYS: <Enter>
```

View volume attributes on another server

You must be logged in to the server whose volume attributes you want to view. For example, suppose you log in to file server ESTATE. To view the attributes of volume SYS, type

```
FLAGDIR ESTATE SYS: <Enter>
```


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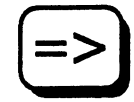
getlan

Host
Utility



Why use *getlan* ?

Use *getlan* to display the current state of IPX.

The *getlan* host utility displays the current state of IPX and shows which networks IPX is using, the node address of each, and its current status.

The getlan executable file is located in the */bin/netware* directory.

Command format

getlan

getlan is a host utility and must be entered in lower-case.

View the current state of IPX and the networks it is using

Type

getlan <Enter>

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GRANT

Command Line Utility

Why use GRANT?

Use GRANT to grant trustee rights to users or groups in a file or a directory.

Command format

GRANT *rightslist...* [FOR *path*] TO [USER | GROUP] *name* [*/option*]

Replace *rightslist* with one or more of the following. Only the abbreviations are recognized at the command line. You must insert a space between rights. The rights are explained on the next page.

ALL	Create
No Rights	Erase
Supervisory	Modify
Read	File Scan
Write	Access Control

Replace *path* with a directory path leading to the volume, directory, subdirectory, or file where you want to grant rights. GRANT supports wildcard characters.

Replace *name* with the name of the user or group to whom you want to grant rights.

The constants USER and GROUP are optional unless a user and a group share the same name.

Replace */option* with either /S for subdirectories or /F for files.

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Rights

You can include the constants ONLY or ALL BUT before the rights below (except for ALL and No Rights). For example, if you include ONLY, you grant only the specified right. If you include ALL BUT, you grant all rights except the specified right.

Right	Description
ALL	Include this right to grant users all trustee rights except Supervisory. (The Supervisory right must be granted separately.)
No Rights	Include this right to revoke ALL trustee rights.
Supervisory	Include this right to grant users all eight rights to the directory, its files, and its subdirectories. The Supervisory right overrides any restrictions placed on subdirectories or files with an Inherited Rights Mask. Any user who has the Supervisory right or SUPERVISOR equivalency can grant the Supervisory right.
Read	Include this right to allow users to open and read files. Read and File Scan rights are usually granted in combination.
Write	Include this right to allow users to open and write to existing files. To use Write, the user also needs to have the Create, Erase, and Modify rights.
Create	Include this right to allow users to create directories and to create and write to files. Unless Read rights are also granted, the user cannot re-open the file once it is closed.
Erase	Include this right to allow users to delete a directory, its files, and its subdirectories.
Modify	Include this right to allow users to change directory and file attributes. The Modify right also grants users the right to rename a directory, its files, and its subdirectories.
File Scan	Include this right to allow users to see files and directories. The File Scan and Read rights are usually granted in combination.
Access Control	This right allows users to modify file or directory trustee assignments and Inherited Rights Masks. The Access Control right allows users to grant every right except Supervisory to other users. It also allows users to revoke rights or remove users as trustees of a directory.

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Additional information

Before you can grant rights to a user or group, the user or group must exist on the network. (Supervisors can use SYSCON to create users.)

You can also use SYSCON to grant trustee rights.

You must be attached to a file server before you can grant trustee rights in any directories or files on that file server. (See ATTACH and MAP.)

You can grant trustee rights only to one user or group with each GRANT command.

GRANT, REVOKE, and REMOVE are closely related. When you use GRANT to grant even one trustee right to a user or group, the user or group is automatically enrolled on that directory's trustee list and then given the specified right.

If you use REVOKE to revoke trustee rights from a user or group, the user or group remains a trustee of that directory. Use REMOVE to remove trustees.

USER and GROUP are optional. If a user and a group have the same name, however, you must use the constant GROUP before the name of the group in your GRANT command. The default is always the username.

For a complete explanation of trustee rights, see **Security** in *Concepts*.

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Grant rights in directories

Follow the directions below to grant rights in your default directory or in another directory.

Grant rights in your default directory

To grant rights in your default directory, you do not need to include the directory path. To grant the trustee rights Read and File Scan to user FRED in your default directory, type

GRANT R F TO USER FRED <Enter>

Grant rights in any directory

Suppose you want to grant the trustee rights Read and File Scan to user RUTH in the ACCPAY directory. Also suppose drive P is mapped as follows:

```
Drive P: = COUNT/ACCT:  ACCPAY
```

Type

GRANT R F FOR P: TO RUTH <Enter>

Grant rights in files

Follow the directions below to grant rights to a file in your default directory or in another directory.

Grant rights to a file in your default directory

To grant Create and Erase rights to user SALLY in the TASK file in your default directory, type

GRANT C E FOR TASK TO SALLY <Enter>

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Grant rights to a file in any directory

Suppose you want to grant Read and File Scan trustee rights to user GARY in the REPORTS file. Assume that drive Q is mapped as follows:

```
Drive Q: = COUNT/ACCT:  ACCPAY
```

Type

GRANT R F FOR Q:REPORTS TO GARY <Enter>

Task examples

Following are examples that may help you use GRANT effectively.

Grant all but a specific right

To grant all rights except Access Control to user JOE in your default directory, type

GRANT ALL BUT A TO JOE <Enter>

Grant a specific right and revoke all other rights

To grant the Read right to user LILI and revoke all other rights that she may have in your default directory, type

GRANT ONLY R TO LILI <Enter>

Grant all rights

To grant all rights to user ALLEN in your default directory, type

GRANT ALL TO ALLEN <Enter>

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Revoke all rights

To revoke all rights from user ROSA in your default directory, type

```
GRANT NO RIGHTS TO ROSA <Enter>
```

Grant rights to a group

To grant Read, Write, Create, and File Scan rights to the group MEMBERS, type

```
GRANT R W C F TO MEMBERS <Enter>
```


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HELP
(Network HELP)

Command Line Utility

Why use HELP?

Use HELP to view online information about NetWare utilities. NetWare HELP allows you to search for and retrieve information from infobases (information databases).

Command format

HELP [*commandname*]

Replace *commandname* with the name of a specific command or utility that you want to view information about.

Features

NetWare includes the following features, which are described in detail on the next two pages:

Command access while in FOLIO
Enhanced search capability
Graphic support
Mouse capability
Pull-down menus

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Command access while in FOLIO

To access command line utilities while in FOLIO, complete the following steps.

Action
1. Under the "File" menu, select the "Switch App" option. On a mouse-driven system, click on this option to bring up the "Execute Companion" dialogue box.
2. If you are using a standard keyboard system, press <Ctrl><Shift><F1>.
3. Type the command in the "Execute Companion" dialogue box and press <Enter>.

Enhanced search capability

The added convenience of the mouse allows you to point and click or to scroll through word/phrase searches. See your mouse documentation for details of mouse operation. Detailed search instructions appear under "Use the search feature."

You can use the standard editing keys to move around in HELP. In addition, you can use the following keys.

Key	Description
+ or -	Rotates windows without closing them
<Tab>	Moves the cursor to the next link token
<Shift><Tab>	Moves the cursor to the previous link token
<Escape>	Closes windows; exits search

Graphics support

If your workstation does not support graphics, this feature is not available.

Use the Left-Right (↔) Arrow link to access graphics screens in NetWare HELP. Press <Escape> to exit the graphics screen.

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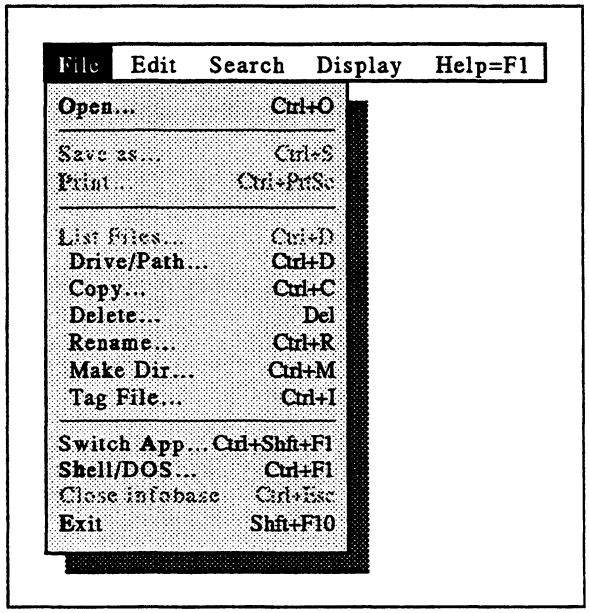
Mouse capability

NetWare HELP now offers the option of using a mouse to move around in all menu options. See your mouse documentation for details of operation.

Pull-down menus

The following figure displays a sample pull-down menu. These menus replace keystrokes used previously to perform various NetWare HELP functions.

Pull-down menu



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If you have mouse capability, just point and click on the menu name. If you are using a standard keyboard, these menus can be accessed with the following keystrokes.

Menu type	Keystrokes
Scanning menus	<Alt><S> plus Arrow keys
File menu	<Alt><F>
Display menu	<Alt><D>

Access information about NetWare utilities

Perform the following procedure to access infobases available to you.

Action	Explanation
1. If your infobase is located in SYS:PUBLIC, type **HELP** <Enter>	If your infobase is located in a directory other than SYS:PUBLIC, change to that directory and type **NFOLIO** <Enter> NetWare HELP now appears on your screen. The "Bookshelf" window on the left lists all the infobases you can access. The "Description" window on the right displays the title page of the highlighted infobase.
2. To open an infobase, use the Up- and Down-arrow keys to highlight the name; then press <Enter>.	

Access information for a specific utility

If you want to view information about a specific utility, include the utility name in the command.

For example, to view HELP information about LOGIN, type

```
HELP LOGIN <Enter>
```

The NetWare infobase is opened and the help screen for LOGIN is displayed.

Follow link tokens

Link tokens connect related information from different places in the infobase. When you follow a link token, a new window appears to display the related information.

Action
1. To follow a link token, press <Tab> to move the cursor to the next token or <Shift><Tab> to move the cursor to the previous token. You can also use a mouse to choose link tokens.
2. Press <Enter>.
3. Use the following link tokens to move around in NetWare HELP: ▼ To connect related information or to link to another .NFO file ↔ To link to a graphics file, software application, or menu utility

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Use the search feature

The search feature allows you to search for words or phrases in the infobase by completing the following steps.

Action	Explanation
1. With the cursor in a window, but not under a link token, press <Enter> to bring up the complete infobase.	
2. Press the space bar.	The search windows appear, and the cursor moves to the query window.
3. Type the words or phrase you are searching for.	
4. Press <Enter>.	A new window appears, displaying the segments of the infobase where the search words occur.
5. Press <Tab> or <Shift><Tab> to scroll through the segments.	
6. If you want to see where the segment appears in the complete infobase, press <Enter> at the segment marker.	
7. To exit the search feature, press <Escape>.	

Use different types of searches

You can perform a variety of searches using NetWare HELP. The following examples illustrate the different types of searches available. Searches can be typed in either upper- or lower-case.

Single word search

To search for one word, enter that word in the search. For example, to search for the word *login*, type

```
LOGIN <Enter>
```


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Phrase search

To search for a phrase, enter that phrase in quotation marks. For example, to search for the phrase *login script*, type

"LOGIN SCRIPT" <Enter>

Combination word search

To search for combinations of words, use a space between the words to represent the "and" operator. For example, to search for all occurrences of *login* and *script* together in a segment, type

LOGIN SCRIPT <Enter>

Use OR operator

To search for occurrences of words either together in the segment or separately, use the slash symbol (/) to represent the "or" operator. For example, to search for all occurrences of the words *login* or *script* or both in the same segment, type

LOGIN/SCRIPT <Enter>

Use wildcard characters

Use the wildcard characters * and ? to search for variations of words. For example, to search for all words that begin with *logi* followed by one more character, type

LOGI? <Enter>

If the word has more than one unspecified character, include the * character. For example, to search for all words that begin with *log* followed by more than one character, type

LOG* <Enter>

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Proximity search in specified order

To search for words that occur within a certain number of words from each other, type the words inside quotation marks, followed by a number. For example, to search for the words *login* and *script* occurring within five words of each other, type

```
"LOGIN SCRIPT"5 <Enter>
```

Proximity search in any order

To search for words that occur within a certain number of words but in any order, type the words inside quotation marks, followed by the "at" symbol (@) and a number. For example, to search for the words *login* and *script* occurring within two words of each other but in any order, type

```
"LOGIN SCRIPT"@2 <Enter>
```

Print from HELP

You can block text in HELP and print it on either an IBM ProPrinter or an HP LaserJet.

Action
1. Press <Ctrl><B> to begin blocking. Use the standard editing keys to block the desired text.
2. Press <Ctrl><PrintScrn> to send the block to a printer.
3. Select "Print."
4. Highlight the desired settings and press <Enter> to print.

To print information on a non-network printer, you can block text from HELP and save it to a file by highlighting "Redirect Document to _____."

hybrid

Host
Utility

Why use *hybrid* ?

Use *hybrid* to do the following:

- Allow host users to access files they created as NetWare users
- List the users who can save files in NetWare and access them through the host

NOTE

Hybrid user files are assigned a default rights mask set in the NWConfig file.

You can also use the *sconsole* host utility to create and delete hybrid users and list them, just as you can with the *hybrid* utility.

hybrid allows you to connect NetWare users to their host ID user and group identifications so they can access the files they create in NetWare from the host side. Unless you use *hybrid,* all files created by NetWare users are accessible only to the host's root user and the members of rootgroup.

The hybrid executable file is located in the */bin/netware* directory.

Command format

hybrid [*option...*]

hybrid is a host utility and must be entered in lower-case.

Replace *option* with any of the command options described on the following page.

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View the current list of hybrid users

Type

hybrid -l <Enter>

Use the -l option to list the current hybrid users with their NetWare username and their host username displayed.

Create a hybrid user

Type

hybrid -b *NWusername hostname* <Enter>

Use the -b option to create (or bind) a new hybrid user. After the -b parameter, type the NetWare username, a space, and then the host username (which can be any host user except "root").

Delete a hybrid user

Type

hybrid -u *NWusername* <Enter>

Use the -u option to delete (or unbind) an existing hybrid user. After the -u parameter, type only the NetWare username.

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IPX

Command Line Utility

Why use IPX?

Use IPX to

- View information about the version of IPX.COM installed on your network.
- View the available hardware configuration options for your network.
- Change the configuration option number for the network board.

Command format

IPX [I] | [D] | [O*x*]

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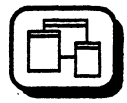
Command options

Option	Description
[I]	Use this option to view Information about the version of IPX.COM running on your network and the current hardware configuration.
[D]	Use this option to Display the hardware configuration options for the network board. The current board option is marked by an asterisk (*).
[O*x*]	Use this option to change the configuration Option number for the network board without having to use DCONFIG (replace *x* with the board configuration number). This option overrides the configuration option currently in memory. It does not permanently modify the IPX program. To permanently modify the hardware configuration option in IPX, use DCONFIG. For example, suppose you have two NE1000 network boards in your workstation, board A set to option 0 and board B set to option 5. To allow IPX to use board B, type `IPX O5` <Enter> To allow IPX to use board A, type `IPX O0` <Enter>

JUMPERS

Menu
Utility



Why use JUMPERS?

Use JUMPERS to configure or reconfigure the IPX LAN driver to match network board settings in a dedicated DOS IPX workstation or a 286-based router.

JUMPERS is needed only when the available options do not provide the desired combination of supported resource values.

Only drivers that show the "Jumpers Configurable" option when you run WSGEN, ROUTEGEN, or INSTALL can be reconfigured.

Command format

JUMPERS

Using JUMPERS

JUMPERS allows you to use custom options not provided in utilities used to generate OS or IPX files. When you use JUMPERS to reconfigure LAN drivers, you do not need to regenerate the OS or IPX files.

Be sure to reconfigure the LAN drivers before you change the network board settings.

If "Packet Size" is included in the list of options for the LAN driver you select in JUMPERS, you can change the workstation packet size specified in the DOS workstation's IPX file.

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The server packet size specified in the server OS determines the maximum packet size on the network (the maximum packet size determines the buffer size). However, if the packet size specified in the workstation's IPX LAN driver is smaller than the packet size used by the LAN driver in the OS, the workstation operates with the smaller packet size.

Larger packet sizes in the workstation IPX driver improve driver throughput, while smaller packet sizes free up more memory for applications.

If your driver is JUMPERS configurable, we suggest you set the workstation packet size to the same size as the server's maximum packet size.

Since JUMPERS is in SYS:PUBLIC, regular users can use it to reconfigure the LAN drivers in their workstation IPX files.

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Reconfigure the LAN driver in the router software

Action	Explanation
1. Run JUMPERS, specifying the filename (ROUTER.EXE) of the router software when prompted for a filename.	
2. Select the appropriate LAN driver and change options.	A list of options for the LAN driver you select appears with the current configuration for that driver. (If the driver allows, packet size is one of the parameters.) Select any parameter and choose from a list of supported values. JUMPERS reads all LAN drivers, including disk drivers and LAN drivers JUMPERS cannot configure. If another driver in the OS uses a particular option, the option appears with an asterisk (*).
3. Exit JUMPERS by pressing <Escape>.	
4. Bring the router down.	If you changed only the packet size, all you need to do is reboot. If you have a bridge with microchannel architecture, run REFERENCE (or similarly named program) to change the board settings; then bring the server up. If you have an AT-compatible server, turn off the computer. Change the network board settings; then bring the server up.

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Reconfigure the LAN driver in the workstation IPX file

Some microchannel workstation drivers are self-configuring. In this case, use the REFERENCE (or similarly-named program) to change network board settings. Use JUMPERS only if you want to change packet size.

Action	Explanation
1. Log in at the workstation.	
2. Run JUMPERS, specifying the IPX file when prompted.	For example, (depending on the location of the boot files) type A:IPX.COM or C:\IPX.COM If you have renamed the IPX file, use the new filename.
3. From the list of "Shell Driver Options," select the options you want to change, and change them.	
4. To save the changes press <Escape> and then <Enter>.	
5. Exit JUMPERS by selecting Yes at the confirmation box.	If you have more than one workstation with the same configuration, copy the modified IPX.COM file (depending on whether you workstations boot from diskettes or hard disks) to • boot diskettes; or • a network directory. *(continued)*

Action	Explanation
6. Log out.	If you changed only the packet size, all you need to do is reboot. If you have an ISA server, turn off the workstation. Change the network board settings; then boot the workstation.

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LISTDIR
(LIST DIRectories)

Command Line Utility

Why use LISTDIR?

Use LISTDIR to do the following:

- View the subdirectories of a directory
- View the Inherited Rights Mask of each subdirectory
- View the effective rights of each subdirectory
- View the creation date of each subdirectory
- View subsequent subdirectories

Command format

LISTDIR [*path*] [*option...*]

Replace *path* with a directory path leading to and including the volume, directory, or subdirectory you want to view.

Replace *option* with one or more of the following options.

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Command options

Option	Description
/Rights	Include this option to view the Inherited Rights Mask of all subdirectories in a directory.
/Effective rights	Include this option to view the effective rights you have in all subdirectories of a directory.
/Date or /Time	Include either option to view the creation date of each subdirectory in a directory.
/Subdirectories	Include this option to view the subdirectories of a directory and all subsequent subdirectories.
/All	Include this option to combine the functionality of the other four options.

Additional information

You must be attached to a file server before you can use LISTDIR to view the subdirectories of any directory on that file server.

After typing LISTDIR, press <Ctrl><S> to temporarily stop your screen from scrolling through all the subdirectories in a given directory. Press any key to resume scrolling.

View subdirectories in your default directory

To view subdirectories in your default directory, type

```
LISTDIR <Enter>
```

You see a list of the subdirectories in your default directory.

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View subdirectories in any directory

To view subdirectories in a given directory, specify the directory path leading to the directory. For example, to view the subdirectories in the ACCPAY directory in volume ACCT on file server COUNT, map a drive to the directory ACCPAY. Suppose you choose drive P, which is mapped as follows:

```
Drive P: = COUNT/ACCT: ACCPAY
```

Replace *path* in the LISTDIR command format with P: or with COUNT/ACCT: ACCPAY to specify the ACCPAY directory. Type

LISTDIR P: <Enter>

View the Inherited Rights Mask of subdirectories

Include the /Rights option to view the Inherited Rights Mask of subdirectories in a directory. To view the Inherited Rights Mask of subdirectories in your default directory, type

LISTDIR /R <Enter>

To view the Inherited Rights Mask of all subdirectories in any directory, specify the full directory path leading to those subdirectories. Suppose you want to view the Inherited Rights Mask in the ACCREC directory in volume ACCT on file server COUNT. Drive L is mapped to ACCREC as follows:

```
L: = COUNT/ACCT: ACCREC
```

Type

LISTDIR L: /R <Enter>

View your effective rights in subdirectories

Use the /Effective rights option to view your effective rights in subdirectories. To view the effective rights of subdirectories in your default directory, type

```
LISTDIR /E <Enter>
```

To view your effective rights in subdirectories in another directory, specify the path to that directory.

View the creation date of subdirectories

Include the /Date or /Time option by typing

```
LISTDIR /D <Enter>
```

or

```
LISTDIR /T <Enter>
```

To view the creation date of subdirectories in any directory, specify the directory path in your LISTDIR command.

View the complete directory structure

Include the /Subdirectories option in your LISTDIR command if you want to view the complete structure of your default directory. Type

```
LISTDIR /S <Enter>
```

To view subdirectories and all subsequent subdirectories in any directory, specify the directory path leading to that directory.

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Use the /All option

Include the /All option to view the Inherited Rights Mask, the creation date of all subdirectories, and all subsequent subdirectories in a given directory. Type

```
LISTDIR /A <Enter>
```

To view all available information about the subdirectories in any directory, specify the directory path leading to that directory.

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LOGIN

Command Line Utility

Why use LOGIN?

Use LOGIN to invoke your login script for a particular file server and gain access to that file server's resources. (A user's access to a file server's resources is always limited by his or her effective rights on that server.)

Command format

LOGIN [*/option...*] [*fileserver*[*name*]] [*scriptparameters*]

The following table describes each LOGIN paramter.

Parameter	Description
/option	Replace with one or more of the options listed in the following table.
fileserver	Replace with the name of the file server you want to log in to.
name	Replace with your username.
scriptparameters	Replace with the LOGIN parameters that you set in your login script. For a complete explanation of LOGIN parameters, see the IF...THEN commands in Appendix A of *Installation*.

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Command options

The following table describes the LOGIN command options.

Option	Description
/Script	Include this option right after LOGIN to override the system and user login scripts with a different login script. Include the complete path specification to the login script you want to invoke. Use this option with the /NoAttach option.
/NoAttach	This option allows you to invoke a particular login script without logging out of current servers and attaching to a new server. You can use this option with the /Script option.
/Clearscreen	Include this option if you want to clear your workstation screen as soon as you enter your password.

Log in to your default file server

When you boot your workstation with the NetWare shell, your workstation transparently attaches to the file server that is logically closest on your network. This file server becomes your default file server until you log in to a different file server. To log in to your default file server, type

```
LOGIN <Enter>
```

Enter your username and (if applicable) your password when you are prompted for them.

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Log in to any file server

Suppose you are user SANDY on file server COUNT and your password is BEACH. To log in to COUNT, complete the following steps.

Action	Explanation
1. Type **LOGIN COUNT/SANDY** <Enter>	The following prompt appears: `Enter your password:`
2. Type **BEACH** <Enter>	A message similar to the following appears: `You are logged in to server COUNT as user SANDY.` You can also type just **LOGIN COUNT/** <Enter> Enter your username and password when prompted.

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Include a LOGIN command in your AUTOEXEC.BAT file

If you frequently log in to the same file server, you may want to include a LOGIN command in your AUTOEXEC.BAT file on your boot diskette.

If you do, when you boot your workstation with the NetWare shell and enter your password, you are logged in to the file server.

For example, you may want to log in to file server COUNT as user SANDY. Your AUTOEXEC.BAT file might look similar to the following:

```
IPX
NETX
F:
LOGIN COUNT/SANDY
```

IPX and NETX invoke the IPX.COM and NETX.COM files; F: changes the DOS prompt to the network drive F; and LOGIN COUNT/SANDY logs user SANDY in to file server COUNT. (For more information about AUTOEXEC.BAT files, see your DOS manual.)

Synchronize passwords

If your login script attaches you to more than one file server when you log in, LOGIN automatically checks if all passwords are valid. If a password has expired, LOGIN asks you if you want to change it.

If you change the password, LOGIN prompts you to see if you want to synchronize passwords (make all passwords the same). If you answer Yes, LOGIN synchronizes all passwords for all file servers on which you use the same username and password.

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Log out with LOGIN

Whenever you type a LOGIN command, you not only log in to the specified file server, but you also log out of any file servers to which you were attached before you typed LOGIN.

For example, you are logged in to file server COUNT and attached to file servers MKTG and SALES. Type

```
LOGIN LEGAL/ <Enter>
```

You log in to file server LEGAL and log out of file servers COUNT, MKTG, and SALES.

If you want to access another file server and remain logged in to your default file server, use ATTACH.

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LOGOUT

Command Line Utility

Why use LOGOUT?

Use LOGOUT to log out of one or all file servers to which you are attached. When you log out of a file server, you terminate your access to that file server.

Command format

LOGOUT [*fileserver*]

Replace *fileserver* with the name of the file server you want to log out of.

IMPORTANT

When you log out of a file server, all your temporary drive mappings to that file server disappear. If you intend to still use the network, be sure that you have a drive mapped to the PUBLIC directory of a file server you are still attached to. If you do not, you lose access to all the NetWare utilities (contained in your PUBLIC directory) and must reboot.

Log out of file servers

To log out of all file servers you are attached to, type

LOGOUT <Enter>

To log out of one file server you are attached to, specify the file server.

For example, suppose you are attached to file servers COUNT, SALES, and MFG. To log out of server SALES, type

LOGOUT SALES <Enter>

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MAKEUSER

Menu
Utility

Why use MAKEUSER?

Supervisors or workgroup managers can use MAKEUSER to create and delete users on a regular basis (such as setting up user accounts for new students each semester) or to create many users.

The tasks in MAKEUSER are arranged according to the "Available Topics" menu:

```
Available Topics

Create New USR File
Edit USR File
Process USR File
```


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Create and delete users

To create and delete users with MAKEUSER, you must first create a USR file. This file contains the keywords necessary to create and assign rights and restrictions to new users or to delete existing users.

We suggest that you create a directory for all USR files. When you create a USR file, MAKEUSER places the file in the current directory. If you need to modify or process a USR file, you must be in the directory where the file is located.

For example, you might want to create a directory USERS with subdirectories STUDENTS and ASSISTANTS. The STUDENTS directory might have subdirectories such as FALL90 and WINTER91. Then to use MAKEUSER to create or delete user accounts for students in a class in the winter semester of 1991, you would move to the USERS/STUDENTS/WINTER91 directory before executing MAKEUSER.

You can also use any text editor to create USR files. Follow the instructions in the text editor documentation for saving an ASCII/DOS file. Be sure the file has the .USR extension.

To create a USR file with MAKEUSER, complete the following steps.

Action
1. Go to the directory where you want to create the USR file and enter MAKEUSER.
2. Select "Create New USR File" from the "Available Options" menu.
3. In the "Creating a new USR file" entry box, type the keywords needed to create or delete users. The keywords are explained in the following section.
4. After you have entered the keywords you want, save the file by pressing <Escape> and selecting Yes.
5. Type a filename in the "Enter the new USR file name" window and press <Enter>. You return to the "Available Options" menu.

You must now process the USR file with MAKEUSER before the users are actually created or deleted.

MAKEUSER keywords

The keywords you must use to create and delete users in MAKEUSER are listed alphabetically below. Each one is explained in detail on subsequent pages.

#ACCOUNT_EXPIRATION *month day year*
#ACCOUNTING *balance, lowlimit*
#CLEAR or #RESET
#CONNECTIONS *number*
#CREATE *username* [*option...*]
#DELETE *username*
#GROUPS *group*
#HOME_DIRECTORY *path*
#LOGIN_SCRIPT *path*
#MAX_DISK_SPACE *vol, number*
#NO_HOME_DIRECTORY
#PASSWORD_LENGTH *length*
#PASSWORD_PERIOD *days*
#PASSWORD_REQUIRED
#PURGE_USER_DIRECTORY
#REM or REM
#RESTRICTED_TIME *day, start, end*
#STATIONS *network, station*
#UNIQUE_PASSWORD

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Restrictions on the use of keywords

Several restrictions apply to entering keywords:

- To extend the information for each keyword to the next line, type "+" after a variable. If you want to specify some but not all of the variables for a keyword, insert a double semicolon (;;) to indicate that one variable is missing. Insert a caret (^) to terminate a line at any point.
- The #CREATE keyword or #DELETE keyword must be included; all other information is optional.
- All other keywords that you want to apply to specific users must precede the #CREATE or #DELETE keyword for those users.
- The #CLEAR or #RESET keyword can be used to mark the beginning of a new set of keywords within the same file.
- Each keyword must be on a separate line.
- If the same keyword is specified more than once, only the last value is used; previous values are ignored.

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Keyword explanations

The following table explains keywords used with MAKEUSER.

Keyword	Explanation

#ACCOUNT_EXPIRATION *month day year*	Use this keyword to specify when users' accounts expire. If it is not used, the accounts never expire. Use this keyword only in conjunction with #ACCOUNTING. Replace *month day year* with the appropriate dates.
	
	Example. To assign USER1 and USER2 an account expiration date of November 24, 1992, type
	
	`#account_expiration November 24, 1992`
	`#create user1^`
	`#create user2^`

#ACCOUNTING *balance, lowlimit*	Use this keyword to specify the account balance and low balance limit for the users you create. Replace *balance* and *lowlimit* with numeric values based on what you specified when you installed Accounting. *Balance* cannot be less than *lowlimit*. You must have the Accounting feature installed on your file server to use this keyword.
	
	Example. To assign USER1 a balance of 1,000 and a lowlimit of -200 and USER2 a balance of 500 and a low limit of 0, type
	
	`#accounting 1000, -200`
	`#create user1^`
	`#clear`
	`#accounting 500, 0`
	`#create user2^`

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Keyword	Explanation

#CLEAR or #RESET	Use these keywords to start a new set of keywords in the same USR file. All previous keywords encountered in the USR file have no effect on what follows #CLEAR.
	
	Example. To add USER1 and USER2 to the group SALES and to assign USER3 time restrictions, but not add USER3 to the group SALES, type
	
	`#groups sales`
	`#create user1^`
	`#create user2^`
	`#clear`
	`#restricted_time mon, 12:00 p.m., 2:00 p.m.`
	`#create user3^`

#CONNECTIONS *number*	Use this keyword to specify the maximum concurrent connections each user can have. If no number is specified, each user can have as many concurrent connections as the file server supports.
	
	Example. To allow USER1 and USER2 to log in from only one workstation at a time, type
	
	`#connections 1`
	`#create user1^`
	`#create user2^`

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Keyword	Explanation
#CREATE *username* [;*fullname*] [;*password*] [;*group*] [;*directory* [*rights*]]	Use this keyword to create users. You must include *username*; other variables are optional. If you include other variables, you must separate them with semicolons. When you create a user, a home directory is automatically created in the SYS volume. Replace *username* with the account name of the user to be created. You cannot use the same username more than once in a USR file. Replace *fullname* with the full name of the user. The name cannot contain commas. Replace *password* with the password of the user to be created. Replace *group* with the name of the group that the new user belongs to. Each user is automatically assigned to the group EVERYONE. You can assign users to more than one group (up to 32), but you must separate group names with a comma. Replace *directory* with the path of any existing directory you want the user to have rights in. Replace *rights* with the rights you want the user to have in the specified directory. If you do not specify rights, the default rights [R, F] are assigned. If you want to assign all rights, type "All" after the directory. This excludes the Supervisory right; it must be granted separately. You can assign rights to more than one directory, but you must separate each sequence (*directory, rights*) with a comma.

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Keyword	Explanation
#DELETE *username* [;*username*]	Use this keyword to delete users and any information relative to those users. Replace *username* with the name of the user you want to delete. You can enter #DELETE in the same USR file as #CREATE. If you want to delete the user's home directory when you delete the user, you must precede the DELETE keywords with both HOME_DIRECTORY and PURGE_USER_DIRECTORY.

#GROUPS *group* [;*group*]	Use this keyword to assign users to groups. Replace *group* with the name of the group you want to assign the user to. You can assign a user to up to 32 groups. Only groups you have already created with SYSCON can be included. New users are automatically assigned to the group EVERYONE. New users can also be assigned to groups using #CREATE.
	
	Example. To assign LARRY to groups G1 and G2, type
	
	`#groups g1; g2`
	`#create larry^`

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Keyword	Explanation

#HOME_DIRECTORY *path*	Use this keyword to assign or delete a home directory when creating or deleting a user. Replace *path* with a directory path leading to and including the volume, directory, and subdirectory where you want to create a home directory. When this keyword is used before #CREATE, MAKEUSER creates home directories under users' names in the specified path. Only existing directories can be specified. If this keyword is not used before #CREATE, a home directory is automatically created in the SYS volume (see #CREATE).
	
	When this keyword is used before #DELETE, MAKEUSER automatically tries to delete the user's home directory in the SYS volume. However, if the home directory is not in SYS, you must specify the path.
	
	Example A. To create the home directory in the SYS:NEWUSERS directory for user ROBERT, type
	
	`#home_directory sys:newusers`
	`#create robert^`
	
	Example B. To delete user ROBERT and his home directory, type
	
	`#home_directory sys:newusers`
	`#purge_user_directory`
	`#delete robert^`

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Keyword	Explanation

#LOGIN_SCRIPT *path*	Use this keyword to specify the location of the file containing a login script to be copied and used as each new user's login script. MAKEUSER places the file in each user's mail directory. Replace *path* with a directory path leading to and including the volume, directory, subdirectory, and file you want to use. The file containing the login script must already exist. You must create the file in SYSCON or with a text editor and put it in a convenient directory.
	
	Example. To assign user LIZ a login script found in the file EVERYONE.LOG in the SYS:PUBLIC directory, type
	
	`#login_script sys:public/everyone.log`
	`#create liz^`

#MAX_DISK_SPACE *vol, number [;vol, number]*	This option is not available with this version of NetWare.
#NO_HOME_DIRECTORY	Use this keyword to specify that a user's home directory not be created.

#PASSWORD_LENGTH *length*	Use this keyword to specify the minimum length of the new users' passwords. Replace *length* with a number between 1 and 20. The default is five characters. You must enter PASSWORD_REQUIRED before you enter PASSWORD_LENGTH.
	
	Example. To require user SUSAN to have a password of at least seven characters, type
	
	`#password_required`
	`#password_length 7`
	`#create susan_flowers^`

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Keyword	Explanation

#PASSWORD_PERIOD *days*	Use this keyword to assign the number of days between password expirations. If this keyword is not used, the password never expires. Replace *days* with a number from 1 to 365. You must enter PASSWORD_REQUIRED before you enter PASSWORD_PERIOD.
	
	Example. To require user DOUG to change his password every 30 days, type
	
	`#password_required`
	`#password_period 30`
	`#create doug_umbrella^`

#PASSWORD_REQUIRED	Use this keyword to require users to have a password. If this keyword is not specified, users can decide whether to assign passwords to their accounts. You must enter PASSWORD_REQUIRED before PASSWORD_LENGTH, UNIQUE_PASSWORD, or PASSWORD_PERIOD can be specified.
	
	Example. To require user BECKY to have a password, type
	
	`#password_required`
	`#create becky;;cookie^`

#PURGE_USER_DIRECTORY	Use this keyword to delete any subdirectories owned by the user when the user is deleted. Use it also in conjunction with the HOME_DIRECTORY keyword to delete the user's home directory. You must enter this keyword before #DELETE. If you want to delete the user's home directory, you must include #HOME_DIRECTORY.
	
	Example. To delete user RANDY, his home directory in the SYS:HOME directory, and any subdirectories he may have created, type
	
	`#home_directory SYS:HOME`
	`#purge_user_directory`
	`#delete randy^`

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Keyword	Explanation

#REM or REM	Use this keyword to make comments about the information in your USR file. It must appear as the first word on the line. The rest of the line is ignored when the file is processed.
	
	Example. To identify the contents of a USR file, you may want to include #REM:
	
	`#rem students in history 302 winter semester`
	`#create student1^`
	`#create student2^`
	`#create student3^`

#RESTRICTED_TIME
day, start, end
[;*day, start, end*]
	Use this keyword to specify which days and hours new users cannot log in to the file server. If this keyword is not used, no restrictions apply.
	
	Replace *day* with a single day of the week, or use "everyday."
	
	Replace *start* and *end* with regular time-of-day formats. The *end* time cannot be earlier than the *start* time.
	
	Example. To prevent user CINDY from logging in on Monday from 8:00 a.m. to 2:00 p.m., type
	
	`#restricted_time mon, 8:00 a.m., 2:00 p.m.`
	`#create cindy^`

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Keyword	Explanation
#STATIONS *network, station [,station] [;network, station]*	Use this keyword to specify the physical workstations from which users can log in to the file server. If this keyword is not used, users can log in from any workstation. Replace *network* with the hexadecimal network address. The address cannot exceed eight digits. Replace *station* with the hexadecimal station address. The address cannot exceed 12 digits. If all stations are to be included for any given network, you can replace the station address with "all" (for example, "Stations 12345, all"). **Example.** To allow user MARIA to log in only from stations FE and DD on Network 12345, type #stations 12345, FE, DD #create maria^

#UNIQUE_PASSWORD	Use this keyword to prevent users from reusing any of their previous eight passwords when they change their passwords. If this keyword is not specified, users can choose passwords they used previously. You must enter PASSWORD_REQUIRED before you enter UNIQUE_PASSWORD.
	
	Example. To require user MARJ to change to a unique password every 30 days, type
	
	`#password_required`
	`#password_period 30`
	`#unique_password`
	`#create marj_apple^`

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Edit a USR file

The MAKEUSER menu utility lets you edit a USR file. However, it does not create or change an account for a user already on the network.

If you need to make changes to the USR file before you process it, complete the following steps.

If you need to change the USR file after you process it, you must reprocess the file after making your corrections.

Action
1. Move to the directory that contains the USR file you want to edit and enter MAKEUSER.
2. Select "Edit USR File" from the "Available Options" menu.
3. Type the name of the USR file in the "Enter USR File Name" entry box and press <Enter>. You can also press <Insert> to see a list of USR files in your current directory and select the one you want to edit.
4. Make the necessary changes to the file.
5. Press <Escape>.

Process a USR file

MAKEUSER does not create or delete users until the USR file is processed. You can process a USR file in two ways:

- With the MAKEUSER menu utility
- With the MAKEUSER command line utility

To process a USR file with the MAKEUSER menu utility, complete the following steps.

Action	Explanation
1. Move to the directory that contains the USR file you want to process and enter MAKEUSER.	The "Available Options" menu appears.
2. Select "Process USR File."	

3. Type the name of the USR file in the "Enter USR File Name" entry box and press <Enter>.	The file is scanned for syntax errors. You may see error messages similar to the following:
	
	`Keyword expected`
	`Specification exceeded the limit, the rest of the line ignored`
	`Username CHUCK already specified`
	
	These errors must be corrected by using the MAKEUSER "Edit USR File" option or with a text editor before the file can be processed (see "Edit a USR file"). Once scanned successfully, the file is processed. Logic errors such as "Group NOBODY could not be found" or "User Tom already exists" are placed in a report (RPT) file, along with the results of processing the USR file.

4. Check the RPT file to see if your USR file has been processed successfully. To do this, exit MAKEUSER.	
5. Enter the DOS TYPE command and the name of the USR file, with an .RPT extension, that you have just processed.	For example, if the USR filename is DEPT1.USR, type **`TYPE DEPT1.RPT`** <Enter> You see the contents of the DEPT1.RPT file. If the results are not what you expected, return to MAKEUSER and edit the USR file.

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MAKEUSER command line utility

To process a USR file with the MAKEUSER command line utility, complete the following steps.

Action	Explanation

1. Change to the directory containing the USR file you want to process and type
 	
MAKEUSER *filename* <Enter>
	You need not type the .USR extension.
	
	The USR file is scanned for syntax or logic errors. If there are errors, you see a message similar to the following:
	
	`Error : Line 001, Undefined keyword`
	`Warning: Line 002, Group expected`
	`Please fix the error in the file and try it again.`
	
	You must correct any errors using the "Edit USR File" option of the MAKEUSER menu utility or a text editor. Then start over with Step 1.
	
	If there are no errors, the USR file is processed and a report file, *filename*.RPT, is placed in the current directory. You see a message similar to the following:
	
	`Check the results in filename.RPT`

2. To check the results, exit MAKEUSER and type
 	
TYPE *filename*.RPT <Enter>
	You see a message similar to the following:
	
	`User USER1 created`
	`User USER2 not created`
	`Already exists`

MAP

Command Line Utility

Why use MAP?

Use MAP to do the following:

- View current drive mappings
- Create or change network drive mappings
- Create or change search drive mappings
- Map a drive to a fake root directory
- Map the next available drive

Command formats

To view current drive mappings:

MAP [*drive*:]

To create or change network drive mappings:

MAP *path*
MAP *drive*: = [*drive*: | *path*]
MAP [*option*] *drive*:

To create or change search drive mappings:

MAP [*option*] *drive*: = [*drive*:*path*]

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To map a drive to a fake root directory:

MAP[ROOT] *drive:* = [*drive:* | *path*]

Replace *drive* with the drive letter mapped to the directory you want to work with.

Replace *path* with the directory path you want to work with.

Replace *option* with one of the command options in the following table.

Include ROOT to map a drive to a fake root directory.

NOTE

You cannot map a drive to the root of a NetWare volume.

Command options

Replace *option* with the appropriate option as explained in the following table.

Option	Description
INS[ert]	Use this option to change search drive mappings.
DEL[ete]	Use this option to delete a default, network, or search drive mapping.
REM[ove]	Use this option to delete a default, network, or search drive mapping.
N[ext]	Use this option to map the next available drive to a specified path. To execute this option, type **MAP n[ext]** ***pathname*** <Enter>

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Additional information

Some software applications write files to and read files from the root directory only. Because users do not have rights in the root directory, they cannot retrieve or write to files they create in those applications. NetWare allows users to map a drive to a fake root directory where they have the rights they need. For further explanation, see **Fake Root** in *Concepts*.

Drive mappings are temporary. They are deleted when you log out or turn off your workstation. Drives mapped to fake root directories are also deleted.

You can save drive mappings—including fake root mappings—in your login script if you want them to be invoked each time you log in. See Appendix A in *Installation*.

If you try to map a local drive to a network directory path, a prompt similar to the following appears:

```
Drive B: is in use as a local drive
Do you want to assign it as a network drive? (Y/N) Y
```

To assign the drive letter to a network drive, answer Yes.

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View current drive mappings

View all mappings

Type

MAP <Enter>

You see information similar to the following:

```
Drive A:   maps to a local drive
Drive B:   maps to a local drive
Drive F:=  COUNT/SYS:  /HOME/KAREN
Drive G:=  COUNT/SYS:  /
Drive H:=  COUNT/ACCT:  /ACCDATA

SEARCH1:=Z:.  [COUNT/SYS:  /PUBLIC]
SEARCH2:=Y:.  [COUNT/SYS:  /PUBLIC/WP]
SEARCH3:=X:.  [COUNT/ACCT:  /ACCREC]
```

View specific mappings

To view the mapping of drive F, specify that drive in the command:

MAP F: <Enter>

You see information similar to the following:

```
Drive F:=  COUNT/SYS:  /HOME/KAREN
```


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Create or change drive mappings

Suppose you are user KAREN on file server COUNT. To create or change a drive mapping, complete one of the following.

Create a default mapping

To map drive G to your home directory and use it as your default directory, type

MAP G: = COUNT/SYS:HOME/KAREN <Enter>

Create a network mapping

Suppose you want to map a network drive to a directory in which you have files. To see what network drive letters are available, type

MAP <Enter>

Choose a drive letter that is not being used, such as J. Type

MAP J: = ***path*** <Enter>

Replace *path* with the directory path leading to the files to which you want network drive J mapped.

Extend a mapping

To extend the mapping for your default drive from COUNT/SYS to COUNT/SYS:HOME/KAREN, at COUNT/SYS type

MAP HOME/KAREN <Enter>

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Remap your default drive

Suppose your default drive is mapped as

```
Drive G: = COUNT/SYS:
```

and you want to remap drive G as

```
Drive G: = COUNT/ACCT:ACCDATA
```

Type

MAP ACCT:ACCDATA <Enter>

Because file server COUNT is your default file server, you do not need to include COUNT in the MAP command.

Map to another volume

To map drive M to the PUBLIC directory in volume SYS on your default file server COUNT, type

MAP M: = SYS:PUBLIC <Enter>

If file server COUNT is not your default file server, you must include the file server name in your command:

MAP M: = COUNT/SYS:PUBLIC <Enter>

If another drive, such as drive Z, is already mapped to COUNT/SYS:PUBLIC, you can type

MAP M: = Z: <Enter>

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Map to your default drive

You can map network drives to the same path as your default drive. Suppose your default drive is drive G mapped to volume SYS on file server COUNT as follows:

```
Drive G: = COUNT/SYS:
```

To map a network drive (for example, drive P) to the same path as your default drive (drive G), change to your default drive and type

MAP P: = G: <Enter>

Delete a network drive mapping

To delete network drive G, type

MAP DEL G: <Enter>

or

MAP REM G: <Enter>

A message similar to the following appears:

```
The mapping for drive G: has been deleted.
```


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Create or change search drive mappings

You can create, modify, or delete a search drive mapping by completing one of the following.

Create a search drive mapping

Suppose you are user TERRY and your search drives appear as follows:

```
SEARCH1:=Z:.  [COUNT/SYS:  /PUBLIC]
SEARCH2:=Y:.  [COUNT/SYS:  /PUBLIC/WP]
```

The next available search drive is SEARCH3 (S3). To map a search drive to directory ACCREC on volume ACCT, type

MAP S3: = COUNT/ACCT:ACCREC <Enter>

When you type MAP again, you see that the new search drive mapping has been added:

```
SEARCH1:=Z:.  [COUNT/SYS:  /PUBLIC]
SEARCH2:=Y:.  [COUNT/SYS:  /PUBLIC/WP]
SEARCH3:=X:.  [COUNT/ACCT:  /ACCREC]
```

Change a search drive mapping

Suppose that you want to remap search drive 3 so that instead of searching drive X mapped to COUNT/ACCT:ACCREC, it searches the next available drive letter mapped to COUNT/SYS:HOME/TERRY.

To remap search drive 3 in this way, use one of the following commands:

MAP S3: = COUNT/SYS:HOME/TERRY <Enter>

or

MAP INS S3: = COUNT/SYS:HOME/TERRY <Enter>

The first command converts drive X to a regular network drive and reassigns search drive 3 to the next available drive letter (in this case, drive W) mapped to COUNT/SYS:HOME/TERRY:

```
Drive X:=  COUNT/ACCT:  /ACCREC
    ------

SEARCH1:=Z:.  [COUNT/SYS:  /PUBLIC]
SEARCH2:=Y:.  [COUNT/SYS:  /PUBLIC/WP]
SEARCH3:=W:.  [COUNT/SYS:  /HOME/TERRY]
```

The second command reassigns drive X from search drive 3 to search drive 4, leaving search drive 3 temporarily vacant. Then the command inserts the next available drive (in this case, drive W) mapped to COUNT/SYS:HOME/TERRY into the vacancy:

```
SEARCH1:=Z:.  [COUNT/SYS:  /PUBLIC]
SEARCH2:=Y:.  [COUNT/SYS:  /PUBLIC/WP]
SEARCH3:=W:.  [COUNT/SYS:  /HOME/TERRY]
SEARCH4:=X:.  [COUNT/ACCT:  /ACCREC]
```


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Delete a search drive mapping

To delete search drive 3, type

```
MAP DEL S3: <Enter>
```

or

```
MAP REM S3: <Enter>
```

A message similar to the following appears:

```
Mapping for SEARCH3: has been deleted.
```

Map a drive to a fake root directory

Some applications read files from and write files to the root directory. Since you do not want users working at the root level, you can map a drive to a fake root directory where the user has rights.

NOTE

Fake roots work only with the NetWare v3.0 version of NETX.COM. If you are using older NetWare versions, you cannot create fake roots.

Map to default drive

Suppose you are user TERRY on file server COUNT and your default drive is mapped as follows:

```
F: = COUNT/SYS:HOME/TERRY
```

You need access to the root directory to run one of your applications. Since you don't have rights to the root directory, map a fake root to TERRY, where you do have all rights. Type

MAP ROOT F: = HOME/TERRY <Enter>

The default file server and volume are COUNT/SYS, so you don't need to include them in the command.

To delete a fake root, type

MAP ROOT F: <Enter>

When you type "MAP", you see a double space and a slash after TERRY, indicating that the root directory for drive F is now TERRY:

```
F:=COUNT/SYS:HOME/TERRY  /
```

Change to subdirectory FILES in directory TERRY to see more clearly how to identify the fake root:

```
F:=COUNT/SYS:HOME/TERRY  /FILES
```

NOTE

From a fake root, you cannot use the CD command to return to the original root. To change the fake root back to the original root, remap the drive.

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Map to another file server

Suppose you are attached to file servers COUNT and MKTG. Your default server is COUNT, but you need to create a fake root directory on server MKTG so you can use accounting applications. Your drive mapping to accounting applications on server MKTG is as follows:

```
H: = MKTG/SYS:ACCT/TERRY
```

From any drive on server COUNT, type

MAP ROOT H: = MKTG/SYS:ACCT/TERRY <Enter>

Change to server MKTG and type "MAP". You see the following:

```
H:=MKTG/SYS:ACCT/TERRY  /
```

Map to a new directory

Suppose you are attached to file servers COUNT and MKTG. Your default server is COUNT, but you want to map a fake root to directory ACCT on file server MKTG. From any drive on server COUNT, type

MAP ROOT H: = MKTG/SYS:ACCT <Enter>

The fake root directory of drive H on server MKTG is now ACCT. Type

MAP H:=MKTG/SYS:ACCT / <Enter>

The double space and slash after ACCT indicate that ACCT is the root directory for drive H. If you change to subdirectory TERRY, you see

```
H:=MKTG/SYS:ACCT  /TERRY
```

MENU

Command Line Utility

Why use MENU?

Use MENU to access customized menus you create. You can create your own menus in any text editor that is capable of saving a file in ASCII format; using the text editor, you specify the applications and programs you want to use. Then you use MENU to run the menu you have created.

Command format

MENU [*path*]*filename*

Additional information

You can use a customized menu to centralize the tasks or tools you use daily, such as software applications or database files. After you create the menu, you can access a particular application or tool quickly and easily. The NetWare MENU utility makes it possible for you to do the following:

- Combine several NetWare utilities into one menu operation, speeding up access to and execution of command sequences that you use often.
- Organize seldom-used DOS and NetWare command line tasks within one menu. Users can access the task from the menu rather than having to remember the command names and formats. They can also use the menu prompts to issue command parameters.
- Make individual menus that cater to beginning or occasional users who may not be familiar with DOS or NetWare tasks.
- Make as many menus as there are users so that every user can

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use a menu tailored to his or her specific needs.

Before you create a menu, you should be familiar with the format of the NetWare menu utilities and know how to use them.

The following sections describe how to plan, create, and access custom menus.

Planning your own menus

When you plan your own menus, you will have many options, commands, variables, and such to choose from. The following paragraphs will help you make selections wisely.

Which programs and applications to include

Before you plan a menu, you should consider who will use it. If you are creating it for yourself, decide what you want to include on it. If you are creating it for another user, consider that user's level of experience. Then decide what options the user needs to simplify the tasks he or she is likely perform. Likewise, if you are creating a menu for a group, consider the needs and experiences of the entire group. This helps you decide which programs, applications, and NetWare commands to include.

Which main menu options to include

Next you must identify categories for the programs and applications you have chosen and decide how frequently you use them. These categories become the options on your main menu. You can branch from these options to submenus that contain further options, or you can simply route your main menu options directly to the applications.

Some programs and applications fall naturally into categories. For instance, if you have only a few word processing and database applications, you might categorize all of them under "Applications." If your database and word processing applications are more extensive or complicated, however, you might separate them into categories, such as "Word Processing" and "Database."

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Which submenu options to include

The next step is to decide whether you need submenus and what options to include if you do. Group related topics under the categories you identified above.

For example, if one category on the main menu is "Word Processing," submenu options might be "WordPerfect," "WordStar," and "Microsoft Word."

You can use as many submenus as you need. Often, submenus have their own submenus.

Which commands and variables to include

Determine the commands you need to start each utility and application you plan to use on your menu. (For example, to start the SYSCON utility, you must type "SYSCON.") If you do not know the command format, see the entry in this manual or your application's manual.

It is usually helpful to include "Logout" as a menu option so you can log out of MENU and your file server in one step.

Using command characters as literal text

You can use command characters in the text file script. Command characters (such as @ and %) give the program specific instructions.

However, you may want to use some of these characters as literal text. (Literal text is displayed on the screen but is not used to issue commands from within the MENU program. The text in the menu or submenu titles and options is literal text.)

To use command characters as literal text, you must include the backslash (\) character. The backslash signals to the program that whatever character follows should not be considered an instruction, but should be displayed as literal text. For example, if you type "\@", the @ symbol is treated as a literal text character and appears on your menu.

Entering a double backslash (\\) allows you to use the second

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backslash as a part of the literal text.

If you want to use several symbols together in literal text, you must use the backslash symbol before each of them. For example, suppose you want the following line to be displayed on the screen as part of a menu title:

```
42%@\
```

You would have to enter it in the text file script as

```
"42\%\@\\"
```

NOTE

Literal text must also be enclosed in quotation marks (see the previous example command). Do not use quotation marks with the DOS ECHO and PAUSE commands unless you want the quotation marks displayed on the screen.

Parameters (such as the *.* wildcard characters) are not recognized as program commands if they are inside quotation marks.

Because quotation marks are a programming symbol, they are not displayed as literal text unless they are preceded by a backslash (\).

Including variables

You might want to include some commands that require additional instructions. For example, you might want users to be able to copy files from one destination to another using the menu.

If this is the case, include the COPY command in your text file. The COPY command might include several parameters that specify the file being copied and the file's source and destination directories.

Using the parameters for the command forms a "string" that displays the commands one after the other. Each value in a command string that a user must specify (such as a destination drive or a filename) is called a variable. In the following example, the variable @ becomes whatever value the user enters for the source drive (for example, A:, B:, or C:).

```
copy @"Enter Source Drive"
```

You can use some variables as "repeaters" by numbering the variables (such as @1, @2, or @3). Once you assign the value of a

variable in a command string, you do not need to repeat the assignment again. Every time you include that variable in the command string, it keeps the same value.

The following command string illustrates the use of "repeater" variables:

```
COPY
  COPY @1"Enter source drive/filename"
@2"Enter destination"
  DIR/W @1
  DIR/W @2
  PAUSE
```

Using this command string, the program copies a file from one drive (directory) to another and then displays a directory listing for each drive, as explained in the list below:

- The variable @1 displays the message "Enter source drive/filename" on the screen.
- The user enters the source drive and filename (for example, C:GEORGE) and presses <Enter>.
- The variable @2 displays the message "Enter destination" on the screen.
- The user enters the destination drive (for example, G:) and presses <Enter>. This creates a string for the menu system (COPY C:GEORGE G:).
- The COPY command then copies the file GEORGE from drive C to drive G.
- The program then proceeds to the next command in the string, DIR/W, which is the command used to display a directory listing of the source drive.
- Before it can execute this command, the program must know which drive to list. Because the variable @1 is included after the DIR/W command, the program knows that it should use the same value for @1 that was specified earlier for "Enter source drive" (drive C). Therefore, the user does not need to enter a drive letter.
- The program displays a directory listing of only the file GEORGE on drive C. Because a filename was specified in the @1 variable,

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only that file is displayed.

- The program then displays a directory listing of the destination drive (from the DIR/W command). To complete this command, the program again needs to know which drive to list. Because the variable @2 is included after the second DIR/W command, the program knows that it should use the same value for @2 that was specified for "Enter destination" (drive G). Therefore, the user does not have to enter the drive letter.

- The program displays a directory listing of drive G.

- When the user presses any key, the program continues.

Whenever the program encounters a new command in the text file, variables are assigned new values. (Any command that is not indented in the text file script is viewed as a new command, and the program disregards previous variable values.)

For example, the following script specifies different values for the variables in each command:

```
COPY DIR
  copy @1"Enter source drive" *.* @2"Enter destination"
  dir @2
DIR-CHKDSK
  dir @1"Enter drive you want directory of"
  chkdsk @1
  PAUSE
```

The first command (COPY DIR) copies all files from the default directory of one drive to another drive and then displays a directory listing of the destination drive. The command string indicates that variable @1 takes on the value of whatever source drive is entered, and variable @2 takes on the value of whatever destination drive is entered.

The second command (DIR-CHKDSK) displays a directory listing of whatever drive is entered and then checks its available disk space (CHKDSK can be executed only on local drives). Since this is a new command, all variables are assigned new values (different from the variable values in the preceding COPY DIR command). Variable numbering begins again, with a new value for variable @1.

Where to place menus on the screen

When creating a menu, you can decide where you want it to appear on the screen. After you decide, you can specify location values.

The default value for menu placement situates all menus at the center of the screen, each subsequent menu overwriting the previous one.

By calculating your own values for menu placement, you can choose where your menus appear on the screen. The menus may overlap, but you can often prevent complete overwriting. This allows you to fully use your screen's work space.

Once you determine where you want the menu to be positioned, you must calculate the vertical and horizontal location values. These values are measured by lines and columns, respectively.

Specifying vertical placement

Lines are measured from the top of the screen to the center of the menu. The line value you specify should equal the number of lines you want above the menu plus half the length of the menu.

Thus, you measure vertical placement by deciding the following:

- How many lines down from the top of the screen you want the top of the menu to begin.
- How many lines long you want the menu to be, divided by 2 (because measurement begins at the center of the menu).

This makes an equation of

$$A + B/2 = C$$

where

A = number of lines above the menu
B/2 = half the number of lines in the menu
C = vertical placement value

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For example, if you have a menu that is 8 lines long, and you want it to begin 5 lines down from the top of the screen, your equation would be the following:

```
5 + 8/2 = 9
```

The equation determines which line will be at the center of your menu (line 9 in our example). This is the vertical placement value. (If you specify a line that extends beyond the limits of the screen, the menu appears as close to the edge of the screen as possible while still leaving a one-line margin.)

If you do not know exactly where you want the menu, approximate a position. Sometimes it is easier to choose a location after you see the menu on the screen. For example, if you create a menu screen and then decide you want to move it 3 lines lower on the screen, you can easily do so by increasing the vertical placement value by 3 in the script file.

Specifying horizontal placement

Columns are measured from the left edge of the screen to the center of the menu. The column value you specify should equal the number of columns to the left of the menu plus half the width of the menu.

Thus, you measure horizontal placement by deciding

- How many columns from the left edge of the screen you want the left edge of the menu to begin
- How many columns across you want the menu to be (at least the length of the longest menu option), divided by 2 (because measurement begins at the center of the menu).

This makes an equation of

```
A + B/2 = C
```

where

A = number of columns to the left of the menu
B/2 = half the column width of the menu
C = horizontal placement value in number of columns

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For example, if you have a menu that is 14 columns wide and you want it to begin 5 columns from the left edge of the screen, your equation would be the following:

```
5 + 14/2 = 12
```

The equation determines which column will be at the center of your menu (12 in our example). This is the horizontal placement value. (If you specify a column that extends beyond the limits of the screen, the menu appears as close to the edge of the screen as possible while still leaving one column as a margin.)

If you do not know exactly where you want the menu, approximate a position. Sometimes it is easier to choose a location after you see the menu on the screen. For example, if you create a menu screen and then decide you want the menu 3 columns to the right, you can easily do so by increasing the horizontal placement value by 3 in the script file.

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Choosing menu colors

You can use COLORPAL to "paint" a color scheme on your menu screen. Each color scheme is called a palette. Use COLORPAL to change the colors of the existing palettes, add new color palettes, or delete unwanted color palettes.

NetWare's default color palettes are set to blue and white. Although it is possible to change the default color palettes used by the NetWare-supplied menus, we strongly suggest that you do not do so because you cannot change these defaults for one utility only. COLORPAL contains five defined palettes, numbered 0 through 4. NetWare-supplied menus use these palettes for the following:

- Palette 0 for lists, menus, and normal text
- Palette 1 for main headers and the background of the screen
- Palette 2 for help screens
- Palette 3 for error messages
- Palette 4 for exit and alert portals

Since these palettes are already being used by NetWare, you must add a new palette to the defined list to change the color palette on a menu you create.

See COLORPAL for more information on choosing menu colors.

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Add a color palette to your menu script

To use your new color palettes in the menus you create with MENU, add the number of the new color palette to the end of the menu location command in your menu script. For example, when you define a menu's location with MENU, you can type a command similar to the following in your menu script:

```
%Practice Menu,0,50,6 <Enter>
```

"%Practice Menu" names the menu. The three numbers that follow define the menu's vertical and horizontal placement on the screen and the menu's color palette.

If you define color palette number 6, for example, you can use it with a specific menu by typing "6" in the third position after the menu's name.

Using full default settings

When all default values are used, each menu is positioned at the center of the screen and a standard color scheme is used for lists and menus.

To use full default settings for both the location and the color palette, you do not need to enter any values. Simply press <Enter> after you enter the menu or submenu title in the text file script. For example, if you are entering the menu title "Accounts" and you want to accept the default location settings, you would type

```
%Accounts <Enter>
```


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Combining default and custom settings

You can also choose a default setting for one specification and create a custom setting for another.

The three numeric values on the menu or submenu title line represent the specifications for vertical (left) and horizontal (center) location and for color (right). When you integrate default values with custom values, you enter the number of the custom specification in its appropriate place on the title line. The specification numbers directly follow the menu or submenu title in the text file script, as in the following example:

```
%Menu Title,0,0,0
```

To specify a custom value, type the desired numeric value in its correct place on the title line. To use a default value, type either a zero (0) or a comma (,) in the value's place.

The following examples show the formats for using custom and default values together. The first example shows the default values for vertical location and color palette (represented by zeros) and the custom value of 20 for horizontal placement. The second example uses the same values, but the default values are represented by commas instead of numerals.

Example 1: %Accounts,0,20,0

Example 2: %Accounts,,20,

In these examples, the custom value in the title line places the menu "Accounts" at the center and to the left of the screen, and sets the palette to the default color scheme.

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Creating a menu

Before you create your own menus, you need to read the planning sections for information about placing menus and using defaults, specifications, and variables. Also, see the sample menu on the next page.

Action	Explanation
1. Bring up the text editor or word processor that you want to use to create the script and open a new file.	
2. Type the name of the main menu in the first line of the text file, preceded by the percent (%) symbol.	If you want to specify location and color values other than the default values, you must enter them after the title. See "Where to place menus on the screen."
3. Enter the commands you need for main menu options and the submenus and their options, and for the specific commands necessary to access and bring up these options.	Menu titles are typed flush with the left margin and preceded by a percent (%) sign. Menu options are typed flush with the left margin. Menu commands are typed on the line following the options they start or execute and are indented two or three spaces. MENU alphabetizes the list of options when the menu script is run. If you want to specify an order, number the menu options.
4. Save the script as a DOS (ASCII) text file and name the file using the DOS filename format.	You must specify an extension as part of the filename. You can use the default extension (.MNU) or you can use a different extension.

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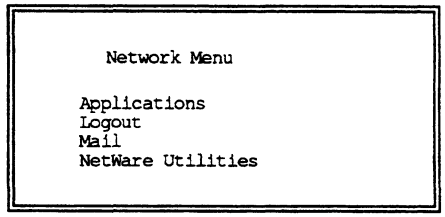
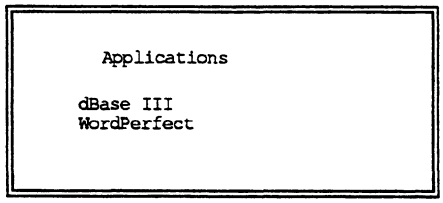
Sample menu

```
%Network Menu,5,20,0
    Applications
        %Applications
    NetWare Utilities
        %NetWare Utilities
    Mail
        mail
    Logout
        !logout
    %Applications,15,10,0
    WordPerfect
        wp
    dBASE III
        dbase
    %NetWare Utilities,0,50,0
    SESSION
        session
    FILER
        filer
    NCOPY
        ncopy @1"Enter source drive/filename"
        @2"Enter destination"
        dir/w @2
        pause
```

The menu script in the previous example produces the following main menu:



The submenu for "Applications" contains two options:



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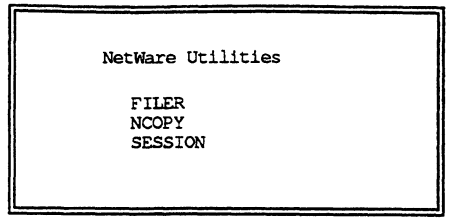
The submenu for "NetWare Utilities" contains three options:



When a user selects NCOPY, the user is prompted to enter the source drive and filename of the file to copy, and then the destination drive or directory. After the file is copied, a listing of the destination directory is displayed. The user must press any key to continue after the directory listing.

Access customized menus

To access a menu that you have created, type

MENU [*path*]*filename* <Enter>

If the filename has the default .MNU extension, you do not need to include the extension when you type the filename. However, if the filename has any other extension, you must include it as part of the filename.

When you exit an application or program that you accessed through the menu, the menu you started from reappears.

If you want to access an application or program that is not an option on the menu you are using, you must exit the menu by pressing <Escape> and answering Yes at the exit prompt.

Sometimes an application or a program option on your menu is not available on your system. If you try to access a nonexistent application or program, MENU searches for it. When MENU does not find the application or program, it returns you to the menu screen you started from.

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NBACKUP
(NetWare BACKUP)

Menu Utility

Why use NBACKUP?

Use NBACKUP to back up and restore data on file servers and local drives.

Regular network users can use NBACKUP to back up information on directories where they have File Scan and Read rights. To restore information, they must have Create, Erase, File Scan, Modify, and Write rights.

Only SUPERVISOR or equivalent can back up a file server.

NBACKUP's "Main Menu" lists the following options:

```
Main Menu

Change Current Server
Backup Options
Restore Options
```

Rules for using NBACKUP

- You must run NBACKUP from a workstation on your network. The workstation remains on and dedicated to backing up until the backup is complete.

- You must restore to the system type from which you backed up. For example, if you back up a local drive, you must restore to a local drive; if you back up a NetWare v2.x system, you must restore to a NetWare v2.x system; a v3.x backup must be restored to a v3.x system.

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Allowed devices

You can back up data to any DOS read-write device. Because the backup and restore processes write, read, and rewrite some of the data, the media must be able to update or change information already on the media. The following types of devices can be used:

- Workstation floppy drives
- Tape drives that have a DOS device driver
- Optical drives that have a DOS device driver and are read-write devices

The following devices can also be used:

- Workstation hard disks
- Network drives
- An optical disk or a WORM drive that has a DOS device driver

Typing in filenames

NBACKUP works with both DOS and MAC file types. For Macintosh file or directory names, prefix the name with a colon (:), even after the conventional colon following a volume name. For example, suppose volume SYS has a directory MacBeth with a subdirectory MacDuff. To specify MacDuff, type

```
SYS::MacBeth:MacDuff <Enter>
```

You can type DOS filenames in upper- or lower-case; however, Macintosh filenames are case-sensitive.

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Using non-DOS devices

You can also back up data to non-DOS devices. The current drivers for these devices are listed in the DIBI$DRV.DAT file (in SYS:PUBLIC). A driver and device list is the first menu displayed when you run NBACKUP. Selecting the device from the list automatically links the driver (an .EXE file in SYS:PUBLIC) with NBACKUP.

As other device drivers become available, updates to the DIBI$DRV.DAT file and the .EXE driver files become available through your Data General service representative. Copy them to SYS:PUBLIC as you need them and update your DIBI$DRV.DAT file. Consult your Data General service representative for additional devices that can be used with NBACKUP.

For more information on using non-DOS devices, see *Installation* and *System Administration*.

NOTE

If you use only DOS devices, remove the DIBI$DRV.DAT file from your search path. Then you do not have to select the device method each time you enter NBACKUP.

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List and change current file server attachments

You may want to back up files from more than one file server. Or you may want to back up files from one file server to another. To do this, NBACKUP allows you to attach up to eight file servers. You must attach to all file servers backed up to or from.

Action	Explanation
1. Select "Change Current Server" from the "Main Menu."	A list of your current attachments appears.
2. To insert or delete a file server attachment, complete one of the following:	
Insert a file server. Press <Insert>.	A list of available servers appears. Select the server you want to attach to.
Delete a file server. Highlight the server you want to remove and press <Delete>.	

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Back up the file server

You must be SUPERVISOR to back up an entire file server. This procedure backs up your file server in one session. If you need to use more than one DOS device (for example, more than one network drive), you must use the multiple session options. See "Back up directories" for the required steps.

If you are using a specific device (Wangtek tape drive, for example), you must use a new cartridge every time you start a new backup session. When you start a new session, the tape rewinds to the start of the tape. If any data already exists on the cartridge, it is overwritten.

NOTE

NBACKUP does not back up hidden and system directories on NetWare v2.*xx* file servers. If you have hidden or system directories on a NetWare v2.*xx* system, you must change the attributes to make the directories visible before you back them up.

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Action	Explanation
1. Enter NBACKUP and select the device method you want to use to back up data.	The "Main Menu" appears.
2. Select "Backup Options."	
3. Choose "Select Working Directory" from the "Backup Menu."	The working directory stores two session files: one contains a backup log (WBAK$LOG.*xxx*) and the other contains an error log (WBAK$ERR.*xxx*) of each backup session. You can choose a local drive, a network drive, or the storage medium for your working directory. If these session files are ever deleted and if your session files were generated with NBACKUP version 1.1 or above, you can restore them from the storage media and recover your data. If they were generated with older versions, you can rebuild them.
4. Enter the working directory path by completing one of the following: Type the directory path in the Entry box and press <Enter>.	
Press <Insert> to select a directory from a list. Repeat this process to add other filenames. You can also use wildcard characters to designate multiple files in all directories except Macintosh files. Press <Escape> when the list is complete.	You can enter DOS directory names in upper- or lower-case. For Macintosh directories, use the proper case for each letter. Prefix the name with a colon (:), even after the conventional colon following a volume name. For example, you would type a Macintosh subdirectory MacDuff in directory MacBeth as `SYS::MacBeth:MacDuff` *(continued)*

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Action	Explanation
5. Select any other options you want.	**Directories to Exclude.** Use this option to prevent selected directories from being backed up. Default: None To exclude directories, highlight the field and press <Enter>. Press <Insert> and type a full directory path in the "Directories to Exclude" entry box. Press <Enter>. See the note on Macintosh directory names in Step 4. Repeat this process to add other directories. Press <Escape> when the list is complete. **Backup Hidden Files.** Use this option to back up hidden files. Default: Yes **Backup System Files.** Use this option to back up system files. Default: Yes **Destination Directory.** The destination directory is the location of your DOS device. It can be a local floppy drive, a local hard drive, a local tape drive, or a network drive on another file server. If you chose a specific device (Wangtek tape drive, for example), the destination directory is not applicable and does not appear.
6. Highlight the "Destination Directory" field and press <Enter>. Complete one of the following. Type the directory path for the DOS device in the Entry box and press <Enter>. Press <Insert> to select the directory path from a list of local drives. Press <Insert> twice to attach to an additional file server, and then select the directory path.	

(continued)

Action	Explanation
7. Press <Escape> and save your changes.	
8. Select "Start Backup Now" or "Start Backup Later" in the "Start Backup" window to begin.	If you choose "Start Backup Later," the "Start Backup Timer" window appears. Fill in the start date and start time. Then, when you press <Enter>, the workstation stays dedicated until the backup is complete.

Stopping a delayed backup

You can press <Escape> at any time to free the workstation and abort the backup. You are then prompted for your password and the backup session aborts.

If you are backing up onto a medium that requires changing, the session pauses and prompts for a new medium. If you press <Escape>, you must enter a password to exit the backup without logging out.

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What you see on your screen

When the backup session begins, status windows appear. These windows record what is being backed up, what data has already been backed up, and how much time has elapsed in the backup session. The window at the bottom of the screen records any errors that occur during the backup.

If you are using a removable medium, the "Media ID" field displays the current cartridge number. For example, if you are using tapes, the Media ID number indicates which tape is currently in use. Each new tape is given an incremented number. Label the cartridges as you insert them so you know which order they need to be in when you restore the data.

As long as the bar in the "Activity" line is changing, the backup is still in process.

When the session is completed, press <Enter> to return to the "Backup Menu." If you received error messages during the backup session, see "View the error log."

When a timed backup ends

When a time-delayed backup ends, you are prompted for passwords to all the attached file servers. If correct passwords are not supplied within 30 minutes, you are logged out.

Back up directories

Select this option from NBACKUP's "Backup Options Menu" to back up certain directories from your file server.

If you want to back up an entire file server and your storage device has enough storage to do so, see "Back up the file server." Otherwise, complete the following instructions to select directories for each session.

If you need to use more than one DOS device (for example, more than one network drive), you must use multiple sessions. This means dividing up the network and backing it up a number of directories at a time. These instructions explain how to select a number of directores and back them up.

Rights

Users can use the following procedure for directories where they have File Scan and Read rights.

New tapes

If you are using a specific device (Wangtek tape drive, for example), you must use a new cartridge every time you start a new backup session. When you start a new session, the tape rewinds to the start of the tape. If any data already exists on the cartridge, it is overwritten.

NetWare v2.*xx* file servers

NBACKUP does not back up hidden and system directories on NetWare v2.*xx* file servers. If you have hidden or system directories on NetWare v2.*xx* systems, you must change the attributes to make the directories visible before you back them up.

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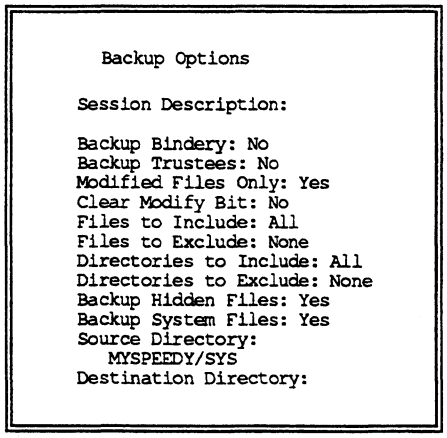
Backup directories procedure

Complete the following steps to back up certain directories from your file server.

Action	Explanation
1. Enter NBACKUP and select the device method you want to use to back up data.	The "Main Menu" appears.
2. Select "Backup Options."	
3. Select the "Select Working Directory" option from the "Backup Menu."	The working directory stores two session files: one contains a backup log (*WBAK*$LOG.*xxx*) and the other contains an error log (*WBAK*$ERR.*xxx*) of each backup session. You can use a local drive, a network drive, or the storage medium (if it is a DOS device) for your working directory. If these session files are ever deleted and if your session files were generated with NBACKUP version 1.1 or above, you can rebuild or restore them from the storage media and recover your data.
4. Enter the working directory path by completing one of the following: Type the directory path in the Entry box and press <Enter>. Press <Insert> to select a directory from a list. Press <Insert> twice to attach to an additional file server, and then select a directory.	

(continued)

Action	Explanation
5. Select "Backup By Directory" from the "Backup Menu."	The "Backup Options" window appears.
6. Select the options. "Session Description" and "Destination Directory" must be filled in.	If you chose a specific device (Wangtek tape drive, for example), the destination directory is selected automatically. All the other options have default values.  Refer to "Backup directory options" for a description of these options.
7. Press <Escape> and save your changes.	
8. Select "Start Backup Now" or "Start Backup Later" in the "Start Backup" window to begin.	If you choose "Start Backup Later," the "Start Backup Timer" window appears. Fill in the start date and start time. Then, when you press <Enter>, the workstation stays dedicated until the backup is complete.

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Stopping a delayed backup

You can press <Escape> at any time to free the workstation and abort the backup. You are then prompted for your password and the backup session aborts.

If you are backing up onto a medium that requires changing, the session pauses and prompts you for a new medium. If you press <Escape>, you must enter a password to exit the backup without logging out.

What you see on your screen

When the backup session begins, status windows appear. These windows record what is being backed up, what data has already been backed up, and how much time has elapsed in the backup session. The window at the bottom of the screen records any errors that occur during the backup.

If you are using a removable medium, the "Media ID" field displays the current cartridge number. For example, if you are using tapes, the Media ID number indicates which tape is currently in use. Each new tape is given an incremented number. Label the cartridges as you insert them so you know which order they need to be in when you restore the data.

As long as the bar in the "Activity" line is changing, the backup is still in process.

When the session is completed, press <Enter> to return to the "Backup Menu." If you received error messages during the backup session, see "View the error log."

When a timed backup ends

When a time-delayed backup ends, you are prompted for passwords to all attached file servers. If correct passwords are not supplied within 30 minutes, you are automatically logged out.

Backup directory options

The following table describes the backup options.

Option	Description
Session Description	This option identifies the backup session. You must enter a description before you begin. If you are making multiple backups, give each one a unique description. The field is highlighted by default. Press <Enter> and type a description of what you are backing up.
Backup Bindery	Change this option to Yes if you want the bindery backed up. This option appears only if you are logged in as SUPERVISOR. Default: No
Backup Trustees	This option determines whether the trustee assignments granted to directories and files are backed up automatically. Default: No To back up trustee assignments, choose Yes.
Modified Files Only	This option allows you to back up only the files that have been modified since the last backup. Default: Yes To back up all files, modified and unmodified, choose No.
Clear Modify Bit	This option allows you to specify if the "Modified since last archived bit" is cleared. Default: No

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Option	Description
Files to Include	This option allows you to back up only selected files. Default: All To back up only selected files, highlight the field and press <Enter>. Press <Insert> and type a filename in the "Files to Include" entry box. Press <Enter>. Repeat this process to add other filenames. You can also use wildcard characters with DOS filenames to designate multiple files in all directories. Press <Escape> when the list is complete. You can enter DOS filenames in upper- or lower-case. For Macintosh files, however, use the proper case for each letter. Prefix the name with a colon (:). For example, you would type in a Macintosh file named MacFile as `:MacFile` Wildcards do not work with Macintosh files.
Files to Exclude	Use this option to prevent files from being backed up. "Files to Exclude" overrides "Files to Include," so if a file is included in both lists, the file is not backed up. Default: None To exclude selected files, highlight the field and press <Enter>. Press <Insert> and type a filename in the "Files to Exclude" entry box. Press <Enter>. Repeat this process to add other filenames. You can also use wildcard characters to designate multiple files in all directories, except Macintosh files (see the note about Macintosh filenames in the previous option description). Press <Escape> when the list is complete.

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Option	Description
Directories to Exclude	Use this option to prevent selected directories from being backed up. Default: None To exclude directories, highlight the field and press <Enter>. Press <Insert> and type a full directory path in the "Directories to Exclude" entry box. Press <Enter>. You can enter DOS directory names in upper- or lower-case. For Macintosh directories, use the proper case for each letter. Prefix the name with a colon (:), even after the conventional colon following a volume name. For example, you would type a Macintosh subdirectory MacDuff in directory MacBeth as `SYS::MacBeth:MacDuff` Repeat this process to add other directories. Press <Escape> when the list is complete.
Backup Hidden Files	Use this option to back up hidden files. Default: Yes
Backup System Files	Use this option to back up system files. Default: Yes
Destination Directory	This option specifies the location of your DOS device. It can be a local floppy drive, a local hard drive, a local tape drive, or a network drive on another file server. If you chose a specific device (Wangtek tape drive, for example), the destination directory is not applicable and does not appear. Highlight the "Destination Directory" field and press <Enter>. Complete one of the following: • Type the directory path for the DOS device in the entry box and press <Enter>. • Press <Insert> to select the directory path from a list of local drives. • Press <Insert> twice to attach to an additional file server, then select the directory path.

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View the error log

The error log records all errors that occur during the backup session. Some error messages are informational and some indicate that you need to repeat the backup session. See the sections following these instructions for additional information about potential error messages.

Action	Explanation
1. Select "Backup Options" from the "Main Menu."	
2. Select "View Error Log."	If you have already selected a working directory, a list of all backup sessions in the working directory appears. If you have just entered NBACKUP, you are prompted for the working directory. Enter the directory path where the log files are stored.
3. Select the backup session whose error log you want to view.	To delete session files, highlight the session and press <Delete>.

Informational messages

The following errors are for your information only. Repeating the backup session may not be necessary.

Message	Meaning
The file *filename* was not Marked after backup!	The archive bit was not removed after the file was backed up. Most files have the archive bit cleared after they are backed up.
The file *filename* was not backed up because it is in use!	Usually the only files marked "in use" are files used by VAPs and queue files.
The file *filename* was not backed up because it is Execute-only!	Files that are flagged Execute-only cannot be backed up.

Other messages

The following errors indicate that you need to repeat all or part of the backup. How much you need to repeat depends upon whether the error occurred during the bindery backup or during data backup.

Message	Meaning
The directory *directory name* was not backed up because it has an illegal name!	The directory does not have a valid DOS name. You must rename it to back it up.
The file *filename* was not backed up because it has an illegal name!	The file does not have a valid DOS name. You must rename it to back it up.

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View the backup log

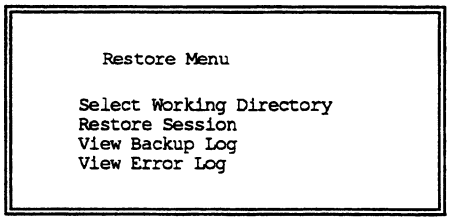
The backup log records all the files, directories, and volumes backed up during the backup session. A backup log is created for every backup session.

Action	Explanation
1. Select "Backup Options" from the "Main Menu."	
2. Select "View Backup Log."	If you have already selected a working directory, a list of all backup sessions in the working directory appears. Each session is listed by description, date, time, and source. If you have just entered NBACKUP, you are prompted for the working directory. Enter the directory path where the log files are stored.
3. Select the session you want to view the backup log for.	The backup log lists all data backed up during the session as well as the data filename. Use the Up- and Down-arrow keys to scroll through the file. To delete session files, highlight the session and press <Delete>.

Restore backed-up data

Use the restore function of NBACKUP to restore previously backed-up data. When you restore a backup session, you must restore it to the same system type that you backed it up from. For example, if you backed up a local drive, you must restore to a local drive; if you backed up a NetWare v2.x system, you must restore to a NetWare v2.x system.

If you want to view the contents of a backup session before you restore it, see "View the backup log."

Action	Explanation
1. Enter NBACKUP and select the type of device used to back up the data you want to restore.	The "Main Menu" appears.
2. Select "Restore Options."	The following window appears: 
3. Choose "Select Working Directory."	The working directory must be the same working directory you used for the backup session you want to restore.
4. Enter the working directory path by completing one of the following. Type the directory path in the entry box and press <Enter>. Press <Insert> to select a directory path from a list.	*(continued)*

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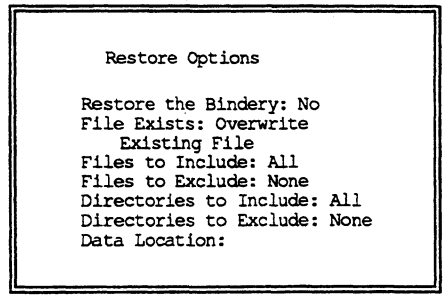
Action	Explanation
Press <Insert> twice to attach to an additional file server, and then select a directory path.	
5. Select "Restore Session." If the session files have been deleted or lost, press <Insert> to rebuild or restore them.	The session files are then restored from the last removable medium or last data file, or are rebuilt if necessary.
6. Select the backup session you want to restore.	The "Restore Options" window appears:  All the options have default values. If you selected a specific device (Wangtek tape drive, for example), the data location is not applicable. These options are described under "Restore options."
7. Press <Escape> and save your changes.	
8. Select Yes in the "Start Restore" window to begin.	

Stopping a restore session

If you need to stop the restore session, press <Escape>. As soon as the current file has been restored, a prompt appears that allows you to abort the restore session.

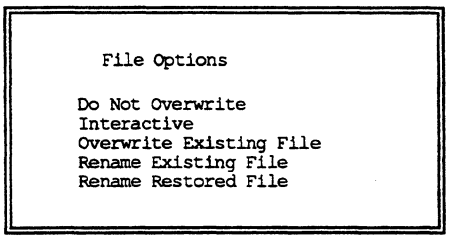
What you see on your screen

When the restore session begins, status windows appear. These windows record what is being restored, what data has been restored, and how much time has elapsed in the restore session. The window at the bottom of the screen records any errors that occur during the restore session.

As long as the bar in the "Activity" line is changing, the restore session is still in process.

When the session is completed, press <Enter> to return to the "Restore Menu." If you received any error messages during the restore session, see "View restore error messages in the error log."

Restore options

Option	Description
Restore the Bindery	Use this option if you have backed up the bindery and want to restore it. Default: No
File Exists	When you select "File Exists," the "File Options" menu appears:  The options are described under "File Options." Default: Overwrite Existing File

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Option	Description
Files to Include	This option allows you to restore only selected files. Default: All View the backup log to determine which files or directories to include or exclude. To restore only selected files, highlight the field and press <Enter>. Press <Insert> and type a filename in the "Files to Include" entry box. Press <Enter>. Repeat this process to add other filenames. You can also use wildcard characters with DOS filenames to designate multiple files in all directories. Press <Escape> when the list is complete. You can enter DOS filenames in upper- or lower-case. For Macintosh files, however, use the proper case for each letter. Prefix the name with a colon (:). For example, you would type in a Macintosh file named MacFile as `:MacFile` Wildcards do not work with Macintosh files.
Files to Exclude	Use this option to prevent selected files from being restored. "Files to Exclude" overrides "Files to Include," so if a file is included in both lists, the file is not restored. Default: None To exclude selected files, highlight the field and press <Enter>. Press <Insert> and type a filename in the "Files to Exclude" entry box. Press <Enter>. Repeat this process to add other filenames. You can also use wildcard characters to designate multiple files in all directories, except Macintosh files (see the note about Macintosh filenames in the previous option description).

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Option	Description
Directories to Include	This option allows you to restore only selected directories. Default: All To restore only selected directories, highlight the field and press <Enter>. Press <Insert> and type a full directory path in the "Directories to Include" entry box. Press <Enter>. You can enter DOS directory names in upper- or lower-case. For Macintosh directories, use the proper case for each letter. Prefix the name with a colon (:), even after the conventional colon following a volume name. For example, you would type a Macintosh subdirectory MacDuff in directory MacBeth as `SYS::MacBeth:MacDuff`
Directories to Exclude	Use this option to prevent selected directories from being restored. "Directories to Exclude" overrides "Directories to Include," so if a directory is included in both lists, the directory is not be restored. Default: None To exclude selected directories, highlight the field and press <Enter>. Press <Insert> and type a full directory path in the "Directories to Exclude" entry box. Press <Enter>. (See note for Macintosh directory names in the previous option description.) Repeat this process to add other directories.
Data Location	The data location specifies where the backup files are stored. NBACKUP reads this location out of the session files. If you selected a specific device (Wangtek tape drive, for example), the data location is not applicable. If you have changed the location of the backup files, highlight the field and press the Modify key (<F3>). Type the path for the new location, or press <Insert> to select the path from a list. When the path is complete, press <Enter>.

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File options

Option	Description
Do Not Overwrite	Select this option if you don't want to restore files when files of the same name already exist.
Interactive	Select this option if you want to be prompted to restore each file when a file of the same name already exists.
Overwrite Existing File	Select this option if you want to overwrite existing files. This is the default.
Rename Existing File	Select this option if you want to rename the existing file. The renamed file will have a .B*nn* extension.
Rename Restored File	Select this option if you want to rename the file you are restoring. The renamed file will have a .B*nn* extension.

View restore error messages in the error log

The error log records all errors that occur during both the backup and restore sessions. The restore errors are appended to the existing error log for the backup session. A brief descriptor identifies where the restore errors begin.

See the sections that follow for additional information about potential error messages.

Action	Explanation
1. Select "Restore Options" from the "Main Menu."	
2. Select "View Error Log."	If you have already selected a working directory, a list of all restore sessions in the working directory appears. If you have just entered NBACKUP, you are prompted for the working directory. Enter the directory path you specified as your working directory for the backup session.
3. Select the restore session whose error log you want to view.	To delete the session files, highlight the session and press <Delete>.

Restore error messages

The following errors indicate that you need to repeat all or part of the restore session.

Message	Meaning
Data must be restored to the same system version as it was backed up from!	Restore data to the same system version it was backed up from: v2.x to v2.x, v3.x to v3.x, etc.
Cannot restore directory *directory name*, a file by that name already exists!	If you have an existing file with the same name as a directory you're restoring, NBACKUP aborts the restore.

(continued)

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Message	Meaning
You do not have sufficient rights to create this directory!	You must have Create, Erase, File Scan, Modify, and Write rights to restore data.

View the backup log

The backup log records all the files, directories, and volumes backed up during the backup session. A backup log is created for every backup session.

Action	Explanation
1. Select "Restore Options" from the "Main Menu."	
2. Select "View Backup Log."	If you have already selected a working directory, a list of all backup sessions in the working directory appears. If you have just entered NBACKUP, you are prompted for the working directory. Enter the directory path you specified as your working directory for the backup session.
3. Select the session whose backup log you want to view.	The backup log lists all data backed up during the session, as well as the data filename. Use the Up- and Down-arrow keys to scroll through the file. To delete session files, highlight the session and press <Delete>.

NCOPY
(Network COPY)

Command Line Utility

Why use NCOPY?

Use NCOPY to copy one or more files from one directory to another.

Command format

NCOPY [*path1*]*filename* [TO] *path2* [*/option...*]

Replace *path1* with a directory path leading to and including the file you want to copy.

Replace *path2* with a directory path leading to and including the directory you want to copy the file to. If you want to rename the file, include the new filename in the path you specify.

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Replace *option* with one or more of the following options:

Option	Description
/Subdirectories	Use this option to copy subdirectories.
/Empty subdirectories	Use this option to copy empty subdirectories. This option is valid only if you use it with /S.
/Force sparse files	Use this option to force the operating system to write to sparse files.
/Inform	Use this option if you want to be notified with a warning message when attributes or name space information cannot be copied because the target server or hard disk does not support those features.
/Verify	Use this option to have DOS verify every write with a read for files on local drives.
/A	Use this option to copy only those files that have the archive bit set. The attribute of the source file is not changed.
/M	Use this option to copy files whose archive bit is set. This option turns off the archive bit of the source file. It also allows NCOPY to be used in a backup procedure. When the archive bit of a file's attribute is 1, the file has been created or modified since the last NCOPY/M.
/Copy	Use this option if you want to copy files without preserving file attributes and name space information. By default, NCOPY copies all attributes and name space information supported by the target server or hard disk.

Additional information

If you need to copy files between directories and no drives are mapped to those directories, specify the complete directory path in your NCOPY command.

Newly copied files retain the date and time of original files; however, the date and time the newly copied files are created and accessed change.

NetWare verifies that the original file and the newly created file are identical.

NCOPY supports wildcard characters.

Copy to local drives

If you use NCOPY to copy a file from a network drive to a local drive, only the file attributes that correspond with DOS attributes, Read Only and Shareable, are preserved in the copy.

If the file on the network is assigned NetWare-specific attributes, these attributes are not copied to the file on the local drive.

Copy a file between network directories

Depending on the source and destination of the copy, choose one of the following procedures to copy between directories.

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Copy to a different directory

Suppose you want to copy a file called ACC.DAT from your default directory to the SALEPROG directory in volume SYS on file server SALES. Also suppose drive G is mapped to SALEPROG as follows:

```
Drive G: = SALES/SYS:SALEPROG
```

To copy the ACC.DAT file to the SALEPROG directory, type

NCOPY ACC.DAT TO G: <Enter>

Copy to your default directory

Suppose you want to copy a file called ACC.DAT from the SALEPROG directory in volume SYS on file server SALES to your default directory. Also suppose drive G is mapped to SALEPROG as follows:

```
Drive G: = SALES/SYS:SALEPROG
```

Type

NCOPY G:ACC.DAT <Enter>

Copy between volumes

Suppose you want to copy the ACC.DAT file from the PUBLIC directory in volume SYS to the PROGRAMS directory in volume ACCT. Drives F and G are mapped as follows:

```
Drive F: = COUNT/SYS:PUBLIC
Drive G: = COUNT/ACCT:PROGRAMS
```

Type

NCOPY F:ACC.DAT TO G: <Enter>

Copy between file servers

Suppose you want to copy the FINDIT.EXE file from the PUBLIC directory on file server COUNT to the PROGRAMS directory on file server SALES. Drives F and G are mapped as follows:

```
Drive F: = COUNT/SYS:PUBLIC
Drive G: = SALES/SYS:PROGRAMS
```

Type

NCOPY F:FINDIT.EXE TO G: <Enter>

Copy multiple files

You can copy several related files in one NCOPY command. Suppose drives F and G are mapped as follows:

```
Drive F: = COUNT/SYS:PUBLIC
Drive G: = COUNT/ACCT:PROGRAMS
```

If you want to copy all the files with the extension .EXE in the PUBLIC directory to the PROGRAMS directory, type

NCOPY F:*.EXE TO G: <Enter>

To copy all files in the PUBLIC directory to the PROGRAMS directory, replace "*.EXE" with "*.*" in the previous example commands. NCOPY copies all files when "*.*" is used. If only one asterisk (*) is used, only files without extensions are copied.

Change name during copy

You can copy the ACC.DAT file from the PUBLIC directory to the PROGRAMS directory and change the filename to DATA. Suppose drives F and G are mapped as follows:

```
Drive F: = COUNT/SYS:PUBLIC
Drive G: = COUNT/ACCT:PROGRAMS
```

Type

NCOPY F:ACC.DAT TO G:DATA <Enter>

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NDIR
(Network DIRectory)

Command Line Utility

Why use NDIR?

Use NDIR to view the following information about files and subdirectories in a given directory.

Files

- The filenames
- The sizes of the files in bytes
- The dates and times the files were last modified
- The dates the files were last accessed
- The files that need to be archived
- The dates the files were last archived
- The dates the files were created or copied
- The file attributes assigned to the files
- The owner of the files (the creator of or the last person to update the files)
- The files that were created by a Macintosh (marked with lower-case "m"), or an OS/2 client (marked with lower-case "o")
- The file location in a volume (search for a particular file using WHEREIS)

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Subdirectories

- The subdirectory names
- The dates the subdirectories were created or copied
- The Inherited Rights Masks
- Your effective rights in the subdirectories
- The owner (creator) of the subdirectories
- The subdirectories that were created by a Macintosh (marked with a lower-case "m"), or an OS/2 client (marked with lower-case "o")

Command format

NDIR [*path*] [*/option...*]

Replace *path* with a directory path leading to and including the directory and file you want to view. You can include a file chain of up to 16 filenames.

Replace *option* with any of the command options described on the following pages.

A forward slash (/) must precede the first element of the option list. Use a reverse slash (\) in pathnames.

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Command options

Command options are divided into four categories:

- Sort options
- Format options
- Flag options
- Restriction options

Sort options

The following table lists and describes the NDIR sort options.

Option	Description
[REVERSE] SORT OWNER	Include this option to display all files in a directory by owner name in alphabetical order or in reverse alphabetical order. (Owner name indicates the user who created the file.)
[REVERSE] SORT SIZE	Include this option to display all files in a directory according to size from the smallest to the largest or from the largest to the smallest.
[REVERSE] SORT UPDATE	Include this option to display all files in a directory according to last-modified date from the earliest date to the latest or from the latest date to the earliest.
[REVERSE] SORT CREATE	Include this option to display files in a directory according to creation date from the earliest date to the latest or from the latest date to the earliest.
[REVERSE] SORT ACCESS	Include this option to display all files in a directory according to last-accessed date from the earliest date to the latest or from the latest date to the earliest.
[REVERSE] SORT ARCHIVE	Include this option to display files in a directory according to the last archive date from the earliest date to the latest or from the latest date to the earliest.

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Format options

The following table lists and describes the NDIR format options.

Option	Description
DATES	Use this option to view last modified, last archived, last accessed, and created file dates.
RIGHTS	Use this option to view your access rights on selected files. This option allows you to view inherited and effective rights on files and subdirectories and shows you file flags as well. (Because 286 systems do not have rights associated with individual files, NDIR does not display file rights for 286 systems, leaving the rights field empty.)
MAC	Include this option to view all Macintosh subdirectories or to view only Macintosh files in a given search area. When you view only Macintosh files or subdirectories, they are listed with their long name of up to 31 characters instead of the eight-character DOS name.
LONG	Include this option to view all Macintosh, and OS/2 long filenames.
HELP	Use this option to display the NDIR command format and the available command options.

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Flag options

Use only the abbreviations (bolded letters) for flag options at the command line. You must insert a space between options.

Option	Description
[NOT] **R**ead **O**nly	Use this option to view all files in a directory with the Read Only file attribute or all files without the Read Only file attribute.
[NOT] **S**hareable	Use this option to view all files in a directory with the Shareable attribute or all files without the Shareable attribute.
[NOT] **A**rchive Needed	Include this option to view all files that have an Archive attribute set or not set. The files are displayed in the BACKUP display format, which lists the last modified and last archived dates.
[NOT] e**X**ecute Only	Include this option to view all the files in a directory with the Execute Only file attribute or all files except those with the Execute Only file attribute.
[NOT] **H**idden	Include this option to view all the files in a directory with the Hidden file attribute or all files except those with the Hidden file attribute.
[NOT] **SY**stem	Include this option to view all the files in a directory with the System file attribute or all files except those with the System file attribute.
[NOT] **T**ransactional	Include this option to view all the files in a directory with the Transactional file attribute or all files except those with the Transactional file attribute. (This version of NetWare does not support the Transaction Tracking System.)
[NOT] **I**ndexed	Include this option to view all the files in a directory with the Indexed file attribute or all files except those with the Indexed file attribute.
[NOT] **P**urge	Include this option to view all the files in a directory with the Purge file attribute or all files except those with the Purge file attribute. (This version of NetWare does not support Salvage.)
[NOT] **R**ead **A**udit	You can view files with the Read Audit attribute in NDIR; however, it is not supported by NetWare v3.0.

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Option	Description
[NOT] Write Audit	You can view files with the Write Audit attribute in NDIR; however, it is not supported by NetWare v3.0.
[NOT] Copy Inhibit	You can view Macintosh files with the Copy Inhibit attribute.
[NOT] Delete Inhibit	You can view files with the Delete Inhibit attribute.
[NOT] Rename Inhibit	You can view files with the Rename Inhibit attribute.

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Restriction options

You can combine several restriction options at the command line.

Option	Description
OWNER [NOT] = *name*	Include this option to view all the files in a directory that were created by the specified user or all files except those created by the specified user.
SIZE [NOT] Greater than | = | Less than *nnn*	Include this option to view all files in a directory with byte sizes greater than, equal to, or less than the specified value or files except those with byte sizes greater than, equal to, or less than the specified value. Replace *nnn* with the number of bytes.
UPDATE [NOT] BEFore | = | AFTer *mm-dd-yy*	Include this option to view all files in a directory that were last updated on, before, or after the specified date or all files except those last accessed on, before, or after the specified date.
CREATE [NOT] BEFore | = | AFTer *mm-dd-yy*	Include this option to view all files in a directory that were created on, before, or after the specified date or all files except those created on, before, or after the specified date.
ACCESS [NOT] BEFore | = | AFTer *mm-dd-yy*	Include this option to view all files in a directory that were last accessed on, before, or after the specified date or all files except those last accessed on, before, or after the specified date.
ARCHIVE [NOT] BEFore | = | AFTer *mm-dd-yy*	Include this option to view all files archived on, before, or after a specified date or all files except those archived on, before, or after a specified date. The files are displayed in the BACKUP display format.
Files Only	Include this option to view only the files in a given directory.
Directories Only	Include this option to view only the subdirectories in a given directory.
SUBdirectory	Include this option to view all files for all subdirectories in a directory.

View all files and subdirectories

Use one of the procedures that follow to view a list of files.

View all files and subdirectories in your default directory

To view all files and subdirectories in your default directory, type

NDIR <Enter>

View all files and subdirectories in any directory

Suppose drive G is mapped as follows:

```
Drive G: = COUNT/SYS:  PROGRAMS
```

If you want to view all files and subdirectories in the PROGRAMS directory, type

NDIR G: <Enter>

Search an entire volume for a particular file

To search an entire volume for a specific file, type

NDIR \[*filename*] /sub <Enter>

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View one or more files in your default directory

Use one of the procedures below to view file information in your default directory.

View a file in your default directory

To view one file, include the filename in the command. For example, to view the SCREENS file, type

```
NDIR SCREENS <Enter>
```

View several files in your default directory

To view several files in your default directory, include commas between the filenames.

Suppose you want to view the files HOCKEY, SKIING, and TENNIS in your default directory. Type

```
NDIR HOCKEY,SKIING,TENNIS <Enter>
```

NOTE

To search a filename that is the same as an NDIR keyword, precede the filename with a drive letter or path. (Keywords are any words that appear in uppercase letters in the NDIR help screen.)

View one or more files in any directory

When viewing files in a directory other than your default directory, specify the directory path before the filename.

For example, suppose you want to view the files BOOKS and REPORTS in the ENGLISH directory on MILTON/SYS. Type

```
NDIR MILTON/SYS:ENGLISH/BOOKS,REPORTS <Enter>
```

Use wildcard characters to view related files

Use one of the procedures that follow for selecting files to view.

View related files using wildcards in your default directory

To view related files in your default directory, use wildcards in the command.

For example, suppose you want to view all the files with the extension .DAT. Type

NDIR *.DAT <Enter>

View related files using wildcards in any directory

To view related files in any directory, include the path in the command.

For example, suppose drive G is mapped as follows:

```
Drive G: = COUNT/SYS:  PROGRAMS
```

Also suppose you want to view all files with extension .EXE and all subdirectories in the PROGRAMS directory. Use wildcard characters to specify all files with extension .EXE. Type

NDIR G:*.EXE <Enter>

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Use options to view default directory files

You can use NDIR options to specify exactly the set of files you want to view in a directory. Rather than viewing information about all the files in a given directory, you may want to view only those files that share certain characteristics. You can view files according to owner name, last-accessed date, last update, creation date, size, or file attributes.

Files can be displayed in alphabetical or reverse alphabetical order, or in ascending or descending order according to access date, update date, creation date, size, owner, or archive status.

The following examples explain how to use the command options to view files in your default directory. To view files in a directory other than your default directory, indicate the *path* before the command option. You can replace *path* with a drive letter mapped to the directory path.

View files by owner

Suppose drive F is mapped as follows:

```
Drive F: = COUNT/ACCT:  ACCPAY
```

ACCPAY is your default directory. To see all the files owned by user MARTY, type

NDIR /OWNER=MARTY <Enter>

Suppose ACCPAY is not your default directory. To view the specified files in the ACCPAY directory, type

NDIR F: /OWNER=MARTY <Enter>

View files except those owned by a specific owner

To see all the files except those owned by user DEBI, type

NDIR /OWNER NOT = DEBI <Enter>

View files by date

To see all the files created before 12-20-90, type

```
NDIR /CREATE BEF 12-20-90 <Enter>
```

To see all the files created on or after 12-20-90, type

```
NDIR /CREATE NOT BEF 12-20-90 <Enter>
```

View files by size

To see all files with byte sizes greater than 2,000 bytes, type

```
NDIR /SIZE GR 2000 <Enter>
```

To see all files with byte sizes less than or equal to 2,000 bytes, type

```
NDIR /SIZE NOT GR 2000 <Enter>
```

View files by attribute

To see all files with the file attribute Read Only, type

```
NDIR /RO <Enter>
```

To see all files that do not include the file attribute Shareable, type

```
NDIR /NOT S <Enter>
```

View files by sorting

To see the files displayed from smallest to largest, type

```
NDIR /SORT SI <Enter>
```

To see the files displayed from largest to smallest, type

```
NDIR /REV SORT SI <Enter>
```


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View only files or only subdirectories

To see only files (and not subdirectories), type

```
NDIR /FO <Enter>
```

To see only subdirectories, type

```
NDIR /DO <Enter>
```

Use two or more options to view default directory files

You can use two or more options with the NDIR command to specify exactly which files you want to view or how you want them listed. (Include *path* before your command options to view files in a directory other than your default directory.)

Suppose you want to see all files created before 12-20-90 and you want them displayed in ascending order (from smallest to largest). Type

```
NDIR /CREATE BEF 12-20-90 SORT SI <Enter>
```

Suppose you want the preceding command to apply only to files with .EXE extensions. Type

```
NDIR *.EXE /CREATE BEF 12-20-90 SORT SI <Enter>
```

View Macintosh files

To view only the Macintosh files in your default directory, type

```
NDIR /MAC <Enter>
```

To view only the Macintosh files in a directory named MACSTUFF on SERVER/SYS, type

```
NDIR SERVER/SYS:MACSTUFF /MAC <Enter>
```


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NETBIOS

Command Line Utility

Why use NETBIOS

Use the NETBIOS options to do the following:

- View the NetWare version information
- View whether NetBIOS has been loaded
- View which interrupts are currently in use
- Unload NetBIOS

NOTE

Typing "NETBIOS I" at the command line does not reload NetBIOS.

Command format

NETBIOS [I] | [U]

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Command options

Option	Description

[I]	Use the "I" option to view version information, whether NetBIOS has been loaded, and which interrupts it is using.
	
	When you execute NETBIOS [I], you see a screen similar to the following:
	
	`Novell Network BIOS Emulator v3.01 Rev A`
	`(C) Copyright 1990 Novell, Inc. All rights reserved.`
	`Novell NETBIOS interface (interrupt 5Ch) loaded.`
	`Novell NETBIOS alternate interface (interrupt 2Ah) not loaded.`

[U]	Use the "U" option to unload NetBIOS. Use of this option frees up the memory used by NetBIOS, restores the interrupts that NetBIOS was using, and cancels all NetBIOS activity for that workstation.
	
	When you execute NETBIOS [U], you see a screen similar to the following:
	
	`Restored interrupt 2Ah handler successfully.`
	`Restored interrupt 5Ch handler successfully.`
	`Restored interrupt 2Fh handler successfully.`
	`NETBIOS unloaded from Memory successfully.`
	
	Note: The unload option unloads only NETBIOS v3.01. It does not unload previous NETBIOS emulator versions.

NETX

Command Line Utility

Why use NETX?

After the network shell is loaded, the same shell command can be used to display shell information, to set a server connection, or to unload the shell from workstation memory.

Command format

[B][EMS][XMS]NETX [I] | [U] | [PS = *server name*]

Which command format to use

If you use the NETX shell, use the following format:

NETX [I] | [U] | [PS = *server name*]

If you use the EMSNETX shell, use the following format:

EMSNETX [I] | [U] | [PS = *server name*]

If you use the XMSNETX shell, use the following format:

XMSNETX [I] | [U] | [PS = *server name*]

If you use multipacket burst protocol with any of the shells, include the B option infront of the command.

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Command options

Option	Description

[I]	Use the "I" option to view the version of the NetWare shell.
	
	When you execute this option, you see a screen similar to the following:
	
	`NETWARE v3.1 - Workstation shell for PC DOS v3.x`
	`(c) Copyright 1983, 1988 Novell, Inc. All rights reserved.`

[U]	Use the "U" option to unload the shell.
	
	When you execute this option, you see a screen similar to the following:
	
	`You are being logged out of all servers . . .`
	`Memory for resident shell has been released.`
	`The NetWare shell has been unloaded.`

[PS = *server name*]	Use the "PS" option to set the server you will attach to. With this parameter set, the shell polls up to five servers for the first available connection; then it attaches to the server specified in the parameter.

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NPRINT
(Network PRINTer)

Command Line
Utility

Why use NPRINT?

Use NPRINT to print files from outside an application to a network printer. These files must be DOS text files or files that have been formatted by an application for your specific printer.

Command format

NPRINT *path* [*option...*]

For a complete explanation of NPRINT, see *Print Server*.

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NVER
(Network VERsion)

Command Line Utility

Why use NVER?

Use NVER to determine the version of software running on your file server and workstation. The software includes NetBIOS, IPX, SPX, LAN driver, shell, workstation operating system, and the file server operating system.

Command format

NVER

View NetWare version

To view your NetWare version, type

NVER <Enter>

Information similar to the following appears:

```
NetBIOS Protocol Specification: V1.0

IPX Version: 2.15
SPX Version: 2.15

LAN Driver:  NetWare RX-Net/2 -- SMC PS110 V1.00
      (880817)  V1.00 IRQ = 9, I/O Base =
02E0h, RAM Buffer at C000:0

Shell:       V2.15 Rev. A
DOS:         MSDOS V3.30 on IBM_PC

FileServer:  SIR
Novell   NetWare V3.00 Rev. A   (3/2/89)
```


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NVT.EXE

(Novell Virtual Terminal. **EXE**cutable)

Command Line Utility

Why use NVT?

Use NVT to attach your workstation to AViiON systems running Novell Virtual Terminal. NVT allows a terminal emulation connection to the AViiON system. Before you run NVT, you must load IPX.

NVT.EXE is a Terminate-and-Stay-Resident (TSR) program used with:

- IPX/SPX driver (IPX.COM or IPXODI.COM)
- Workstations that optionally use Novell's shell (BNETX, NETX or VLM). The shell does not need to be loaded. See the section "NVT.VLM" for workstations that use the DOS requester (VLMs).
- PC terminal-emulation programs that use either an INT 14 or INT 6B redirector

Command format

NVT [*option(s)*...]

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Command options

Replace option with one or more of these parameters.

Option	Description
-?	Displays the syntax help message
-u	Unloads the NVT TSR
-y	Unloads (yanks) the NVT TSR
-o	Enables connections to hosts that use NetWare 3.11 for AViiON Systems Revision 2.xx NVT
-s #_*Sessions*	Sets the maximum number of concurrent sessions. Replace #_*Sessions* with the number of sessions. The default is 3. Each session requires 10KB of memory.
-h #_*Hosts*	Sets the maximum number of hosts displayed in the menu. Replace #_*Hosts* with the number of hosts. The default is 150. The system requires .1KB of memory to display each host in the menu. The specified value is rounded up to the nearest number divisible by seven.
-k *hotKey*	Sets the key sequence that displays the menu. Replace *hot key* with one of the following combinations: Alt*x* Ctl*x* CtlAlt*x* Replace *x* with a text character. The default is "AltT" which activates an <Alt><T> key combination for the hot key.
-n *host_Name*	Sets a default host for initial connection.

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Additional information

Use NVT to access and emulate network hosts through a PC workstation. With NVT, in addition to running NetWare and your usual PC applications, you can run host applications and in all other ways act as a host terminal.

Because NVT TSR uses Novell's IPX and SPX protocols to establish connections with a host, the PC must load the IPX/SPX driver before loading NVT. Once the TSR is loaded, the PC can use its capabilities from within a terminal-emulation program. NVT uses INT 14 or INT 6B to redirect SPX I/O to terminal-emulation software.

INT 14 and INT 6B are serial interfaces supported by many popular terminal-emulation programs (such as *Smarterm 240, Softerm PC,* and *Reflection 4+*). The NVT TSR works with any terminal-emulation package that supports these interfaces. For information on how to configure your terminal-emulation package for this redirection, refer to the software's documentation on INT 14 or INT 6B.

Compared with working on a dumb terminal, the serial redirection of NVT on a PC can speed up screen I/O by 8 to 10 times.

NVT supports multiple terminal sessions. The NVT pop-up menu manages the multiple host connections (to either the same or different hosts). This menu allows multiple virtual sessions with a single terminal screen.

Load NVT

To load NVT with the default configuration, type:

NVT <Enter>

When NVT is loaded as a TSR, the following message appears:

```
NVT loaded OK
```


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Attach to a Novell Virtual Terminal server

Press the hot key. The default is <Alt><T>.

A list of servers appears. You can connect to multiple servers or multiple hosts. When multiple connections exist, your connection index appears in brackets next to the server name.

Highlight the server you want to attach using these keys:

<Up-arrow>	<Down-arrow>
<PgUp>	<PgDn>
<Home>	<End>

Then press either the <Ins> or <Enter> key to connect to the highlighted server.

Disconnect from a Novell Virtual Terminal server

Press the hot key. The default is <Alt><T>.

A list of servers appears on the screen.

To disconnect, highlight the server of the session you want to terminate and press either the <Del> or <D> key.

Change the hot key to another key

The default hot key is <Alt><T>. If you want to designate a different hot key, do so at the time you load NVT. If NVT is already loaded, unload it first (with NVT -U), and then type one of the following:

NVT -K Alt*x* <Enter>

or

NVT -K Ctl*x* <Enter>

or

NVT -K CtlAlt*x* <Enter>

Replace *x* with a text character.

Set default NVT server

To select an NVT server as the default host when you load NVT, type:

NVT -N *host_Name* <Enter>

Replace *host_Name* with the name of the desired server.

Move the menu screen

To make viewing of other software package menus more convenient, move the NVT pop-up menu to another location on the screen. To move the pop-up menu screen, press the <Shift> key and one of the arrow keys (<Up>, <Down>, <Left>, or <Right>).

Unload NVT

To unload NVT, type one of the following:

NVT -U <Enter>

or

NVT -Y <Enter>

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Notes

Some outdated routers are known to respond improperly to SAP requests (SAP is the method used to discover NVT hosts). If you know that hosts exist and are advertising, but you cannot see them in the pop-up menu, ask your network administrator to fix the problem by updating the router's software.

NVT.EXE users can inadvertently create processes or applications that loop forever and consume much CPU time. For example, an AViiON application (typically a menu program) can keep retrying "reads" without checking for errors or using a maximum retry count. If users run this application, and then break the NVT connection without logging out, the application will repeatedly (and unsuccessfully) try to "read" data from users. This causes an infinite loop. To prevent these infinite loops, make sure that:

- Applications check for error returns
- Applications use a maximum retry count on "reads"
- Users log out of applications before breaking their NVT connection

Be sure that the scripts you use are written to avoid infinite loops. Compare the following two sample scripts.

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The first script could potentially start an infinite loop; the second script sets conditions that terminate a loop.

Sample script with an infinite loop

```
while true
  do
    read VALUE
    ...
  done
```

Sample script with a terminating loop

```
while true

  if read VALUE
    then
        .
        .
        .
    else
      exit
```


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NVT.VLM

(Novell Virtual Terminal. Virtual Load Module)

Command Line Utility

Why use NVT?

Use NVT to attach your workstation to AViiON systems running Novell Virtual Terminal. NVT allows a terminal emulation connection to the AViiON system. Before you run NVT, you must load IPX.

NVT.VLM is a Virtual Loadable Module under the NetWare DOS Requester (VLM.EXE). Use NVT.VLM with:

- IPX/SPX driver (IPX.COM or IPXODI.COM)
- PC terminal-emulation programs capable of using either an INT 14 or an INT 6B redirector

NVT options for NET.CFG

The options listed here can appear in NET.CFG.

Options	Description
MAX NVT SESSIONS = *#_Sessions*	Sets the maximum number of concurrent sessions. Replace *#_Sessions* with the number of sessions. The default is 3. Each session requires 10KB of memory.

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Options	Description
MAX NVT HOSTS = *#_Hosts*	Sets the maximum number of hosts displayed in the menu. Replace *#_Hosts* with the number of hosts. The default is 150. The system requires .1KB of memory to display each host in the menu. The specified value is rounded up to the nearest number divisible by seven.
NVT HOTKEY = *hotKey*	Sets the key sequence that displays the menu. Replace *hotKey* with one of the following combinations: Alt*x* Ctl*x* CtlAlt*x* Replace *x* with a text character. The default is "AltT" that activates an <Alt><T> key combination for the hot key.
DEFAULT NVT HOSTS = *host_Names*	Specifies an NVT host to initially attach to. Lists the host names that are visible in the pop-up menu. The system automatically connects to the first active name on the list.

This sample NET.CFG file shows NVT parameters.

```
NetWare DOS Requester
    MAX NVT SESSIONS = 1
    MAX NVT HOSTS = 21
    NVT HOTKEY = ALTZ
    DEFAULT NVT HOSTS = DRPEPPER SNOWBIRD
```

Additional information

Use NVT to access and emulate network hosts through a PC workstation. With NVT, in addition to running NetWare and your usual PC applications, you can run host applications and in all other ways act as a host terminal.

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Because NVT VLM uses Novell's IPX and SPX protocols to establish connections with a host, the PC must load the IPX/SPX driver before loading NVT. Once the VLM is loaded, the PC can use its capabilities from within a terminal-emulation program. NVT uses either INT 14 or INT 6B to redirect SPX I/O to terminal-emulation software.

INT 14 and INT 6B are serial interfaces supported by many popular terminal-emulation programs (such as *Smarterm 240, Softerm PC,* and *Reflection 4+*). The NVT VLM works with any DOS terminal-emulation package that supports these interfaces. For information on how to configure your terminal-emulation package for this redirection, refer to the software's documentation on INT 14 or INT 6B.

Compared with working on a dumb terminal, the serial redirection of NVT on a PC can speed up screen I/O by 8 to 10 times.

NVT supports multiple terminal sessions. The NVT pop-up menu manages multiple host connections (to either the same or different hosts). This menu allows multiple virtual sessions with a single terminal screen.

Load NVT

When VLM.EXE runs, it loads NVT.VLM and any other Virtual Loadable Modules that are present and configured. For a description of options, see the earlier section "NVT options for NET.CFG." For general information on using VLMs or configuring the NET.CFG file, see the *NetWare Workstation for DOS and Windows* manual.

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Attach to a Novell Virtual Terminal server

Press the hot key. The default is <Alt><T>.

A list of active, accessible servers appears on the screen. You can connect to multiple servers or multiple hosts. When multiple connections exist, your connection index appears in brackets next to the server name. If MAX NVT HOSTS is 0 in NET.CFG, then only the DEFAULT NVT HOSTS that were active and accessible when VLM.EXE was run will appear.

Highlight the server you want to attach to using these keys:

<Up-arrow>	<Down-arrow>
<PgUp>	<PgDn>
<Home>	<End>

Then press the <Ins> or <Enter> key to connect to the highlighted server.

Disconnect from a Novell Virtual Terminal server

Press the hot key. The default is <Alt><T>.

A list of servers appears on the screen.

To disconnect, highlight the server of the session you want to terminate and press either the <Del> or <D> key.

Set default NVT hosts

To select an NVT server as the default host when you load NVT, add a DEFAULT NVT HOSTS parameter to the NET.CFG file. The first valid host listed in DEFAULT NVT HOSTS becomes the default. If valid and accessible, other hosts listed appear in the menu regardless of the value of MAX NVT HOSTS.

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Move the menu screen

To make viewing of menus of other software packages more convenient, move the NVT pop-up menu to another location on the screen. To move the pop-up menu screen, press the <Shift> key and one of the arrow keys (<Up-arrow>, <Down-arrow>, <Left>, or <Right>).

Unload NVT

NVT.VLM is unloaded (along with other loaded VLMs) when the VLM manager (VLM.EXE) itself is unloaded. VLM.EXE cannot be unloaded when it is unsafe to do so (such as when TSRs are loaded after VLM.EXE).

Notes

Some outdated routers are known to respond improperly to SAP requests (SAP is the method used to discover NVT hosts). If you know that hosts exist and are advertising, but cannot see them in the pop-up menu, ask your network administrator to fix this problem by updating the router's software.

For additional NVT.VLM notes, see "Notes" in the previous section "NVT.EXE."

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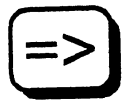
nwbackup
(*netware backup*)

Host
Utility



Why use nwbackup?

Use *nwbackup* to back up NetWare-specific file information and trustee rights.

Command format

nwbackup [*directory*] [- sb]

Replace *directory* with the pathname to the directory that will store the file information and trustee rights.

For example, type

./nwbackup /usr/opt/netware <Enter>

NOTE

Be sure that the directory designated to store the back-up file information and trustee rights has enough free space.

Command option

[-sb]
Insert this option if you want to back up trustee rights only.

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Notes

Users cannot log on while *nwbackup* is running.

Depending on the size of your inodes file, *nwbackup* can take over an hour to finish running.

The system stores the back-up information in the following locations:

- File attributes in [*path*]\nwattrib.sav
- Trustee rights in [*path*]\nwtrust.sav

nwbackup attempts to read all types of trustee assignments. If no trustee assignments of a given type exist, NWGetEntrysTrustees reports an error. This error reporting is normal and does not indicate a problem.

After running *nwbackup*, you should check the backup log ([*path*]/nwbackup.log]) for errors.

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nwlp
(*net*work *print*er)

Host
Utility

Why use *nwlp*?

Use *nwlp* to print from an AViiON system to a NetWare print queue.

For a complete explanation of *nwlp*, see *Print Server*.

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nwrestore
(netware restore)

Host
Utility

Why use nwrestore?

Use *nwrestore* to restore NetWare-specific file information and trustee rights that were previously backed up using the nwbackup utility.

Command format

nwrestore [*directory*] [-sr]

Replace *directory* with the location of the back-up information.

For example, type

./nwrestore /usr/opt/netware <Enter>

Command option

[-sr]

Include this option if you want to restore trustee rights only.

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Notes

Users cannot log on while *nwrestore* is running.

Depending on the size of your inodes file, *nwrestore* can take over an hour to finish running.

The system restores the back-up information from the following locations:

- File attributes in
- Trustee rights in [path]/nwtrust.sav

nwrestore may report errors on the following files:

- SYS:/SYSTEM/NET$VAL.SYS
- SYS:/SYSTEM/NET$PROP.SYS
- SYS:/SYSTEM/NET$OBJ.SYS

This error reporting is normal and does not indicate a problem.

After running *nwrestore,* check the restore log ([*path*]/nwrestore.log]) for errors.

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PAUDIT
(Print AUDIT)

Command Line Utility

Why use PAUDIT?

Use PAUDIT to view the system accounting records. Accounting must be installed on your file server.

Command format

PAUDIT

Additional information

PAUDIT allows you to view the system accounting records. It also records each time an intruder is detected trying to log in to the file server.

The audit file, NET$ACCT.DAT, contains a chronological record of all accounting records. When Accounting is installed, an entry is placed in the file server's audit file each time a user logs in to or out of the file server.

The file server can also track and charge users for several services, including blocks read, blocks written, connect time, service requests, and disk storage.

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View system accounting records

To view the system's accounting records, complete the following steps.

Action
1. Change to the SYS:SYSTEM directory or map a search drive to the directory.
2. Type `PAUDIT` <Enter> You see a listing of all accounting records.

Redirect PAUDIT data to a file and print a copy

PAUDIT generates a large amount of data. You can redirect the output of PAUDIT to a file to make it more accessible. This file can then be viewed or printed.

Redirect PAUDIT data

To redirect PAUDIT data to a file, use the DOS piping feature. Type

`PAUDIT > filename` <Enter>

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Print the PAUDIT data file

To print a copy of the file, type

```
NPRINT filename <Enter>
```

You may want to erase or move the NET$ACCT.DAT file after you have redirected the information to a file. The system will generate a new NET$ACCT.DAT file for future accounting records.

However, the information is stored in a more compressed form (binary data) in the NET$ACCT.DAT file. If you have a billing program that reads the information directly from the NET$ACCT.DAT file, you may want to leave the information in that form rather than periodically erasing the file and starting over.

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PCONSOLE
(Print CONSOLE)

Command Line
Utility

Why use PCONSOLE?

Use PCONSOLE to set up the print server and print queues, to control network printing, and to view information about network printing.

For a complete explanation of PCONSOLE, see *Print Server*.

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pmonitor
(print *monitor*)

Host
Utility

Why use *pmonitor*?

Use *pmonitor* to see the status of print servers and network printers.

Command Format

pmonitor *printserver* <Enter>

pmonitor is a host utility and must be entered in lower-case.

Replace *printserver* with the name of the print server.

For more information on *pmonitor*, see *Print Server*.

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PRINTCON
(PRINT Job CONfiguration)

Command Line
Utility

Why use PRINTCON?

Use PRINTCON to define your preferred print options and set them up as unchanging configurations. PRINTCON serves as a database for printing with CAPTURE, NPRINT, and PCONSOLE.

For a complete explanation of PRINTCON, see *Print Server*.

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PRINTDEF
(PRINTer DEFinition)

Command Line
Utility

Why use PRINTDEF?

Use PRINTDEF to set up a database of printer definitions. The network supervisor can define functions and modes of operation for network printers, plotters, and other devices. Supervisors can also define the forms (types of paper) that the print devices will use. The information defined in PRINTDEF is then used by PRINTCON, NPRINT, or CAPTURE to configure print jobs.

Network users can use PRINTDEF to view the device functions, modes, and forms that the network supervisor has set up.

For a complete explanation of PRINTDEF, see *Print Server*.

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PSC
(Print Server Command)

Command Line Utility

Why use PSC?

Print server operators can use PSC to quickly control print servers and network printers. Network users can use PSC to see the status of print servers and network printers.

Command format

PSC [PS=*printserver*] [P=*printernumber*] *flaglist*

The parameters can be in any order.

Parameters

Parameter	Description
printserver	Replace with the print server name.
printernumber	Replace with the printer number.
flaglist	Replace with one of the following flags.

STATus	FormFeed
PAUse	MOunt Form=*n*
ABort	[*Keep*]PRIvate
STOp	[*Keep*]SHared
STARt	CancelDown
Mark [*character*]	

Print server operators can use any of the flags. Network users can use only the STATus flag.

For a complete explanation of PSC, see *Print Server*.

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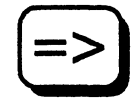
pserver
(Print Server Command)

Host
Utility



Why use *pserver*?

Use *pserver* to load the print server on a NetWare file server and to establish print services for the network. You must also load *rprinter*. The print server can support up to 64 printers and can service queues on up to 8 file servers.

For a complete explanation of the *pserver* command, see *Print Server*.

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PSERVER
(Print SERVER)

Command Line Utility

Why use PSERVER?

Use PSERVER to load the print server on the file server and to establish print services for the network.

Command format

PSERVER [*fileserver*] *printserver*

Before you run the print server, you must set up a print server account and configuration files using PCONSOLE.

For a complete explanation of PSERVER, see *Print Server*.

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pslist
(*p*rint *s*erver *list*)

Host
Utility

Why use *pslist*?

Use *pslist* to see current print servers and their network addresses.

Command format

pslist

pslist is a host utility and must be entered in lower-case.

Information similar to the following appears:

Print Server	Network	Node	Socket	Hops
CANON	00003070	000000000001	80	3
CITOH	COCDBDBE	000000000001	8060	4
ENG-PRINT	FADEF2F2	000001B02056	8060	4
JOHN	00100554	000000000001	8056	4
MKTG_PSERVER	00100554	00001B30BA62	8056	5

Total of 6 print servers found.

For more information, see *Print Server*.

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REMOVE

Command Line Utility

Why use REMOVE?

Use REMOVE to delete a user or a group from the trustee list of a file or a directory.

Command format

REMOVE [USER | GROUP] *name* [[FROM] *path*] [*option...*]

Replace *name* with the name of the user or group whose name you want to remove.

Replace *path* with a directory path leading to and including the volume, directory, subdirectory, or file from which you want to remove a user or a group.

Replace *option* with one or both of the following options.

[-SUBdirectories]	Include to remove trustee from all subdirectories in *path*.
[-Files]	Include to remove trustee from files. Include with the Supervisory option to remove trustees from all files in the directory and subdirectories of *path*.

REMOVE supports wildcard characters.

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Additional information

You can also use SYSCON or MAKEUSER to remove trustees from directories and files.

To view the trustee list of a file or a directory, use TLIST.

You must be attached to a file server before you can remove a user or a group from the trustee list of a file or a directory on that file server. You must also have the Access Control right in that directory.

NOTE

GRANT, REVOKE, and REMOVE are closely related. When you use GRANT to grant even one trustee right to a user or a group, the user or group is automatically enrolled on that directory's trustee list and then given the specified right.

If you use REVOKE to revoke trustee rights from a user or a group, the user or group remains a trustee of that directory. Use REMOVE to remove the user or group from that directory.

USER and GROUP are optional. If a user and a group have the same name, however, you must use the constant GROUP before the name of the group. The default always removes the user.

For a complete explanation of trustee rights, see **Security** in *Concepts*.

Remove a user from the trustee list of a file or a directory

Choose from the following procedures to delete a user as trustee of a file or directory.

Remove a user from your default directory

Suppose you want to remove user DAVID from the trustee list of your default directory. Type

```
REMOVE USER DAVID <Enter>
```

Remove a user from a file in your default directory

Suppose you want to remove user DAVID from the trustee list of file TASK in your default directory. Type

REMOVE USER DAVID FROM TASK <Enter>

Remove a user in any directory

Suppose you want to remove user SIMONE from the trustee list of the PROGRAMS directory, which is not your default directory. Also suppose drive G is mapped to the PROGRAMS directory as follows:

```
Drive G: = COUNT/SYS:  PROGRAMS
```

To remove user SIMONE from the trustee list of the PROGRAMS directory, type

REMOVE USER SIMONE FROM G: <Enter>

Remove a user from a file in any directory

Suppose you want to remove user SIMONE from the trustee list of the START file in the PROGRAMS directory, which is not your default directory. Also suppose drive G is mapped to the PROGRAMS directory as follows:

```
Drive G: = COUNT/SYS:  PROGRAMS
```

To remove user SIMONE from the trustee list of the START file, type

REMOVE USER SIMONE FROM G:START <Enter>

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Remove a group from the trustee list of a file or a directory

Choose from the following procedures to delete a user as trustee of a file or a directory.

Remove a group from your default directory

Suppose you want to remove group STAFF from the trustee list of your default directory. Type

REMOVE GROUP STAFF <Enter>

Remove a group from a file in your default directory

Suppose you want to remove group STAFF from the trustee list of file START from your default directory. Type

REMOVE GROUP STAFF FROM START <Enter>

Remove a group from the trustee list in any directory

Suppose you want to remove group STAFF from the trustee list of the PROGRAMS directory, which is not your default directory. Also suppose drive G is mapped to the PROGRAMS directory as follows:

```
Drive G: = COUNT/SYS:  PROGRAMS
```

Type

REMOVE GROUP STAFF FROM G: <Enter>

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Remove a group from a file in any directory

Suppose you want to remove group STAFF from the trustee list of the file START in the PROGRAMS directory, which is not your default directory. Also suppose drive G is mapped to the PROGRAMS directory as follows:

```
Drive G: = COUNT/SYS:  PROGRAMS
```

Type

REMOVE GROUP STAFF FROM G:START <Enter>

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RENDIR
(RENname DIRectory)

Command Line Utility

Why use RENDIR?

Use RENDIR to rename a directory.

Command format

RENDIR *path* [TO] *directoryname*

Replace *path* with the directory path leading to and including the directory or subdirectory you want to rename.

Replace *directoryname* with the new name of the directory.

Additional information

When you rename a directory, you change only the directory name. You do not affect the trustee list for that directory. Users who were granted rights in the directory before it was renamed retain their rights. However, drive mappings in login scripts (if they exist) must be changed to reflect the new name of the directory.

You must be attached to a file server before you can change the name of a directory on that file server. You must also have the Modify right in the directory.

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Rename your directories

Rename a directory by performing one of the procedures that follow.

Rename your default directory

Suppose you want to rename your default directory to PROGRAMS. Use a period (.) to represent your default directory. Type

RENDIR . PROGRAMS <Enter>

You see a message on your screen, indicating that the default directory has been renamed PROGRAMS.

Rename any directory

Suppose you want to change the name of the ACCT directory to PROGRAMS. Also suppose drive G is mapped to ACCT in volume SYS on file server RECORDS as follows:

```
Drive G: = RECORDS/SYS:ACCT
```

To rename the directory, type

RENDIR G: PROGRAMS <Enter>

You can also use the character combination :/ to represent your default file server and volume (RECORDS/SYS):

RENDIR :/ACCT PROGRAMS <Enter>

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REVOKE

Command Line Utility

Why use REVOKE?

Use REVOKE to revoke trustee rights from a user or group in a file or directory.

Command format

REVOKE *rightslist*...[FOR *path*] FROM [USER | GROUP] *name* [*option*...]

Replace *rightslist* with one or more of the following. The rights are explained on the next page.

ALL	Erase
Supervisory	Modify
Read	File Scan
Write	Access Control
Create	

NOTE

Only the abbreviation is recognized at the command line. You must insert a space between the rights.

Replace *path* with any directory path leading to the volume, directory, subdirectory, or file where you want to revoke rights.

The constants USER and GROUP are optional unless a user and a group share the same name.

Replace *name* with the name of the user or the group whose rights you want to revoke.

REVOKE supports wildcard characters.

Replace *option* with one or both of the following options.

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[-SUBdirectories] Include to revoke specified rights from all subdirectories.

[-Files] Include with the Supervisory option to revoke rights from all files in the directory and subdirectories of *path*.

Right	Description
ALL	Include to revoke all assigned trustee rights from the directory, its files, and its subdirectories.
Supervisory	Include to revoke all rights to the directory, its files, and subdirectories. The Supervisory right overrides any restrictions placed on subdirectories or files with an Inherited Rights Mask.
Read	Include to revoke the right to open and read files.
Write	Include to revoke the right to open and write to files.
Create	Include to revoke the right to create and write to files.
Erase	Include to revoke the right to delete a directory, its files, and its subdirectories.
Modify	Include to revoke the right to change directory and file attributes, and to rename the directory, its files, and its subdirectories.
File Scan	Include to revoke the right to see files in a directory.
Access Control	Include to revoke the right to modify file or directory trustee assignments and Inherited Rights Masks. Access Control allows you to revoke all rights except Supervisory.

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Additional information

You can also use SYSCON to revoke trustee rights.

You must be attached to a file server before you can revoke trustee rights in a file or a directory on that file server. (See ATTACH.) You must also have the Access Control right in the file or the directory.

You can revoke trustee rights from only one user or one group with each REVOKE command.

NOTE

GRANT, REVOKE, and REMOVE are closely related. When you use GRANT to grant even one trustee right to a user or a group, the user or group is automatically enrolled on that directory's trustee list and then given the specified right.

If you use REVOKE to revoke trustee rights from a user or a group, the user or group remains a trustee of that directory. Use REMOVE to remove the user or group from that directory.

USER and GROUP are optional. If a user and a group have the same name, however, you must use the constant GROUP before the name of the group. The default is to revoke rights from the user.

For a complete explanation of trustee rights, see **Security** in *Concepts*.

Revoke user rights from a file or a directory

Use one of the procedures that follow to revoke user rights.

Revoke rights in your default directory

Suppose you want to revoke Access Control and Modify rights from user STEVE in your default directory. Type

REVOKE A M FROM USER STEVE <Enter>

To revoke all trustee rights from user STEVE, type

REVOKE ALL FROM USER STEVE <Enter>

Revoke rights from a file in your default directory

Suppose you want to revoke Access Control and Modify rights from STEVE in the TASK file in your default directory. Type

REVOKE A M FOR TASK FROM USER STEVE <Enter>

Revoke rights in any directory

Suppose you want to revoke Erase and Create rights from user JULIAN in the DATA directory, which is not your default directory. Also suppose drive G is mapped to DATA as follows:

```
Drive G: = RECORDS/SYS:DATA
```

Type

REVOKE E C FOR G: FROM JULIAN <Enter>

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Revoke rights from a file in any directory

Suppose you want to revoke from user JULIAN Write and Erase rights for the TASK file in the DATA directory, which is not your default directory.

Also suppose drive G is mapped to the DATA subdirectory as follows:

```
Drive G: = RECORDS/SYS:  DATA
```

Type

REVOKE W E FOR G:TASK FROM JULIAN <Enter>

Revoke group rights from a file or a directory

Use one of the procedures that follow to revoke group rights.

Revoke rights from your default directory

Suppose you want to revoke Access Control and Modify rights from group STAFF in your default directory. Type

REVOKE A M FROM GROUP STAFF <Enter>

If you want to revoke all trustee rights from group STAFF in your default directory, type

REVOKE ALL FROM GROUP STAFF <Enter>

Revoke rights from a file in your default directory

Suppose you want to revoke Access Control and Modify rights from group STAFF in the STOCK file in your default directory. Type

REVOKE A M FOR STOCK FROM GROUP STAFF <Enter>

Revoke rights from any directory

Suppose you want to revoke Access Control and Modify rights from group STAFF in the DATA directory, which is not your default directory. Also suppose drive G is mapped to DATA as follows:

```
Drive G: = RECORDS/SYS:DATA
```

Type

REVOKE A M FOR G: FROM GROUP STAFF <Enter>

Revoke rights from a file in any directory

Suppose you want to revoke Access Control and Modify rights from group STAFF in file STOCK in the DATA directory, which is not your default directory.

Also suppose drive G is mapped to the DATA subdirectory as follows:

```
Drive G: = RECORDS/SYS:  DATA
```

Type

REVOKE A M FOR G:STOCK FROM GROUP STAFF <Enter>

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RIGHTS

Command Line Utility

Why use RIGHTS?

Use RIGHTS to view your effective rights in a file or a directory.

Command format

RIGHTS [*path*]

Replace *path* with any directory path leading to the volume, directory, subdirectory, or file where you want to view your effective rights.

Additional information

Effective rights are the rights that you can actually exercise in a given directory, subdirectory, or file. They are determined by your trustee rights. If trustee rights have been assigned, they become the effective rights. If no trustee rights have been assigned, the effective rights are determined by the rights "held in common" in the Inherited Rights Mask and the previous directory level's effective rights (either the parent directory for directory effective rights, or the current directory for file effective rights).

For a complete explanation of rights, see **Security** in *Concepts*.

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View effective rights in directories

Choose one of the following procedures, depending on the directory you want to know about.

View effective rights in your default directory

Suppose you want to view your effective rights in your default directory. Type

RIGHTS <Enter>

If your effective rights include all rights, the following information appears:

```
SERVER1\SYS:PUBLIC\UTIL
Your Effective Rights for this directory are [SRWCEMFA]
    You have Supervisor Rights to Directory.      (S)
   *May Read from File.                           (R)
   *May Write to File.                            (W)
    May Create Subdirectories and Files.          (C)
    May Erase Directory.                          (E)
    May Modify Directory.                         (M)
    May Scan for Files.                           (F)
    May Change Access Control.                    (A)

*Has no effect in directory.

Entries in Directory May Inherit [SRWCEMFA] rights.
You have ALL RIGHTS to Directory Entry.
```


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View effective rights in any directory

Suppose you want to view your effective rights in the PROJECTS directory. Also suppose drive G is mapped to the PROJECTS directory on file server RECORDS as follows:

```
Drive G: = RECORDS/SYS:  PROJECTS
```

Type

RIGHTS G: <Enter>

You see information similar to the following:

```
RECORDS/SYS:PROJECTS
Your Effective Rights for this directory are [ RW   F ]
    May Read from File. (R)
    May Write to File.  (W)
    May Scan for Files. (F)

Entries in Directory May Inherit [ RW   F ] rights.
```


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View effective rights in files

Choose one of the following procedures, depending on the files you want to know about.

View effective rights of a file in default directory

To view your effective rights in the TASK file in your default directory, include the name of the file with the command. Type

RIGHTS TASK <Enter>

If your effective rights include all rights, the following information appears:

```
SERVER1\SYS:PUBLIC\TASK
Your Effective Rights for this file are [SRWCEMFA]
       You have Supervisor Rights to File.(S)
       May Read from File.(R)
       May Write to File.(W)
      *May Create Subdirectories and Files(C)
       May Erase File.(E)
       May Modify File.(M)
       May Scan for File.(F)
       May Change Access Control.(A)

* Create is necessary to salvage a file that has been deleted.

You have ALL RIGHTS to Directory Entry.
```


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View effective rights of a file in any directory

Suppose you want to view your effective rights in the ERRAND file in the BUSINESS directory. Also suppose drive G is mapped to the BUSINESS directory on file server CORP as follows:

```
Drive G: = CORP/SYS:  BUSINESS
```

Type

RIGHTS G:ERRAND <Enter>

You see information similar to the following:

```
CORP\SYS:BUSINESS\ERRAND
Your Effective Rights for this file are [ RW   F ]
      May Read from File.(R)
      May Write to File.(W)
      May Scan for File.(F)

Entries in File May Inherit [ RW   F ] rights.
```

rprinter
(*remote printer*)

Host
Process

Why use *rprinter*?

The *rprinter* and *pserver* processes allow NetWare to use a DG/UX printer. However, using *rprinter* directly allows you to change only the detail of displayed messages. We recommend that you use *sconsole* to manage a remote printer attached to the AViiON system.

Command format

rprinter [-d [newdv]] [-n]

Command options

[-d]
This option must be accompanied by at least one of the five parameters n, e, w, d, or v. The default is new.

n = normal
e = error
w = warning
d = debug
v = verbose

[-n]
Include this option to remove the trailing form feed (if one exists) from the end of the print job.

NOTE

To automate the -n option, you must add it to the psnint script in /usr/opt/netware/bin.

For a complete explanation of RPRINTER, see *Print Server*.

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RPRINTER
(Remote PRINTER)

Command Line Utility

Why use RPRINTER?

Use RPRINTER to connect or disconnect a remote printer on a network.

Command format

RPRINTER [*printserver printernumber*] [-r| -s]

The -r option disconnects the remote printer from the print server. The -s option displays the status of the RPRINTER. (To view the status of the print server or printer, use PCONSOLE.)

IMPORTANT

If you are using an extended or expanded memory shell, don't remove RPRINTER with the -r option. Reboot the machine to remove RPRINTER.

If you type only "RPRINTER" without other parameters, a menu is displayed that allows you to select the print server and printer number.

For a complete explanation of RPRINTER, see *Print Server*.

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sconsole

Host
Utility

Why use *sconsole*?

Use *sconsole* to do the following:

- Administration: Start and shutdown NetWare services, transport, print server, and remove printer; and view and clear error logs.
- Configuration: Configure transport parameters, named pipe parameters, NVT parameters, file services, remote print services, hybrid users, security, and system parameters.
- Statistics: Change sample intervals, and view file server and volume information and statistics.
- Utilities: Perform transport and service utilities.

Command format

./sconsole

sconsole is a host utility and must be entered in lower-case.

For a complete explanation of *sconsole*, see *System Administration*.

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SECURITY

Command Line Utility

Why use SECURITY?

Use SECURITY to check for possible file server security violations. Because SECURITY is run from the SYS:SYSTEM directory, you must have SUPERVISOR rights or equivalent to run SECURITY.

Command format

SECURITY

Additional information

SECURITY checks for possible security violations by examining the bindery, a special database maintained by each file server. The bindery contains information about each object (usually a user or a group). SECURITY reports the possible security violations explained below.

SECURITY identifies potential security problems on your network, but it does not correct them. You must take the appropriate measures to correct any security problems.

The output of SECURITY often fills more than one screen. You can redirect the output to a file, and then print the file.

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No password assigned

Anyone can log in with an object's username if the object does not have a password. If a guest account does not have a password, anyone can obtain a list of all users on a file server through this account. Failing to require a secure password for each object is a major weakness in network security. The potential damage depends on the privileges assigned to the object with no password. For example, if the object is security equivalent to the supervisor, an intruder will have full access to the file server.

Insecure passwords

A secure network is hard to maintain if an object has a password that is easy to guess. SECURITY checks for passwords that are the same as the username and for accounts that are not required to have a password of at least five characters.

SECURITY ensures that users are required to change their passwords at least every 60 days, that they do not have unlimited grace logins after a password has expired, and that they are required to use a unique password each time they change their password.

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SUPERVISOR equivalence

SECURITY checks for objects that are security equivalent to user SUPERVISOR. As the number of users with SUPERVISOR privileges increases, your security risks multiply. However, you still need more than one way into the system. You can assign more than one network supervisor. For example, if you assign two users, both can log in to the file server as SUPERVISOR with the same password. Even if you have only one network supervisor, you can create a plausible but fictitious user and make that user SUPERVISOR equivalent.

The network supervisor should always have two user accounts, one as SUPERVISOR and the other as a regular network user. The network supervisor should be logged in as SUPERVISOR only when there are supervisor tasks to perform.

Any time a user with SUPERVISOR rights leaves a workstation unattended, anyone can gain access to the file server.

Root directory privileges

SECURITY reports any users who have been granted access privileges in the root directory of any volume.

Granting a user privileges at the root directory of a volume gives that user privileges to the entire volume unless those rights are revoked at a lower level. You should be especially cautious about granting the Access Control right in a root directory. Users with the Access Control right can grant themselves all other rights in any subdirectory on the volume.

You can improve network security by granting each user privileges only to the specific directories he or she needs to access.

Login scripts

Since the login script is kept in the user's mail directory, an intruder can create a login script file for any user who does not already have one. The MAIL directory gives the Create right to other users to allow them to deliver mail. Each user should have a login script to prevent this potential security weakness.

Excessive rights

SECURITY checks the standard directories to see that users do not have more rights in these directories than they should have. Users or objects should have the following rights in each directory.

```
SYS:SYSTEM          [       ]
SYS:PUBLIC          [ R   F ]
SYS:LOGIN           [ R   F ]
SYS:MAIL            [ W C   ]
```

This check also ensures that the only object that has more rights than Create and Write in the subdirectories of SYS:MAIL is the user to whom the mail directory belongs.

Check for security violations

Use SECURITY to check the network. In the SYS:SYSTEM directory, type

SECURITY <Enter>

You see the following message:

```
Security Evaluation Utility
Checking for possible network security violations, please
wait...
```

SECURITY checks the bindery and reports potential security violations. The information scrolls down the screen. To stop the information from scrolling, press <Ctrl><S> simultaneously. Press any key to continue scrolling.

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Redirect the output to a file

To redirect the SECURITY evaluation to a file in the SYS:SYSTEM directory, use the DOS piping feature. Type

SECURITY > *filename* <Enter>

Print a copy of the security evaluation

To print a copy of the output, type

NPRINT *filename* <Enter>

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SEND

Command Line Utility

Why use SEND?

Use SEND to send a brief message from your workstation to one or more users or groups on your network. If you want to send messages from the file server to workstations, use the SEND console command. You must be attached to another file server to send a message to a user or group on that file server.

Command format

Send a message to one or more users or groups:

SEND "*message*" [TO] [USER | GROUP] [*fileserver*/] *name* [[and | , *fileserver*/]*name*...]

Send a message to the file server:

SEND "*message*" [TO] [*server*/] CONSOLE

Send a message to all workstations:

SEND "*message*" [TO] [*server*/] EVERYBODY

Send a message to one or more specified workstations:

SEND "*message*" [TO] [STATION] [*fileserver*/]*n* [,*n*...]

Replace *message* with any string of characters up to 44 characters long minus the number of characters in your username.

Include *fileserver* only if the user to whom you want to send a message is not logged in to your file server. Replace *fileserver* with the name of the user's file server.

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Replace *name* with the name of the user or the group you want to send a message to. If you send a message to one or more users or groups, separate the names with commas or blank spaces.

Replace *n* with a list of workstation numbers. Separate workstation numbers with commas or blank spaces.

Include GROUP in a SEND command only if both a user and a group have the same name and you want to send a message to the group.

Additional information

Before you can send a message to a user or a group on another file server, you must be attached to that file server. (See ATTACH.)

Only DOS workstations support SEND.

Send a message to one or more users

Choose one of the following procedures, depending on the file server the user is logged in to.

Send a message to two users on your default file server

Suppose you want to send the following message to users CINDY and ERIC: "Meeting at 1:30 today." Also suppose that CINDY and ERIC are logged in to your default file server. Type

```
SEND "MEETING AT 1:30 TODAY" CINDY,ERIC <Enter>
```

A confirmation message appears, telling you your message was sent.

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Send a message to a user on another file server

Suppose you want to send the following message to ISABEL: "Meeting at 1:30 today." Also suppose ISABEL is logged in to file server SALES, which is not your default server. Type

```
SEND "MEETING AT 1:30 TODAY" SALES/ISABEL
  <Enter>
```

A confirmation message appears, telling you your message was sent.

Send a message to a group

Choose one of the following procedures, depending on where the group is defined.

Send a message to a group on default file server

Suppose you want to send the following message to group TEAM4: "Meeting at 1:30 today." Also suppose that the members of TEAM4 are logged in to your default file server. Type

```
SEND "MEETING AT 1:30 TODAY" TEAM4 <Enter>
```

A confirmation message appears, telling you your message was sent.

Send a message to a group on another file server

Suppose you want to send the following message to group TEAM4: "Meeting at 1:30 today." Also suppose that the members of TEAM4 are logged in to file server SALES, which is not your default server. Type

```
SEND "MEETING AT 1:30 TODAY" SALES/TEAM4 <Enter>
```

A confirmation message appears, telling you your message was sent.

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Send a message to the file server or to workstations

Choose one of the following procedures.

Send a message to your default file server

Suppose you want to send the following message to your default server console: "Wait! I am still saving data." Type

```
SEND "WAIT! I AM STILL SAVING DATA" CONSOLE
  <Enter>
```

A confirmation message appears, telling you your message was sent.

If you want to send a message to another file server, you must be attached to that server and specify the name of the server in the command.

Send a message to all workstations

Suppose you want to send the following message to all workstations: "Paychecks are here." Type

```
SEND "PAYCHECKS ARE HERE." EVERYBODY <Enter>
```

A confirmation message appears, telling you your message was sent.

If you want to send a message to everyone on another file server, you must be attached to that server and specify the name of the server in the command.

Send a message to several workstations

Suppose you want to tell the users at workstations 2, 7, and 9 that the department meeting is starting. Also suppose that the specified users are logged in to your default file server. Type

```
SEND "MEETING IS BEGINNING IN ROOM 11" TO 2,7,9
  <Enter>
```

If you want to send a message to users on workstations on another file server, you must be attached to that file server and specify the name of the file server in the command.

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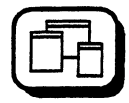
SESSION

Menu
Utility



Why use SESSION?

Use SESSION to

- Do tasks relating to a user's file server selections and drive mappings.
- Change to another file server.
- View or temporarily change your drive mappings.
- View groups on your network or send a message to a group.
- Temporarily create, change, or delete search drives.
- Choose your default drive.
- List user information and send messages to users.

The tasks in SESSION are organized according to the "Available Topics" menu:

```
Available Topics

Change current server
Drive mappings
Group List
Search Mappings
Select Default Drive
User List
```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Attach to another file server

Action	Explanation
1. Enter SESSION and select "Change Current Server" from the "Available Topics" menu.	You see a list of the file servers you are attached to.
2. Press <Insert>.	You see a list of the file servers you can attach to.
3. Select the name of the file server you want to attach to.	You see the "User Name" box.
4. Enter the username you want to use to attach.	If a password is required along with the username, the "Password" entry box appears.
5. Enter the password; then press <Enter>.	

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Log out of a file server

If you are attached to more than one file server, you can log out of any file server except your default file server.

Action	Explanation
1. Enter SESSION and select "Change Current Server" from the "Available Topics" menu.	You see a list of the file servers you are attached to.
2. Highlight the file server you want to log out of and press <Delete>. To log out of more than one file server, mark each server with the Mark key (<F5>). Then press <Delete>.	The "Logout From Server" (or "Logout From All Marked Servers") confirmation box appears.
3. Select Yes to log out of the file servers.	

Change to a different username on the current file server

You can log in to a file server with a username different from your default username if you know the password required by that username. You cannot change your username on your default server.

Action	Explanation
1. Enter SESSION and select "Change Current Server" from the "Available Topics" menu.	You see a list of the file servers you are attached to.
2. Highlight the file server on which you want to change your username; then press the Modify key (<F3>).	The "Name Of User To Change To" box is displayed.
3. Enter the new username you want to use.	If that username requires a password, the "Password" entry box is displayed.
4. Enter the password.	

Display drive mapping information

When you view information about drives in SESSION, you can see the following:

- The drive type (local or network)
- Your effective rights in the directory the drive is mapped to (if you are viewing information about network drives)

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Action	Explanation
1. Enter SESSION and select "Drive Mappings" from the "Available Topics" menu.	A list of your current drive mappings is displayed.
2. Select the drive you want information about.	

Add a drive mapping

Drive mappings that you map in SESSION are temporary; they are usable only until you log out.

If you want permanent drive mappings, use SYSCON to map the drives in your login script.

Action	Explanation
1. Enter SESSION and select "Drive Mappings" from the "Available Topics" menu.	You see a list of your current drive mappings.
2. Press <Insert>.	The next available drive letter appears in a box. If you want to specify a different drive letter, delete the current drive letter and type the drive letter you want to use.
3. Press <Enter>.	The "Select Directory" entry box is displayed.
4. Enter the directory path. (You can specify only directories for file servers you are attached to.)	If you do not know the directory path, press <Insert> to bring up a series of menus from which you can choose the path.
5. Press <Enter>.	The drive is now mapped to the specified directory.
6. Confirm the mapping by typing Y.	

NOTE

Choosing ".." takes you up a level in the directory structure. The ".." option appears in the "Available Volumes," "Network Directories," and "Local Directories" lists. If ".." appears as the only entry in the "Network Directories" list, there are no directories below the current level.

Delete a drive mapping

Action	Explanation
1. Enter SESSION and select "Drive Mappings" from the "Available Topics" menu.	A list of your current drive mappings is displayed.
2. Delete the drive mapping. To delete more than one drive mapping, mark each mapping with the Mark key (<F5>). Then press <Delete>.	The "Delete Drive Mapping" (or "Delete Marked Drive Mappings") confirmation box is displayed.
3. Select Yes.	The drive mappings are deleted. Note that when a mapping for a network drive that was originally a local drive is deleted, the drive regains its local drive status.

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Modify a drive mapping

Action	Explanation
1. Enter SESSION and select "Drive Mappings" from the "Available Topics" menu.	A list of your current drive mappings is displayed.
2. Select the drive mapping you want to modify and press the Modify key (<F3>).	The "Select Directory" box is displayed.
3. Press the Backspace key to delete the parts of the drive mapping you want to modify.	
4. If you know the information you need to add, type it and press <Enter>; the drive mapping is modified.	If you do not know the directory name, press <Insert> to bring up a series of menus from which you can choose the path.
5. Press <Enter>.	The drive is now mapped to the specified directory. If you are modifying a local drive, the "Map Local Drive to Network Directory" confirmation box appears. Select Yes to modify the drive mapping.

NOTE

Choosing ".." takes you up a level in the directory structure. The ".." option appears in the "Available Volumes," "Network Directories," and "Local Directories" lists. If ".." appears as the only entry in the "Network Directories" list, there are no directories below the last directory listed in the "Select Directory" box.

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View groups

Action	Explanation
1. Enter SESSION.	
2. Select "Group List" from the "Available Topics" menu.	The groups on your file server are listed.

Send a message to a group

You can send short messages (55 characters or fewer) to a user or a group.

Action
1. Enter SESSION.
2. Select "Group List" from the "Available Topics" menu.
3. Select the group you want to send a message to, or use the Mark key (<F5>) to select multiple groups.
4. Type the message. (The message can be up to 55 characters long, including your username.) Press <Enter>.

Display search drive mapping information

When you view information about search drives in SESSION, you see your effective rights in the directory the drive is mapped to (network drives only, no information is available for local drives).

Action	Explanation
1. Enter SESSION and select "Search Mappings" from the "Available Topics" menu.	The "Current Search Mappings" list appears.
2. Select the drive you want information on.	

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Add a search drive mapping

You can define up to 16 search drive mappings. These are labeled sequentially by number and letter (numbers begin with 1; letters begin with Z and move backwards). For example, the first search drive is assigned the number 1 and the letter Z; the second, 2 and Y; and so on.

Action	Explanation
1. Enter SESSION and select "Search Mappings" from the "Available Topics" menu.	The "Current Search Mappings" list appears.
2. Press <Insert>.	The next available search drive number is in the "Search Drive Number" box. If you want to insert a search drive mapping out of sequence, delete the current number and type in the number you want.
3. Press <Enter> to see the "Select Directory" box.	
4. Specify the name of the directory you want to map the search drive to.	If you do not know the directory path, press <Insert> to bring up a series of menus from which you can choose the path.
5. Press <Enter>.	The search drive has now been mapped to the specified directory.

NOTE

Choosing ".." takes you up a level in the directory structure. The ".." option appears in the "Available Volumes," "Network Directories," and "Local Directories" lists. If ".." is the only entry in "Network Directories," no directories exist below the last directory in the "Select Directory" entry box.

Modify a search drive mapping

Action	Explanation
1. Enter SESSION and select "Search Drive Mappings" from the "Available Topics" menu.	The "Current Search Mappings" list appears.
2. Select the search drive mapping you want to modify and press the Modify key (<F3>).	The "Select Directory" entry box appears.
3. Backspace over the parts of the directory name you want to change.	
4. Type information to replace what you delete; then press <Enter>. For example, to change X:\PROJECTS\XFER to X:\PROJECTS\DONE, backspace over "XFER" and type "DONE".	If you do not know the directory path, press <Insert> to bring up a series of menus from which you can choose the directory path.
5. Press <Enter>.	The search drive is now mapped to the specified directory.

Choosing ".." takes you up a level in the directory structure. The ".." option appears in the "Available Volumes," "Network Directories," and "Local Directories" lists. If ".." appears as the only entry in the "Network Directories" list, there are no directories below the current level.

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Delete a search drive mapping

Action	Explanation
1. Enter SESSION and select "Search Drive Mappings" from the "Available Topics" menu.	The "Current Search Mappings" list appears.
2. Highlight the search drive mapping you want to remove and press <Delete>. To delete more than one search drive mapping, mark each mapping with the Mark key (<F5>). Then press <Delete>.	The "Delete Drive Mapping" (or "Delete Marked Drive Mappings") confirmation box appears.
3. Select Yes.	The search drive mappings are deleted.

Change the default drive

Your default drive is the drive on which you are currently working. When you execute a DOS or NetWare command, the default drive is the first drive that is searched.

Action	Explanation
1. Enter SESSION and select "Select Default Drive" from the "Available Topics" menu.	The "Select Default Drive" list appears.
2. Select the drive you want to specify as your default drive.	

View user information

The following instructions explain how to list users and view information about them. When you choose "User List" from the "Available Topics" menu in SESSION, you see a list of only those users who are attached to the file server.

The information you can see about a user in SESSION includes the user's full name, object type (the only entry you can see is "User"), login time, network address (a number assigned to the file server), and network node (a number assigned to the user's workstation).

Action	Explanation
1. Enter SESSION and select "User List" from the "Available Topics" menu.	A list of the users currently attached to the server is displayed.
2. Select the user you want information about.	The "Available Options" menu is displayed.
3. Select "Display user information."	An inset displays the user information.

Send a message to a user

You can send short messages (55 characters or fewer) to a user on your network by completing the following steps.

Action	Explanation
1. Enter SESSION.	
2. Select "User List" from the "Available Topics" menu.	The "Current Users/Station" list is displayed.
3. Select the user you want to send the message to, or use the Mark key (<F5>) to select more than one user. If you are sending a message to more than one user, skip to Step 5.	The "Available Options" menu is displayed.

(continued)

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Action	Explanation
4. Select "Send Message."	The "Message" entry box appears.
5. Type the message you want to send. (The message can be up to 55 characters long, including your username.) Then press <Enter>.	A message indicating whether or not the message was sent to the user appears on your screen.

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SETPASS
(SET PASSword)

Command Line Utility

Why use SETPASS?

Use SETPASS to create or change your password on one or more file servers. You can also synchronize passwords on multiple file servers.

A password can consist of up to 127 characters but cannot include control characters.

Command format

SETPASS [*fileserver*] [*/username*]

Replace *fileserver* with the name of the file server on which you want to set or change your password.

Replace */username* with the name of the user whose password you want to set or change.

Additional information

You must be attached to a file server before you can set or change your password on it.

If you are attached to more than one file server with the same username and password, you can synchronize passwords.

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Create or change a password

Action	Explanation
1. To create or change a password on your default file server, type **SETPASS/*username*** <Enter> To create or change a password on a file server other than your default server, include the name of the server in the command. For example, if you want to create or change a password for user JILL on server RECORDS, type **SETPASS RECORDS/JILL** <Enter>	The following prompt appears on your screen: `Enter new password for RECORDS/JILL:`
2. Enter the password you want.	You see the following prompt: `Retype new password for RECORDS/JILL`
3. Enter the new password again.	You see the following message: `The password for RECORDS/JILL has been changed.`

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Synchronize passwords

If your workstation is attached to more than one file server and you have the same username and password on all the file servers, you can synchronize the passwords by changing the password on one file server.

Action	Explanation
1. Suppose your workstation is attached to servers RECORDS, ACCT, and MKTG and you use the same username and password on each server. Your username is JEAN and your password is GOLD.	
2. To change your password on server RECORDS, type **SETPASS RECORDS/JEAN** <Enter>	The following message is displayed: `Enter new password for RECORDS/JEAN:`

3. Suppose your new password is SILVER. Enter it, and enter it a second time when you are prompted.	You see the following message:
	
	`The password for RECORDS/JEAN has been changed.`
	
	`MKTG/JEAN`
	`ACCT/JEAN`
	`RECORDS/JEAN`
	
	`Synchronize passwords on these file servers with RECORDS/JEAN? (Y/N)`

4. If you choose the default response, the old passwords for ACCT and MKTG are changed to the new password you set for server RECORDS.	

NOTE

If a file server has password restrictions, the password for that server will not be synchronized. A message appears, telling you which password was not changed.

For example, a file server may have a restriction on password length or for using unique passwords.

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slist
(server list)

Host
Utility

Why use slist?

Use *slist* to view a list of the file servers on your internetwork and information about those file servers.

Command format

slist [*fileserver*]

To view information about one file server, replace *fileserver* with the name of that file server. You can use wildcard characters to view a group of file servers.

View information about all file servers

To view information about all file servers on your internetwork, type

slist <Enter>

You see information similar to the following:

```
Known NetWare File Servers    Network    Node Address
--------------------------    -------    ------------
RECORDS                       [CED88]    [2608C234732]
SALES                         [CED87]    [2608C217651]
MFG                           [CED86]    [2608C293185]
AVIION                        [CED86]    [00000000001]
```


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NetWare file servers 386 v3.0 and above

On a 386 file server, *Network* is the internal network number. *Node address* is the file server's unique station number for the internal network. On a 386 file server, that number is always 1. The screen displays information similar to the following:

```
Known NetWare File Servers  Network   Node Address
--------------------------  -------   ------------
RECORDS                     [CED88]   [          1]
SALES                       [CED87]   [          1]
```

See **Network numbering** in *Concepts* for more information.

NetWare file servers 286 v2.15 and below

On a 286 file server, *Network* is the network number of LAN A. *Node address* is the file server's unique station number on LAN A. On a 286 file server, the screen displays information similar to the following:

```
Known NetWare File Servers  Network   Node Address
--------------------------  -------   ------------
RECORDS                     [CED88]   [2608C234732]
SALES                       [CED87]   [2608C217651]
```

View information about one file server

To view information about file server RECORDS, type

slist RECORDS <Enter>

You see information similar to the following:

```
Known NetWare File Servers  Network   Node Address
--------------------------  -------   ------------
RECORDS                     [CED88]   [2608C234732]
```


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SLIST
(Server LIST)

Command Line Utility

Why use SLIST?

Use SLIST to view a list of the file servers on your internetwork and information about those file servers.

Command format

SLIST [*fileserver*] [/C]

To view information about one file server, replace *fileserver* with the name of that file server. You can use wildcard characters to view a group of file servers.

Include the /C (Continuous) option if you want the list of file servers to scroll down the screen without stopping.

View information about all file servers

To view information about all file servers on your internetwork, type

SLIST <Enter>

You see information similar to the following:

```
Known NetWare File Servers    Network    Node Address
--------------------------    -------    ------------
RECORDS                       [CED88]    [2608C234732]
SALES                         [CED87]    [2608C217651]
MFG                           [CED86]    [2608C293185]
AVIION                        [CED86]    [00000000001]
```


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NetWare file servers 386 v3.0 and above

On a 386 file server, *Network* is the internal network number. *Node address* is the file server's unique station number for the internal network. On a 386 file server, that number is always 1. The screen displays information similar to the following:

```
Known NetWare File Servers  Network    Node Address    Status
--------------------------  -------    ------------    -------
RECORDS                     [CED88]    [          1]   Attached
SALES                       [CED87]    [          1]   Default
```

See **Network numbering** in *Concepts* for more information.

NetWare file servers 286 v2.15 and below

On a 286 file server, *Network* is the network number of LAN A. *Node address* is the file server's unique station number on LAN A. On a 286 file server, the screen displays information similar to the following:

```
Known NetWare File Servers  Network    Node Address
--------------------------  -------    ------------
RECORDS                     [CED88]    [2608C234732]
SALES                       [CED87]    [2608C217651]
```

View information about one file server

To view information about file server RECORDS, type

SLIST RECORDS <Enter>

You see information similar to the following:

```
Known NetWare File Servers  Network    Node Address
--------------------------  -------    ------------
RECORDS                     [CED88]    [2608C234732]
```


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SMODE
(Search MODE)

Command Line
Utility

Why use SMODE?

Use SMODE to specify how a program uses search drives when looking for a data file.

Command format

SMODE [*path* [*mode*] [/SUB]

Replace *path* with a directory path leading to and including the executable file whose search modes you want to view or change.

Replace *mode* with the number of the search mode (0 through 7) you want to assign to the file specified in your command. Each search mode number indicates how your executable file searches for a data file.

Include /SUB to extend the search mode assignment to include all subdirectories of the specified directory.

If you include /SUB, you must also include the variable *path*.

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Modes

Mode	Description
0	No search instructions. The executable file looks for instructions in the SHELL.CFG file. Mode 0 is the default setting for all executable files.
1	If a directory path leading to the data file is specified in the executable file itself, the executable file searches only that path. If a path is not specified, the executable file searches the default directory and then all search drives.
2	If a directory path leading to the data file is specified in the executable file itself, the executable file searches only that path. If a path is not specified, the executable file searches only the default directory.
3	If a directory path leading to the data file is specified in the executable file itself, the executable file searches only that path. If a path is not specified, the file searches the default directory. Then, if the open request is read only, the file searches the search drives.
4	Reserved.
5	If a directory path is specified, the executable file searches the path first and then the search drives. If no path is specified, the file searches the default directory first and then the search drives.
6	Reserved.
7	If a directory path is specified, the executable file searches the path first. If the open request is read only, the executable file searches the search drives. If no path is specified, the executable file searches the default directory first. If the open request is read only, the executable file then searches the search drives.

Additional information

You can specify how an executable file uses search drives by assigning a search mode to it. If you assign mode 2, the executable file does not use the search drives. If you assign mode 5, the executable file can use the search drives to find a data file if the file is not found in the first directory it looks in. The other modes specify whether to use the search drives based on how the program requests to open the data file.

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NOTE

A request only to read the file is different from a file being flagged with the Read Only attribute. If the open request is read only, it is a request to open and read the file. It is not a set attribute.

The following table summarizes the modes and shows when the executable file will use search drives.

	NO PATH		PATH	
Mode	Read Only	Read Write	Read Only	Read Write
1	yes	yes		
2				
3	yes			
5	yes	yes	yes	yes
7	yes		yes	

- Read Only and Read Write specify that when the program opens the file, it either reads the file or reads and writes to the file.
- No Path and Path specify whether the program includes a directory path when requesting a file.
- Yes specifies when a program can use search drives to look for a file.

Once you assign a search mode to an executable file, you can change the search mode only with another SMODE command.

After you enter the SMODE command, press <Ctrl><S> to temporarily stop your screen from scrolling through all the files in a given directory. Press <Enter> to resume scrolling.

Assign a search mode

Suppose you want to assign search mode 1 to all executable files (.EXE and .COM) in the PROGRAMS directory and all its subdirectories (SALES, REPORTS, and PERSONNEL). Also suppose that drive G is mapped to PROGRAMS as follows.

```
G: = RECORDS/SYS:  PROGRAMS
```

Type

SMODE G: 1 /SUB <Enter>

You see information similar to the following:

```
RECORDS/SYS:PROGRAMS
      ACC.EXE     mode = 1, search on all opens with no path
      USERS.EXE   mode = 1, search on all opens with no path
      HELP.EXE    mode = 1, search on all opens with no path
RECORDS/SYS:PROGRAMS/SALES
      LOCK.COM    mode = 1, search on all opens with no path
      MOVE.COM    mode = 1, search on all opens with no path
      BLOCK.COM   mode = 1, search on all opens with no path
RECORDS/SYS:PROGRAMS/REPORTS
      FORM.COM    mode = 1, search on all opens with no path
      UPDAT.EXE   mode = 1, search on all opens with no path
```

Search mode 1 has been assigned to all executable files in PROGRAMS and its subdirectories. If a subdirectory (such as PERSONNEL) does not contain any executable files, it is not listed.

View current search mode settings in your default directory

Choose one of the following procedures, depending on whether you want to know about a specific files or all executable files.

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View search mode of a specific file

To view the search mode assigned to a particular file in your default directory, specify the filename in your command.

Suppose you want to view the search mode assigned to the ACC.EXE file in your default directory. Type

```
SMODE ACC.EXE <Enter>
```

View search modes of all executable files

To view the search modes assigned to all executable files in your default directory, type

```
SMODE <Enter>
```

You see information similar to the following:

```
ACC.EXE  mode = 2, do not search
```

Search mode 2 is assigned to the executable file ACC.EXE, which means that ACC.EXE does not look for data files in the search drives.

View current search mode settings in any directory

Choose one of the following procedures, depending on whether you want to know about a specific file, or about all executable files.

View search mode of a specific file

Suppose you want to view the search mode assigned to the ACC.EXE file in the PROGRAMS directory. Also suppose drive G is mapped to PROGRAMS as follows.

```
Drive G: = COUNT/SYS:  PROGRAMS
```

Type

SMODE G:ACC.EXE <Enter>

You see information similar to the following:

```
ACC.EXE mode = 2, do not search
```

View search modes of all executable files

To view the search modes assigned to all executable files in the PROGRAMS directory, type

SMODE G: <Enter>

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Change search mode settings in your default directory

Use one of the following procedures, depending on whether you want to change a specific file or a group of executable files.

Change search mode of a specific file

Suppose you want to change the search mode assigned to the ACC.EXE file in your default directory from mode 2 to mode 5. Type

```
SMODE ACC.EXE 5 <Enter>
```

Information similar to the following appears:

```
ACC.EXE mode = 5, search on all opens
```

The executable file ACC.EXE has been assigned search mode 5, which means that ACC.EXE can search for a data file in the default directory and on all search drives no matter how the executable file is programmed to open the data file (read only or read write).

Change search modes of executable files

Suppose you want to assign search mode 5 to all the executable files in your default directory. Type

```
SMODE . 5 <Enter>
```

The period (.) in this command represents all the files in your default directory. You could also use a wildcard character to represent all files (*.*).

Change search mode settings in any directory

Change search mode of a specific file

Suppose you want to change the search mode assigned to the ACC.EXE file in the PROGRAMS directory from mode 2 to mode 5. Also suppose drive G is mapped to the PROGRAMS directory as follows:

```
Drive G: = COUNT/SYS:  PROGRAMS
```

Type

SMODE G:ACC.EXE 5 <Enter>

You see information similar to the following:

```
ACC.EXE mode = 5, search on all opens
```

The executable file ACC.EXE has been assigned search mode 5, which means that ACC.EXE can use the search drives to find data files if the files are not found in the initial search.

Change search modes of executable files

To assign search mode 5 to all the executable files in your directory PROGRAMS, type

SMODE G: 5 <Enter>

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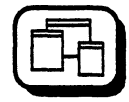
SYSCON
(SYStem CONfiguration)

Menu
Utility



Why use SYSCON?

Use SYSCON to control accounting, file server, group, and user information. As SUPERVISOR, you can also control the network activities of workgroup managers.

SYSCON tasks

The tasks you can do are organized according to the options in SYSCON's "Available Topics" menu.

```
Available Topics

Accounting
Change Current Server
File Server Information
Group Information
Supervisor Options
User Information
```

Refer to the table below to find the page number of the procedure you need to complete your task.

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Main Menu Item	Task	Page
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Accounting

Install the Accounting feature

Action
1. Enter SYSCON and select "Accounting" from the "Available Topics" menu.
2. The first time you select "Accounting," the "Install Accounting" confirmation box appears. Select Yes.

Remove the Accounting feature

To completely remove Accounting from your file server, you must delete all accounting servers.

Action	Explanation
1. Enter SYSCON and select "Accounting" from the "Available Topics" menu.	
2. Select "Accounting Servers."	You see a list of all servers that are authorized to charge for services.
3. If only one file server is listed, highlight it and press <Delete>. To delete multiple accounting servers, highlight each with the Mark key (<F5>) and press <Delete>.	
4. Press <Escape>, and select Yes.	

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Set up accounting servers

Action	Explanation
1. Enter SYSCON and select "Accounting" from the "Available Topics" menu.	
2. Select "Accounting Servers."	You see a list of all servers that are authorized to charge for services. This list can include print servers, archive servers, communications servers, and others.
3. Press <Insert>.	The "Select Server Type" list appears, showing the types of servers that are authorized to charge. (If no servers are authorized to charge for their services, you see a message to that effect.)
4. Select the type of server.	
5. Select the server you want to authorize to charge.	Select the server you want to add to the list, or use the Mark key (<F5>) to select multiple servers.
6. Press <Escape> to return to the "Accounting" menu.	

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Delete accounting servers

Action	Explanation
1. Enter SYSCON and select "Accounting" from the "Available Topics" menu.	
2. Select "Accounting Servers."	You see a list of all servers that are authorized to charge for services. This list can include print servers, archive servers, communications servers, and others.
3. Highlight the server that you no longer want authorized to charge for its services, or use the Mark key (<F5>) to highlight multiple servers. Press <Delete>.	The "Delete Account Server" confirmation box appears.
4. Select Yes to confirm the deletion.	The "Accounting Servers" list is displayed again, with the specified servers deleted.

Set and modify charge rates for network use

If you plan to charge users for services provided by the file server, you need to calculate the amount to charge. The amount you charge depends on your network environment.

Do the following before setting or modifying charge rates for services.

Action	Explanation
1. Determine what your operating costs are and the amount you want to charge over a given period of time.	The rate you choose is entirely arbitrary. If you use a charge rate that is not effective, you can change the rate.
2. Determine what services you will charge for and the amount you expect to make from each service.	

(continued)

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Action	Explanation
3. Estimate how much time each service is being used.	You need to monitor the file server for a period of time. For the system to record total usage for each service, you must assign a charge rate. The suggested charge rate is 1/1 for "Disk Storage" and "Connect Time." This rate is for monitoring purposes only and has no bearing on actual charge rates. Monitor your file server for two or three weeks to determine how much time each service is being used.
4. Enter ATOTAL at the DOS prompt to see total usage for each service.	A screen appears, listing the total daily and weekly usage of each service.
5. After you determine the amount you want to charge for each service and have a good estimate of how much each service is used, you can calculate the charge rates.	Charge rates are specified as multipliers and divisors. Once you figure out the multiplier/divisor ratio, use it to convert the amount of service usage to a monetary charge. The unit of charge for a service is arbitrary, but we suggest you begin with one charge unit equaling one cent. You can adjust this ratio later if it doesn't work well for your network environment.
6. Use the following formula to calculate a charge rate. (Total charge for service) / (Estimated total usage of service) = (Charge rate multiplier) / (Charge rate divisor) For example, if you wanted to charge $100 a month for blocks read services and you found that 250,000 blocks were being read each month, then your charge rate would be $100/250,000 (total charge for a service divided by estimated total usage of the service). Make the necessary conversion to cents (assuming one charge is equal to one cent) to calculate the charge rate per block.	

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Assuming one charge is equal to one cent, and using the example in Step 6, the total charge for the blocks read services is $100.00. When you convert $100.00 to cents, you see that the charge rate multiplier is 10,000.

$100.00=10,000 cents

If 250,000 blocks are read each month, 250,000 is the charge rate divisor:

$$\frac{10{,}000}{250{,}000} = \frac{1}{25}$$

The user's account is charged the number of units in the multiplier each time the number of service units indicated in the divisor is used.

In the example above, the user's account is charged 1 unit for every 25 units of service.

The following three examples show how to set and modify charge rates for network usage.

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Assign a charge rate

Suppose you want to charge $500 a week for connect time. You decide to charge only Monday through Friday, 8:00 a.m. to 5:00 p.m.

Action	Explanation
1. Enter SYSCON and select "Accounting" from the "Available Topics" menu.	The "Accounting" menu appears.
2. Select "Connect Time Charge Rates."	The "Connect Time Charge Rates" screen appears. The default setting is no charge for any time period. The number 1 indicates no charge rate.
3a. Highlight the block of time (8:00 a.m. to 5:00 p.m.) you want to assign a charge rate to.	
3b. Use the Right-arrow key to move the cursor to Monday at 8:00 a.m. Then press the Mark key (<F5>).	
3c. Press the Right-arrow key until Friday at 8:00 a.m. is highlighted.	The upper-left corner of the screen should read "Monday To Friday, 8:00 a.m. To 8:29 a.m."
3d. Press the Down-arrow key until you have highlighted "Monday To Friday, 8:00 a.m. To 4:59 p.m." Press <Enter>.	The "Select Charge Rate" box appears.

(continued)

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Action	Explanation
4. Select "Other Charge Rate."	The multiplier/divisor ratio is equal to the amount you want to charge for total usage of connect time. (You must determine what one charge is equal to in monetary units. For this example, assume one charge is 1 cent.) You want to charge $500 per week for connect time, and you know that 100,000 minutes of connect time were used in the first week of monitoring the file server. The charge rate would be 50,000 cents (multiplier) over 100,000 (divisor), or 1/2. If a user were connected to the file server for 80 hours, the amount charged would be 4,800 minutes (units used) x 1/2 = 2400 cents
5. In the "New Charge Rate" box, leave the multiplier as 1. Press the Down-arrow key and type "2" for the divisor. Press <Escape> twice.	The new charge rate is indicated by a 2 on the screen. The 2 indicates that this charge rate is higher than the "no charge" rate indicated by the number 1. The numbers on the screen do not reflect the specific multiplier/divisor ratio. The charge rate (1/2) appears on the left side of the screen.

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Assign rates for specific tasks

The charge rates for blocks read, blocks written, and service requests are assigned the same way as rates for connect time (explained in the previous example). In these three options, charges are assigned per block (4,096 bytes).

Suppose you want to charge $500 a week for reading blocks. You decide to charge for the service for all hours. To assign charge rates, complete these steps.

Action	Explanation
1. Enter SYSCON and select "Accounting" from the "Available Topics" menu.	
2. Select "Blocks Read Charge Rates."	The "Blocks Read Charge Rates" screen appears. The default setting is no charge for any time period. The number 1 indicates a no charge rate.
3a. Highlight the block of time you want to assign a charge rate to.	
3b. Press the Mark key (<F5>).	
3c. Press the Right-arrow key until the whole line is highlighted.	The upper-left corner of the screen should read "Sunday To Saturday, 8:00 a.m. To 8:29 a.m."
3d. Press the Down-arrow key until you have blocked the whole screen, "Sunday To Saturday, 8:00 a.m. To 7:59 a.m." Press <Enter>.	The "Select Charge Rate" box appears.

(continued)

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Action	Explanation
4. Select "Other Charge Rate."	The "New Charge Rate" box appears. The multiplier/divisor ratio in this example is equal to the amount of connect time divided by total usage of connect time. (You must determine what one charge is equal to in monetary units. Assume one charge is 1 cent.) You want to charge $500 per week for blocks read, and you know that in the first week of monitoring the file server 500,000 blocks were read. The charge rate would be 50,000 (multiplier) over 500,000 (divisor), or 1/10. If a user reads 2,000 blocks, the charge is 2,000 (units used) x 1/10 = 200 cents
5. Leave the multiplier as 1 in the "New Charge Rate" box. Press the Down-arrow key and type "10" for the divisor. Press <Escape> twice.	The new charge rate is 1/10. Charges are listed from smallest to largest on the left side of the screen. You can assign a different charge rate to different times of the day by repeating this same process. The numbers on the screen represent the charge rates, with the lowest number representing the lowest charge rate. When you look at the screen, you can tell which rates are higher and which are lower.

Modify a charge rate

Disk storage rates are assigned differently from the other charge rates. To assign disk storage rates, you specify how often you want the system to charge for the disk space being used.

Suppose you want to charge $500 per week for disk storage. Using statistics compiled running ATOTAL, you estimate that 200,000 block days of storage space will be used each week. (Block days are the units disk storage is measured in.)

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Assign rates for blocks read, blocks written, and service requests

The charge rates for blocks read, blocks written, and service requests are assigned the same way as rates for connect time (explained in the previous example). In these three options, charges are assigned per block (4,096 bytes).

Suppose you want to charge $500 a week for reading blocks. You decide to charge for the service for all hours. To assign charge rates, complete these steps.

Action	Explanation
1. Enter SYSCON and select "Accounting" from the "Available Topics" menu.	
2. Select "Blocks Read Charge Rates."	The "Blocks Read Charge Rates" screen appears. The default setting is no charge for any time period. The number 1 indicates a no charge rate.
3a. Highlight the block of time you want to assign a charge rate to.	
3b. Press the Mark key (<F5>).	
3c. Press the Right-arrow key until the whole line is highlighted.	The upper-left corner of the screen should read "Sunday To Saturday, 8:00 a.m. To 8:29 a.m."
3d. Press the Down-arrow key until you have blocked the whole screen, "Sunday To Saturday, 8:00 a.m. To 7:59 a.m." Press <Enter>.	The "Select Charge Rate" box appears.
4. Select "Other Charge Rate."	The "New Charge Rate" box appears.

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Assign rates for specific times

You want the file server to charge for storage at an inactive time each day so this task will not interfere with user activities on the network. For this example, use 2:00 a.m. as the charge time.

Action	Explanation
1. Select "Disk Storage Charge Rates" from the "Accounting" menu.	The "Disk Storage Charge Rates" screen appears. The default setting is no charge rate.
2a. To specify when to charge for disk storage usage, move the cursor to Sunday at 2:00 a.m. and press the Mark key (<F5>).	
2b. Move the cursor to Saturday at 2:00 a.m.	"Sunday To Saturday 2:00 a.m. To 2:29 a.m." should be highlighted. Press <Enter>. Since you want to charge $500 (assume one charge is equal to 1 cent) for disk storage and you estimate that 200,000 block days are used, the charge rate would be 50,000/200,000, or 1/4. So if a user uses 1,000 block days, the amount charged would be 1,000 (units used) x 1/4 = 250 cents
3. In the "New Charge Rate" box, leave the multiplier as 1. Press the Down-arrow key and type "4" for the divisor. Press <Escape> twice.	The new charge rate is 1/4, as listed on the left side of the screen.

NOTE

The disk storage charge rates screen allows a maximum of 20 disk charge time entries. If you change the charge rate or when charges are made, one entry is added to the disk storage charge rates screen.

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Change Current Server

Attach to additional file servers

If you are not defined as a user on the file server you want to attach to, you can usually attach as GUEST. GUEST usually does not have a password.

Action	Explanation
1. Enter SYSCON and select "Change current server" from the "Available Topics" menu.	A list appears, showing the file servers you are attached to.
2. Press <Insert> to see the "Other File Servers" window.	This window lists the file servers you can attach to.
3. Select the file server you want to attach to.	
4. Enter the username you want to use in the "User Name" entry box.	
5. If a password is required, the "Password" entry box appears. Enter the password.	If the username or password is incorrect, you are denied access to the file server.

Log out of additional file servers

Action	Explanation
1. Enter SYSCON and select "Change Current Server" from the "Available Topics" menu.	A list appears, showing the file servers you are attached to. If you are attached to more than one file server, you can log out of any file server except your default server.
2. Highlight the file server you want to log out of, or use the Mark key (<F5>) to select multiple servers. Press <Delete>.	
3. Select Yes in the confirmation box.	

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Choose an attached file server as the current file server

Even when you are attached to more than one file server, you can access information from only one at a time—the one you designate as your current file server. To access information from another file server you are attached to, you must make that server your current server. Complete the following steps.

Action
1. Enter SYSCON and select "Change current server" from the "Available Topics" menu.
2. Select the file server that you want to make your current server.

Change to a different username on the current file server

You can change your username on a file server by attaching to that file server under a different username. You must be attached to at least two servers in order to specify a different username.

Action	Explanation
1. Enter SYSCON and select "Change current server" from the "Available Topics" menu.	A list appears, showing the file servers you are attached to.
2. Highlight the file server on which you want to change your username; then press the Modify key (<F3>).	The "New User Name" entry box appears.
3. Enter the new username.	
4. If a password is required, the "Password" entry box appears. Enter the password.	If the username or password is incorrect, you are denied access to the file server.

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File Server Information

View file server information

Action	Explanation
1. Enter SYSCON and select "File Server Information" from the "Available Topics" menu.	The "Known NetWare Servers" list appears.
2. Select the file server you want to view information about.	The "File Server Information" inset appears.

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You can view the following information about any file server on your internetwork.

Option	Description
Server Name	The name of the file server on the network.
NetWare Version	The NetWare version the file server is using.
System Fault Tolerance	The level of SFT NetWare that the file server is running. This information appears with NetWare versions 2.1 and above.
Transaction Tracking	Indicates whether the file server supports TTS (Transaction Tracking System) recovery for database files. This version of NetWare does not support TTS.
Connections Supported	The maximum number of users that can be logged in to the file server at any one time.
Connections In Use	The number of users currently logged in to the file server.
Volumes Supported	The maximum number of disk volumes the file server can support.
Network Address	The address of the network the file server is attached to.
Node Address	The file server's node address on the network it is attached to.

NOTE

If other file servers on your network are running NetWare v2.1 or above, you can use SYSCON to display information about those file servers. For example, if MARKETING is your default server and you want to display information about the file server in the Communications department, you can highlight COMMUNICATIONS in the "Known NetWare Servers" window.

To view certain information about the operating system on a particular file server (Application number or Serial number), you must be attached to the file server as SUPERVISOR or equivalent. Then you must change to that server as your current file server.

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Group Information

List the groups on the file server

Enter SYSCON and select "Group Information" from the "Available Topics" menu to display the groups on the current file server.

Create, rename, or delete a group

Action
1. Enter SYSCON and select "Group Information" from the "Available Topics" window.
2. To create, rename, or delete a group, complete one of the following: **Create a group.** Press <Insert> to display the "New Group Name" display box. Enter the name of the group you want to create. **Rename a group.** Highlight the group whose name you want to change. Press the Modify key (<F3>), backspace over the name, and enter the new name. **Delete a group.** Highlight a single group, or use the Mark key (<F5>) to select multiple groups. Press <Delete>.

Assign or modify a group's full name

Action	Explanation
1. Enter SYSCON and select "Group Information" from the "Available Topics" menu.	The "Group Names" list appears.
2. Select the group whose full name you want to assign or modify.	The "Group Information" menu appears.
3. Select "Full Name."	The "Full Name" entry box appears.

(continued)

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Action	Explanation
4. To assign or modify a group's full name, do one of the following: **Assign a group's full name.** If the group has not been assigned a full name, the window is blank. Enter a full name for the group. **Modify the group's full name.** Backspace over the old name and enter the new name.	

View, add, or delete managed users or groups

Action	Explanation
1. Enter SYSCON and select "Group Information" from the "Available Topics" menu.	The "Group Names" list appears.
2. Select the group you want to view information about.	The "Group Information" window appears.
3. Select "Managed Users And Groups."	The "Managed Users And Groups" window appears.
4. To add or delete managed users and groups, do one of the following: **Add managed users and groups.** Press <Insert> to see a list of other users and groups. Select a user or group, or use the Mark key (<F5>) to select multiple users and groups to manage. **Delete managed users and groups.** Highlight the user or group from the "Managed Users And Groups" list, or mark multiple users or groups with the Mark key (<F5>). Press <Delete>.	

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View, add, or delete managers

Action
1. Enter SYSCON and select "Group Information" from the "Available Topics" window.
2. Select "Managers" from the "Group Information" window to see the "Managers" list.
3. To add or delete managers, do one of the following: **Add managers.** Press <Insert> to see the list "Other Users And Groups." Select a user or group to add as a manager, or use the Mark key (<F5>) to select multiple managers. **Delete managers.** Highlight a manager from the "Managers" list, or use the Mark key (<F5>) to mark multiple managers. Press <Delete>.

Assign or delete users in a group

Action	Explanation
1. Enter SYSCON and select "Group Information" from the "Available Topics" window.	The "Group Names" list appears.
2. Select the group in which you want to assign or delete users.	The "Group Information" window appears.
3. Select "Member List" to see the "Group Members" list.	
4. To assign or delete users in a group, complete one of the following: **Assign users to a group.** Press <Insert>. The "Not Group Members" list appears. Select the user you want to add to the group, or use the Mark key (<F5>) to select multiple users. **Delete users from a group.** Highlight a single user, or use the Mark key (<F5>) to mark multiple users. Press <Delete>.	If no names appear in the "Not Group Members" list, you cannot add members to the "Group Members" list.

View a group's ID number

The file server uses the group ID to keep track of the group. The group ID cannot be changed or deleted.

Action
1. Enter SYSCON and select "Group Information" from the "Available Topics" window.
2. Select the group whose ID want to view.
3. Select "Other Information" from the "Group Information" menu.

Assign or modify a group as trustee of a directory

Action	Explanation
1. Enter SYSCON and select "Group Information" from the "Available Topics" menu.	
2. Select the group in which you want to assign or modify trustee rights.	The "Group Information" menu appears.
3. Select "Trustee Directory Assignments."	The group's trustee directory assignments are listed.

(continued)

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Action	Explanation
4. To assign or modify group trustee rights in a particular directory, do one of the following:	
Assign group trustee rights. Press <Insert>. In the "Directory In Which Trustee Should be Added" entry box, enter the directory path.	If you specify a nonexistent directory, you are asked if you want to create that directory.
	If you do not know the directory path, press <Insert> to bring up a series of menus from which you can select the path.
Press <Escape> and then <Enter>.	
Modify group trustee rights in a directory. In the "Trustee Assignments" list, select the directory in which you wnat to modify the group's trustee rights.	The "Trustee Rights Granted" list appears.
Highlight a trustee right you want to delete, or use the Mark key (<F5>) to mark multiple rights. Press <Delete>.	
Highlight a trustee right you want to insert, or use the Mark key (<F5>) to mark multiple rights. Press <Insert>.	
Press <Enter> and then <Escape> to return to the "Trustee Directory Assignments" list.	

Delete a group as trustee of a directory

You may need to delete a group's directory trustee rights at some point. Note, however, that deleting a group's trustee rights is not the same as deleting the group's trustee assignment.

A group that does not have a trustee assignment in a directory inherits the same rights it had in the directory's parent directory.

A group that has a trustee assignment, but no trustee rights, does not inherit any rights.

Action
1. Enter SYSCON and select "Group Information" from the "Available Topics" window.
2. Select the group you want to remove as a trustee of the directory.
3. Select "Trustee Directory Assignments."
4. Highlight the directory from which you want to delete the group as a trustee, or use the Mark key (<F5>) to choose more than one directory. Press <Delete>.

Assign group file trustee rights

Action	Explanation
1. Enter SYSCON and select "Group Information" from the "Available Topics" menu.	
2. Select the group in which you want to assign or modify trustee rights.	The "Group Information" window appears.
3. Select "Trustee File Assignments."	The "Select the Directory To Select A File From" window appears.
4. Press <Insert>. Enter the directory path to the file. If you don't know the directory path, press <Insert> and select the file server, volume, and network directory where the file is found.	When you enter the directory information, the window changes to read "Select a file for Which to Edit Trustees."
5. Enter the filename, or press <Insert> to see a list of files available in the path you specified. Select the file for which you want to see group trustee rights.	After you enter the filename or select a file from the list, you return to the "Trustee File Assignments" window, which shows the directory path to the file you chose and the trustee rights the group has been given in that file.
6. Press <Insert> to see the "Trustee File Rights Not Granted" list. Select the file rights you want to assign and press <Enter>.	

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Modify group file trustee rights

Action
1. Enter SYSCON and select "Group Information" from the "Available Topics" menu.
2. Select the group in which you want to assign or modify trustee rights.
3. Select "Trustee File Assignments" from the "Group Information" window.
4. Delete a file by highlighting it, pressing <Delete>, and selecting Yes.
5. Insert files by following instructions above for assigning group file trustee rights. Press <Enter> and then <Escape> to return to the "Trustee File Assignments" list.

Supervisor options

You can set up default account balances and restrictions that apply to all users created after the restrictions are set up.

Create home directories when you create users

To allow home directories to be created when you create the users, complete the following steps.

Action	Explanation
1. Enter SYSCON and select "Supervisor Options" from the "Available Topics" menu.	
2. Select "Default Account Balance/Restrictions."	The "Default Account Balance/Restrictions" menu appears.
3. Select "Create home directory for user."	
4. Answer Yes by typing "Y" and pressing <Enter>.	Later, when you create a user, you will be prompted for the user's home directory.

Set or change account balances and restrictions

If you create a user before setting up the default restrictions, the restrictions do not apply to that user. Follow the steps below to set or change default account balances and restrictions.

Action	Explanation
1. Enter SYSCON and select "Supervisor Options" from the "Available Topics" menu.	
2. Select "Default Account Balance/Restrictions."	The "Default Account Balance/Restriction" menu appears. The system default is set so accounts have no expiration date, no connection limitations, and no password restrictions.
3. Change the "Default Account Balance/ Restrictions" menu by selecting the restrictions that you want to apply to all users.	You can set up a default account balance only if you have already installed Accounting.
4. To set or change a default account balance, highlight "Account Balance" and enter the account balance you want users to be given when their accounts are created.	After you enter the account balance, you have the option of allowing credit. If you do not want to allow credit, leave the default response to "Allow Unlimited Credit" at No and the default response to "Low Balance Limit" at 0.
5. If you want to allow unlimited credit, highlight "Allow Unlimited Credit" and answer the response to Yes by typing "Y" and pressing <Enter>.	*(continued)*

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Action	Explanation
6. If you want to allow only some credit, leave the "Allow Unlimited Credit" response at No and highlight "Low Balance Limit." Enter the amount of credit you want each user to be given.	Enter a negative number to indicate that a user can receive services that are being charged for after his or her account balance has been used up. For example, -20 indicates that the user can receive services for 20 charges after the account balance is at zero. A positive number indicates that the user must always have some portion of the balance remaining. For example, 10 indicates that when the user's account drops to 10, the user can no longer receive services that are charged for.
7. Press <Escape> twice to return to the "Available Topics" menu.	

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Assign time restrictions to all users

Use SYSCON's "Supervisor Options" to change the default time restriction that is assigned to new user accounts.

Action	Explanation
1. Enter SYSCON and select "Supervisor Options" from the "Available Topics" menu.	
2. Select "Default Time Restrictions."	The "Default Time Restrictions" box lists the time in a week in half-hour increments. The time listed in the lower right-hand corner indicates which half-hour block the cursor is on.
3. To assign time restrictions to users, do one of the following: **Restrict time to users.** Use the Mark key (<F5>) to mark the block of time during which you do not want to allow users to log in. Press <Delete>. **Restore time restricted.** Use the Mark key (<F5>) to mark the block of time during which you do want to allow users to log in. Press <Insert>.	

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Add or delete a group or user as file server console operator

You can specify which groups or users are file server console operators. Console operators can access FCONSOLE (file server console) from workstations they are logged in to.

Action
1. Enter SYSCON and select "Supervisor Options" from the "Available Topics" menu.
2. Select "File Server Console Operators" from the "Supervisor Options" menu to display groups or users that are console operators.
3. Add or delete console operators: **Add console operators.** Press <Insert>. In the "Other Users and Groups" list, select the user or group you want to be a console operator. Use the Mark key (<F5>) to select more than one user or group. **Delete console operators.** Highlight the user or group you want to delete from the "File Server Console Operator" list. To delete more than one user or group, mark them with the Mark key (<F5>) and press <Enter>. Select Yes in the confirmation box.

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Activate the Intruder Detection feature

The Intruder Detection feature allows you to set conditions for recognizing an intruder. Once these conditions have been met, you can prevent unauthorized attempts to log in to the file server.

Action	Explanation
1. Enter SYSCON and select "Supervisor Options" from the "Available Topics" menu.	
2. Select "Intruder Detection/Lockout."	
3. Change the "Detect Intruders" response to Yes by typing "Y" and pressing <Enter>. (To deactivate intruder detection, type "N" and press <Enter>).	If the intruder lockout is set to detect intruders, each user account makes a record of any attempt to log in with an incorrect password more than the number of times allowed. In addition, you can specify how many unsuccessful attempts can be made before the account locks and how long the account remains locked before allowing a user to log in again.
4. To change the "Incorrect Login Attempts" number, highlight "7", type in the new number, and press <Enter>.	When you activate intruder detection, the "Intruder Detection Threshold" system default appears. The "Incorrect Login Attempts" is set to seven. This means the file server allows seven incorrect login attempts before assuming an intruder is trying to break into the account. After seven attempts, the file server locks the account.
5. To change the "Bad Login Count Retention Time," position the cursor on the days, hours, or minutes option, type the new numbers, and press <Enter>.	The "Bad Login Count Retention Time" is set for 30 minutes. This means that the file server keeps track of incorrect logins for 30 minutes past the time the last incorrect login was detected. When a user successfully logs in to an account or when the "Bad Login Count Retention Time" has passed, the file server resets the number of incorrect logins.

(continued)

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Action	Explanation
6. If you do not want to use the lockout feature, change the response to No.	The lockout security feature allows you to lock an account after an intruder is detected (after the specified number of "Incorrect Login Attempts"). When you activate the "Intruder Detection" option, the "Lock Account After Detection" option is set to Yes.
7. To change the amount of lockout time, move the cursor to the days, hours, or minutes options, type in the new numbers, and press <Enter>.	The amount of time the account remains locked after an intruder is detected is specified in the "Length of Account Lockout" option. The default is 15 minutes.
8. Press <Escape> to save the changes and return to the "Supervisor Options" menu.	

Create or modify the system login script

Action	Explanation
1. Enter SYSCON and select "Supervisor Options" from the "Available Topics" menu.	
2. Select "System Login Script."	If a system login script already exists, it appears; otherwise, the screen is blank.
3. Include any of the commands explained in Appendix A of *Installation* in your login script. This script is executed for users when they log in.	
4. To exit the system login script, press <Escape>. Confirm changes you made in the login script.	

View and erase the error log

As supervisor, you can view any errors recorded in the file server's system error log. You can also erase the error log after you have finished viewing the errors.

Action	Explanation
1. Enter SYSCON and select "Supervisor Options" from the "Available Topics" window.	
2. To view or erase the error log, complete one of the following:	
View the error log. Select "View File Server Error Log" from the "Supervisor Options" window.	The "File Server Error Log" screen lists any error messages recorded since the error log was last cleared. It specifies the date and time of the error and identifies the nature of the error.
Use the arrow keys to scroll to additional error messages.	If no file server messages have been recorded, you see the following message. `There Are No Errors Recorded In The File Server Error Log.` Explanations of error messages can be found in *System Messages*.
Erase the error log. Press <Escape> at the "File Server Error Log" window. Select Yes at the "Clear Error Log" confirmation box. If you want to keep the log, select No.	

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Assign and delete system workgroup managers

Action
1. Enter SYSCON and select "Supervisor Options" from the "Available Topics" window.
2. Select "Workgroup Managers." A list of workgroup managers appears. To assign or modify the list of workgroup managers, do one of the following: **Assign a system workgroup manager.** Press <Insert> to see a list of potential workgroup managers. Select one manager, or use the Mark key (<F5>) to select multiple managers. **Delete a system workgroup manager.** Highlight a workgroup manager or use the Mark key (<F5>) to mark multiple managers. Press <Delete>.

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User information

Create, rename, or delete users

Action	Explanation
1. Enter SYSCON and select "User Information" from the "Available Topics" menu.	The names of the users on the current file server appear.
2. To create, rename, or delete a user, complete one of the following:	
Create a user. Press <Insert>.	The "User Name" entry box appears.
Enter the new user's name.	The username can be up to 47 characters long.
If you set the system default to create users' home directories automatically, you are prompted for the user's home directory. You can accept the default directory that is shown, or you can specify a different directory.	If you select a directory that doesn't exist, it will be created for you.
Rename a user. Highlight the user you want to rename and press the Modify key (<F3>). Backspace to delete the old username in the "Rename User To" entry box, and enter the new username.	
Delete a user. Highlight the user you want to delete, or use the Mark key (<F5>) to mark multiple users. Press <Delete>.	

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Set a user's account balance

If Accounting is installed, you can assign user account balances to determine how much of a given service each person can use. You can also assign a credit limit indicating how much credit the user can draw from.

Action	Explanation
1. Enter SYSCON and select "User Information" from the "Available Topics" window.	The "User Names" list appears.
2. Select the user whose account balance you want to set.	The "User Information" list for that user appears.
3. Select "Account Balance."	The "Account Balance For User *USERNAME*" window appears. In the first field, you can set the account balance to any number from -99999999 to 99999999. The default account balance is 0. In the second field, you can allow unlimited credit by selecting Yes. If you select Yes, you cannot set the low balance limit in the third field. If you do not allow unlimited credit in the second field, move to the third field and set the low balance limit. Again, this limit can be any number from -99999999 to 99999999. The default is 0.
4. Press <Escape> to save the changes and exit SYSCON.	

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Set a user's account restrictions

You can set a user's account restrictions depending on the user's needs. You can disable a user's account temporarily without deleting it altogether. No one can log in to a disabled account.

For example, you might have an account set up for a consultant who needs to access it once a month for three months. You do not want anyone else using the account while the consultant is away, but you do not want to delete the account. In this case, you might want to disable the account by following the steps below.

Action	Explanation
1. Enter SYSCON and select "User Information" from the "Available Topics" menu.	
2. Select the name of the user whose account you want to enable or disable.	The "User Information" menu appears.
3. Select "Account Restrictions."	The "Account Restrictions" window appears.
4. Type "Y" to disable the account or "N" to enable the account.	
5. Press <Escape> to save the change and exit.	

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Set an expiration date on a user's account

You can set up a temporary account. On a specified date, the account is disabled and no one can log in to that account until the restriction is removed or the expiration date is changed.

For example, you could set the last day of a semester as the expiration date for accounts used by students. After that day, they would no longer be able to log in to their accounts.

Action	Explanation
1. Enter SYSCON and select "User Information" from the "Available Topics" menu.	
2. Select the user whose account you want to place an expiration date on.	The "User Information" menu appears.
3. Select "Account Restrictions."	The "Account Restrictions" list appears.
4. Select "Account Has Expiration Date." Answer Yes by typing "Y" and pressing <Enter>.	The "Date Account Expires" option appears. The default is set to the first day of the next month.
5. You can change this date by typing in a new date. Press <Enter> and then <Escape> to save the changes and return to the "User Information" menu.	Use the following format: month-day-year (11-25-90; November 25, 1990; or Nov 25, 1990). On the specified expiration date, the account is disabled.

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Remove an expiration date restriction

To remove an expiration date restriction after the account has been disabled, complete the following steps.

Action
1. Enter SYSCON amd select "User Information" from the "Available Topics" menu.
2. Select the user whose account you want modify.
3. Select "Account Restrictions" from the "User Information" menu.
4. In the "Account Restrictions" list, select "Account Disabled" and answer No by typing "N" and pressing <Enter>.
5. Select "Account Has Expiration Date," type "N," and press <Enter>.

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Limit the number of workstations a user can be logged in to

Action	Explanation
1. Enter SYSCON and select "User Information" from the "Available Topics" menu.	
2. Select the user you want to place the restriction on.	The "User Information" menu appears.
3. Select "Account Restrictions."	The "Account Restrictions" list appears.
4. Select "Limit Concurrent Connections" and answer Yes by typing "Y" and pressing <Enter>.	The default is set so the user can log in from only one workstation at a time.
5. To change the number of workstations a user can log in from, select "Maximum Connections." Type in the desired number of workstations (from 1 to 250, inclusive). Press <Enter> and <Escape> to save the change and to return to the "User Information" menu.	For example, you may want a user to log out of the workstation in one office before going to another office to log in to another workstation. This option also prevents anyone from logging in with the username of a user already logged in at another location.

Set password restrictions

You can allow users to change their passwords. You can also require a password, designate a minimum password length, force periodic password changes, designate how often the password must be changed, limit grace logins, and require unique passwords.

Action	Explanation
1. Enter SYSCON and select "User Information" from the "Available Topics" menu.	A list of users on the current file server appears.
2. Select the user you want to assign restrictions to.	The "User Information" menu appears.

(continued)

Action	Explanation
3. Select "Account Restrictions." You can choose from the following options:	
Allow user to change password. To specify whether a user can change the password, select "Allow User to Change Password" and answer No by typing "N."	The default is Yes. If the "Allow User to Change Password" is set to No, the user is also unable to change the account's login script using SYSCON. For example, on accounts that many users share, such as the GUEST account, you do not want one user changing the password and locking out other users. If the option is set to No, the user cannot change the password or edit the account's login script.
Require password. To require a password, select "Require Password" and answer Yes by typing "Y."	A password must be required in order to use the "Minimum Password Length" and "Force Periodic Password Changes" options. The default is No.
Minimum password length. To change the minimum password length, select "Minimum Password Length" and type in the new number. Passwords can be up to 20 characters long. Then press <Enter>.	If you require a password, the system automatically sets the minimum password length to five characters.
Force periodic password changes. Select "Force Periodic Changes." If you decide not to require password changes, type "N" for No. If you require password changes, you can change the number of days between changes by selecting "Days Between Forced Changes" and entering the new number. The new "Date Password Expires" is shown.	If you require a password and allow users to change their passwords, the system forces periodic password changes every 40 days. The screen also lists the date the password expires. You can change the number of days between forced changes or you can decide not to require password changes.

(continued)

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Action	Explanation
Limit grace logins. Select "Grace Logins" and enter a new number. The number of "Remaining Grace Logins" appears on the screen.	If you require passwords and allow users to change them, you can also limit the number of times users can log in with an expired password. The system automatically allows users to log in with an expired password six times. If you want to allow users to log in an unlimited number of times with an expired password, then change the "Limit Grace Logins" response to No by typing "N." If you decide to limit grace logins, you can change the number of times users can log in with an expired password.
Require unique passwords. Select "Require Unique Passwords" and answer Yes by typing "Y."	If you require passwords, you can also require users to use a new password each time they change their password. The default is set so that unique passwords are not required. If you require unique passwords, the system remembers 10 previous passwords. A user must keep a new password for at least one day before the system remembers it.
4. Press <Escape> twice to save your changes and return to the "User Information" menu.	

Assign or change a user's password

Action	Explanation
1. Enter SYSCON and select "User Information" from the "Available Topics" menu.	
2. Select the user you want to assign a password to.	The "User Information" menu appears.
3. Select "Change Password."	The "Enter New Password" box appears.
4. To assign or change a user's password, do one of the following: **Assign a new password.** If a user has not been assigned a password, enter one in the "Change Password" box. Confirm the password by entering it again in the "Retype New Password" box. **Change a user's password.** Enter the new password. Confirm the new password by entering it again in the "Retype New Password" box.	You can't see the user's old password.

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Assign or change a user's full name

Action	Explanation
1. Enter SYSCON and select "User Information" from the "Available Topics" menu.	The "User Names" list appears.
2. Select the user whose full name you want to assign.	The "User Information" menu appears.
3. Select "Full Name."	The "Full Name" entry box appears.
4. To assign or change the full name, do one of the following. **Assign a user's full name.** If the user has not been assigned a full name, enter the full name. **Change the user's full name.** Use the Backspace key to delete the old name. Enter the new name.	

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Add or delete a user in a group

Action	Explanation
1. Enter SYSCON and select "User Information" from the "Available Topics" menu.	The names of the users on the current file server appear.
2. Select the user you want to add to or delete from a group.	The "User Information" menu appears.
3. Select "Groups Belonged To."	
4. To add a user to or delete a user from a group, do one of the following: **Add a user to a group.** Press <Insert> to see a list of groups the user does not belong to. Select the group you want to add the user to, or use the Mark key (<F5>) to select multiple groups. **Delete a user from a group.** Highlight a single user, or use the Mark key (<F5>) to mark users in several groups. Press <Delete>. In the "Delete User From Group" confirmation box, select Yes.	Users can belong to 32 groups maximum.

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Create or modify a user's login script

Action	Explanation
1. Enter SYSCON and select "User Information" from the "Available Topics" menu.	
2. Select the user you want to assign a login script to.	The "User Information" menu appears.
3. Select "Login Script."	If the "Login Script Does Not Exist" box appears, create a login script.
4. To create or modify a user's login script, do one of the following:	
Create a user's login script. Press <Enter> and type in the information you want to include in the user's login script.	(See *Installation* for an explanation of login script commands.)
Modify an existing login script. If a user already has a login script, type in any additional commands. Use the Backspace or Delete key to delete login script commands.	

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Copy one user's login script to another user

You can assign another user's login script to a user who does not have a login script. This way you can assign multiple users the same login script.

Action	Explanation
1. Enter SYSCON and select "User Information" from the "Available Topics" menu.	
2. Select the user you want to assign a login script to.	The "User Information" menu appears.
3. Select "Login Script."	The "Login Script Does Not Exist" box appears.
4. Use the Backspace key to delete the username listed. Enter the name of the user whose login script you want to copy. If you don't know the name, you can press <Insert> and select a username from the list.	

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View and modify managed users and groups

Action
1. Enter SYSCON and select "User Information" from the "Available Topics" menu.
2. Select the user you want to view information about.
3. Select "Managed Users And Groups" from the "User Information" window.
4. Modify managed users and groups by completing one of the following: **Add managed users and groups.** Press <Insert> to see the "Other Users And Groups" window. Select a user or group to add to those already managed, or use the Mark key (<F5>) to select several. **Delete managed users and groups.** Highlight a user or group and press <Delete>. The "Revoke Rights To Manage This User" window appears. Select Yes. Use the Mark key (<F5>) to mark and revoke rights to manage several users and groups.

View and modify list of managers

Action
1. Enter SYSCON and select "User Information" from the "Available Options" menu.
2. Select the user for whom you want to modify managers, and then select "Managers" from the "User Information" list.
3. To modify managers, do one of the following: **Add a manager.** Press <Insert> and select a user or group from the "Other Users And Groups" list. **Delete a manager.** Highlight a manager, or use the Mark key (<F5>) to mark multiple managers. Press <Delete>.

View a user's login information, including user ID

Action
1. Enter SYSCON and select "User Information" from the "Available Options" menu.
2. Select the user whose information you want to view.
3. Select "Other Information" from the "User Information" list.
4. View the following information about the user.

```
Last Login:                      June 8, 1990  5:47:50pm
File Server Console Operator:    No
Maximum Server Disk Usage:       Unrestricted
Disk Space In Use:               0 KBytes
User ID:                         C800001D
```


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Assign or delete a user's security equivalence

Action	Explanation
1. Enter SYSCON and select "User Information" from the "Available Topics" menu.	The names of the users on the current file server appear.
2. Select the user whose security equivalences you want to assign.	The "User Information" menu appears.
3. Select "Security Equivalences."	The user's security equivalences appear.
4. To assign or delete a user's security equivalence, complete one of the following: **Assign a user's security equivalence.** Press <Insert> to display the "Other Users And Groups" list. Select the user or group that you want to make the user equivalent to. Use the Mark key (<F5>) to select more than one user or group. **Delete a user's security equivalence.** Highlight the user or group that you no longer want the user to be security equivalent to. Use the Mark key (<F5>) to select more than one user or group. Press <Delete>.	

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Assign station restrictions

You can restrict the physical locations that a user can log in from. The default is set so there are no station restrictions.

For example, you might want users to log in only from the workstation in their own office. Or you may want to allow user SUPERVISOR to log in from a workstation regular users do not have physical access to.

To restrict the workstations users can log in from, you need a list of network and node addresses for each workstation. You should have received the NetWare Fileserver LAN Worksheet with these addresses from the installer. If you did not, you can find the address of a workstation by logging in at that workstation and typing "USERLIST /A" at the DOS prompt. You can print this list using CAPTURE.

Action	Explanation
1. Enter SYSCON and select "User Information" from the "Available Topics" menu.	The users on the current file server are listed.
2. Select the user you want to assign station restrictions to.	The "User Information" menu appears.
3. Select "Station Restrictions."	If the "Allowed Login Addresses" box is empty, the user can log in from any location.
4. Press <Insert>.	The "Network Address" box appears.

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Action	Explanation
5. Type the network address (in hexadecimal notation) of the workstation the user can log in from and press <Enter>. When you see the "Allow Login From All Nodes" confirmation box, do one of the following.	
Choose Yes. Select Yes to let the user log in from any node address on the network.	The restrictions for all nodes on the specified network are listed in the "Allowed Login Addresses" box.
Choose No. Select No if you want to restrict the user to one or to a few node addresses on the network. In the "Node Address" box, enter the address of the appropriate workstation (in hexadecimal notation).	The network and node address of the specified workstation are listed in the "Allowed Login Addresses" box. The "Allow Login From All Nodes" confirmation box appears only the first time a new network address is entered.
6. To restrict the user to multiple node addresses on the same network, specify each node individually by repeating Steps 4 and 5.	
7. To delete a station restriction, highlight the address of the station in the "Allowed Login Addresses" list. Press <Delete> and select Yes in the confirmation box.	
8. Press <Escape> to return to the "User Information" menu.	If a user with a station restriction tries to log in from an unauthorized station, that user is denied access.

Assign time restrictions to individual users

You can restrict the hours during which users can log in. The default is set for no time restrictions.

For example, you might want to restrict users to log in during normal working hours only.

Action	Explanation
1. Enter SYSCON and select "User Information" from the "Available Topics" menu.	The names of the users on the current file server appear.
2. Select the user you want to assign time restrictions to, or use the Mark key (<F5>) to select multiple users.	The "User Information" menu appears.
3. Select "Time Restrictions."	The "Allowed Login Times For User" box lists the time in a week in half-hour increments. The time listed in the lower right-hand corner indicates which half-hour block the cursor is on. Asterisks indicate available login times.
4. To assign or delete time restrictions, complete one of the following: **Assign time restrictions.** Use the Mark key (<F5>) to block the time during which you do not want to allow users to log in. Then press <Delete>. **Delete time restrictions.** Use the Mark key (<F5>) to block the time during which you do want to allow users to log in. Then press <Insert>.	
5. Press <Escape> to return to the "User Information" menu.	

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Assign or modify a user as trustee of a directory

Deleting a user's trustee rights is not the same as deleting the user's trustee assignment. Users who do not have specific trustee assignments in a directory inherit the same rights they had in the directory's parent directory.

Users who have a trustee assignment, but no trustee rights, do not inherit any rights.

Action	Explanation
1. Enter SYSCON and select "User Information" from the "Available Topics" menu.	
2. Select the user whose trustee rights you want to assign or modify.	The "User Information" menu appears.
3. Select "Trustee Directory Assignments."	The user's trustee directory assignments are listed.
4. To assign or modify user trustee rights in a particular directory, do one of the following:	
Assign user as a trustee. Press <Insert>. In the "Directory In Which Trustee Should be Added" entry box, enter the directory path. Press <Escape> and then <Enter>.	If you specify a nonexistent directory, you are asked if you want to create that directory. If you do not know the directory path, press <Insert> to see a list of available file servers. Select the appropriate file server. You next see a list of available volumes. Select the appropriate volume. Repeat these steps to continue choosing directories until you have specified the full directory path. *(continued)*

Action	Explanation
Delete user as a trustee. Highlight the directory from which you want to remove the user as a trustee and press <Delete>. Select Yes in the "Remove Trustee From Directory" confirmation box.	
Modify a user's trustee rights. In the "Trustee Directory Assignments" list, select the directory in which you want to modify the user's trustee rights. Press <F3>. Highlight the right you want to modify in the specified directory, or use the Mark key (<F5>) to highlight multiple rights. To revoke rights, press <Delete> and select Yes in the "Revoke All Marked Trustee Rights" confirmation box. To grant rights, press <Enter> and then <Insert> to see the "Trustee Rights Not Granted" list. Select the right or rights you want to grant the user in the specified directory.	The "Trustee Rights Granted" list appears.
5. Press <Enter> and <Escape> to save the changes and exit SYSCON.	

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Assign or modify user trustee rights in a file

Action
1. Enter SYSCON and select "User Information" from the "Available Topics" menu.
2. Select the user whose trustee rights you want to assign or modify.
3. Select "Trustee File Assignments" from the "User Information" window.
4. To assign or modify user trustee rights in a particular file, do one of the following: **Assign user trustee rights.** Press <Insert>. In the "Select the Directory To Select A File From" window, enter the directory path. If you do not know the directory path, press <Insert> to bring up a series of menus from which you can choose the directory path. Press <Escape> and then <Enter>. When you enter the directory information, the window changes to read "Select a file for Which to Edit Trustees." Enter the filename, or press <Insert> to see a list of files available in the path you specified. Enter the name of the file for which you want to see user trustee file assignments. Once you have entered the filename, you return to the "Trustee File Assignments" window, which shows the directory path to the file you chose and the trustee assignments the user has been given in that file. Press <Insert> to see the "Trustee Rights Not Granted" list. Select a right to grant, or use the Mark key (<F5>) to select multiple rights. Press <Enter> to assign the selected rights in the file. Press <Escape> to exit. **Delete a user as trustee of a file.** In the "Trustee File Assignments" list, highlight the file from which you want to delete the user as a trustee, or use the Mark key (<F5>) to highlight more than one directory. Press <Delete> and select Yes in the "Remove Trustee From File" confirmation box. Press <Enter> and then <Escape> to return to the "Trustee File Assignments" list. *(continued)*

Action
Modify user trustee rights in a file. In the "Trustee File Assignments" list, select the file in which you want to modify a user's trustee rights. The "Trustee Rights Granted" list appears. To delete trustee rights in a file, highlight the filename and press <Delete>. Select Yes from the "Revoke Trustee Right" window. To insert trustee rights in a file, press <Insert> to see the "Trustee Rights Not Granted" list. Select the right you want to add, or use the Mark key (<F5>) to add multiple rights. Press <Enter> to complete the addition and press <Escape> to exit SYSCON.

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TLIST
(Trustee LIST)

Command Line Utility

Why use TLIST?

Use TLIST to view the trustee list of a directory or a file.

Command format

TLIST [*path* [USERS | GROUPS]]

Replace *path* with a directory path leading to the directory or the file whose trustee list you want to view.

To view only the user trustees of a directory, include USERS in your command.

To view only the group trustees of a directory, include GROUPS in your command.

If you don't specify USERS or GROUPS in your command, both are displayed.

TLIST supports wildcard characters.

Periods (..) can be used with TLIST to display the trustee lists of the directory above the current directory.

Additional information

You must be attached to a file server before you can view the trustee list of a directory or its files on that server. (See ATTACH.)

You must have the Access Control right in a directory to view the trustee list of that directory or its files.

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View the trustee list of your default directory

Choose one of the following procedures, depending on whether you want to view the list of group trustees, of user trustees, or of both.

View trustee list

To view the trustee list of your default directory, type

TLIST <Enter>

You see information similar to the following:

```
User Trustees:
     MICHIKO       [ RWCEMFA]
     GEORGE        [ R    F ]
     -----

Group Trustees:
     CLERKS        [ R    F ]
```

This screen display lists the users and groups who are trustees of your default directory and their trustee rights.

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View user or group trustees

To view only the user trustees of your default directory, include a period and USERS in the command. The period represents your default directory. Type

TLIST . USERS <Enter>

You see information similar to the following:

```
User Trustees:
     MICHIKO      [ RWCEMFA]
     GEORGE       [ R    F ]
```

To view only the group trustees of your default directory, include a period and GROUPS in the command. Type

TLIST . GROUPS <Enter>

You see information similar to the following:

```
Group Trustees:
     Clerks       [ R    F ]
```

View the trustee list of any directory

Choose one of the following procedures, depending on whether you want to view a list of groups, of users, or of both.

View trustee list

Suppose you want to view the trustee list of the DATA directory, which is not your default directory. Also suppose drive G is mapped to the DATA directory as follows.

```
Drive G: = RECORDS/SYS:  DATA
```

To view the trustee list of the DATA directory, type

TLIST G: <Enter>

You see information similar to the following:

```
User Trustees:
     MICHIKO       [ RWCEMFA]
     GEORGE        [ R    F ]
     -----
Group Trustees:
     CLERKS        [ R    F ]
```


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View user or group trustees

To view only the user trustees in the DATA directory, type

TLIST G: USERS <Enter>

You see information similar to the following:

```
User Trustees:
     MICHIKO       [ RWCEMFA]
     GEORGE        [ R    F ]
```

To view only the group trustees in the DATA directory, type

TLIST G: GROUPS <Enter>

You see information similar to the following:

```
Group Trustees:
     EDITORS       [ R    F ]
```

View the trustee list of a file in your default directory

To view the trustee list of a file in your default directory, include the filename in the command. Suppose you want to view the trustee list of the file JEFFREY. Type

TLIST JEFFREY <Enter>

You see information similar to the following:

```
User Trustees:
     MICHIKO       [ RWCEMFA]
     GEORGE        [ R    F ]
     -----
Group Trustees:
     CLERKS        [ R    F ]
```


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View the trustee list of a file in any directory

Suppose you want to view the trustee list of the DISK file in the DATA directory. Assume that drive G is mapped to the DATA directory as follows.

```
Drive G:=RECORD/SYS:  DATA
```

To view the trustee list of a file in any directory, specify the filename in the directory path. Type

TLIST G:DISK <Enter>

View the trustee lists of files and directories

Choose one of the following procedures, depending on the directory you want to know the trustees of.

View trustee list of default directory

To view the trustee list of all files and directories in your default directory, include a wildcard character in the command. Type

TLIST * <Enter>

To view the trustee list of all files with the extension .EXE in your default directory, type

TLIST *.EXE <Enter>

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View trustee list of any directory

To view the trustee list of all files with the extension .EXE in any directory, type the directory path and the extension.

Suppose you want to view the trustee list of all files with the extension .EXE in the PROGRAMS directory. Type

```
TLIST RECORD/SYS:PROGRAMS\*.EXE <Enter>
```

To view the trustee list of all directories that begin with the letter J in your default directory, type

```
TLIST J* <Enter>
```


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track off

Host
Utility

Why use *track off*?

Use *track off* to cancel *track on*. This stops sapd from printing a message when a sapd packet is received and processed.

Command format

track off

track off is a host utility and must be entered in lower-case.

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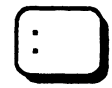
TRACK OFF

Console Utility



Why use TRACK OFF?

Use TRACK OFF to prevent the file server from displaying network advertising packets that are received or sent on the Router Tracking Screen. This command turns off the Router Tracking Screen.

Command format

TRACK OFF

To turn off the Router Tracking Screen, first get to the console prompt by typing <Alt><Esc>. Then type TRACK OFF <Enter>.

See also TRACK ON.

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track on

Host
Utility

Why use *track on*?

Use *track on* to cause sapd to print a message when a sapd packet is received and processed. Output is sent to the file listed in sap_standard_out in the NPSConfig file.

Command format

track on

track on is a host utility and must be entered in lower-case.

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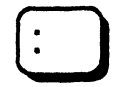
TRACK ON

Console
Utility



Why use TRACK ON?

Use TRACK ON to create a new Router Tracking Screen (if the screen did not already exist) and make it the active screen. This command also signals the router to display all server and network advertising packets that are received or sent.

See also TRACK OFF, DISPLAY NETWORKS, DISPLAY SERVERS.

Command format

TRACK ON

Signal the router to display packets

To turn on the Router Tracking Screen, type

TRACK ON <Enter>

TRACK ON displays three types of information:

- Server
- Network
- Connection requests

This information is formatted according to whether the file server is receiving the information (IN), broadcasting the information (OUT), or receiving a connection request.

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INcoming Information

Incoming information looks similar to the following:

IN	Indicates that the message is incoming.
00D0C200	Indicates the network number of the file server sending the packet.
0001B026C09	Indicates the node address of the file server sending the packet.

Either server or network information follows the node address.

Server Information

BILLYBOB	Indicates the name of the sending server.
5	Indicates the number of hops from the sending file server to this file server.

Network Information

00001EEE	Indicates the network number of the sending file server.
2/	Indicates the number of hops from the sending file server to this network.

OUTgoing Information

Outgoing information looks similar to the following:

OUT	Indicates that the message is outgoing.
1986DAD0	Indicates the network number of the files server sending the packet.
FFFFFFFFFFF	Indicates that the message is for all nodes on the network.

Either file server or network information follows the node address. See the previous explaination under INcoming Information.

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Connection request

When a workstation boots and loads the NETX file, a "GET Nearest Server" request is broadcast on the network to which the workstation is cabled. Any file server that is connected can receive the message and respond to the workstation with a "Give Nearest Server" response. The workstation initially attaches to the first file server to respond to the "Get Nearest Server" request.

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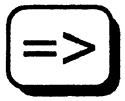
track tables

Host
Utility



Why use *track tables*?

Use *track tables* to cause sapd to print its current table of known servers into the file ./sapd.out.

Command format

track tables

track tables is a host utility and must be entered in lower-case.

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ulist

Host
Utility

Why use *ulist*?

Use *ulist* to do the following:

- View a list of current users for a given file server
- View each user's connection number
- View login time
- View network address and node address

Command format

ulist [-s *server*][-u *username*][p *password*][*-f config file*][-a][-c][-o]

Replace *server* with the name of a file server to view the list of users for a file server other than your default server.

Replace *username* with the name of a user whose connection number and login time you want to view. If you want to query users on a 3.11 NetWare server, you must supply both *password* and *username*.

If you do not specify a server, username and password, *ulist* obtains these parameters from the default configuration file /usr/opt/netware/etc/ulist.cfg. Examine the default configuration file and edit as necessary before using this form of the command.

Replace *config file* with the name of a file containing parameters for *ulist* to use.

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Command options

[-a]
Include this option to display the network and node address for each connection.

[-c]
Include this option to specify a continuous display.

[-o]
Include this option to display the object type for each connection.

[*-f config file*]
Include this option to specify a configuration file that other than the default configuration file (/usr/opt/netware/etc/ulist.cfg).

NOTE

You can use command options in the following combinations:

- [-a] [-c]
- [-o] [-c]

You *cannot* use the [-a] [-o] command option combination.

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USERDEF
(USER DEFinition)

Menu
Utility

Why use USERDEF?

Use USERDEF to do the following:

- Create multiple users
- Provide simple login scripts
- Set up home directories
- Set up minimal login/password security
- Set up print job configurations

The tasks you can perform with USERDEF are organized according to the topics in the "Available Options" menu:

```
Available Options
Add Users
Edit/View Template
Restrict User
```

Additional information

Before you run USERDEF, you must complete some preliminary steps, depending on whether you use the default template or a custom template.

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Default template

If you use the default template, you must do the following:

- Install Accounting in SYSCON (if you will use the Accounting feature).
- Copy print device definitions for your printers with PRINTDEF.
- Create the print job configurations in PRINTCON for user SUPERVISOR so that the configurations can be copied for new users.

Custom template

If you use a custom template, you must do the following:

- Install Accounting in SYSCON (if you want to use the Accounting feature).
- Create additional user groups in SYSCON (if you need groups other than EVERYONE).
- Create application directories (if you do not put program files in SYS:PUBLIC).
- Create a parent directory for users' home directories (if you do not want them directly in the SYS volume).
- Copy print device definitions for your printers with PRINTDEF.
- Create the print job configurations in PRINTCON for user SUPERVISOR so that the configurations can be copied for new users.

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You must have DOS loaded on your file server to use USERDEF. If you have not loaded DOS, USERDEF prompts you to insert the DOS diskettes and uploads DOS to your file server.

If you are uploading DOS v3.30 from 3.5-inch diskettes, the STARTUP and OPERATING files are combined on a single diskette. In this case, just press <Escape> when you are prompted to insert the OPERATING diskette. You do not need to remove the diskette and reinsert it.

Create multiple users

Action	Explanation
1. Enter USERDEF and select "Add Users" from the "Available Options" menu.	The "Templates" menu appears.
2. Select either "Default" or a custom template.	A list of users appears.
3. Press <Insert> and type the full name of the user you want to create. Press <Enter>.	
4. Accept or edit the user's login name.	
5. Repeat Steps 3 and 4 for each user.	*(continued)*

NOTE

If you make a mistake and need to delete usernames you have added to the list, you can delete them as long as they are designated as "new" in the right column. Mark the ones you want to delete with the Mark key (<F5>) and then press <Delete>. You cannot delete usernames that have already been created on the file server (usernames not designated as "new" in the right column). Existing users can be deleted only with SYSCON.

Action	Explanation
6. Review your current list of users and then press <Escape>.	
7. Select Yes in the "Create New Users Using Template" menu.	
8. Accept the suggested password for each username less than five characters long and press <Enter>.	For all usernames five characters or more in length, the initial password is the username. Accepting the suggested password for usernames less than five characters long makes it easier to tell your users what their initial password is. This initial password is used only the first time users log in. At that time, they must set their own passwords. After the suggested password has been specified for each new user, USERDEF creates the new users. USERDEF formulates a .USR file that is automatically processed by the MAKEUSER utility. You are asked to wait while the file is scanned and processed. Any errors encountered during the processing are indicated on the "MakeUser Results" screen that appears when the processing is complete.
9. Review the "MakeUser Results" screen and then press <Escape>.	

Create a custom template for USERDEF

To create a custom template for creating users, you must edit the template's account parameters, add to the basic login script, or both.

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Edit the template's account parameters

Action	Explanation
1. Enter USERDEF and select "Edit Template" from the "Available Options" menu.	You cannot edit the default template login script or the parameters screen.
2. Press <Insert> and type the name of the template you want to create. Press <Enter>.	The name of the template should indicate the type of users it is intended for. If you were creating a template specifically for clerks, for example, you could name the template "CLERK."
3. Select "Edit Parameters" in the "Template" menu.	A parameters window for the new template appears. The listed parameters initially display the same settings as the default template. Parameters for Template CLERK Default Directory: SYS Copy PrintCon From: (see list) Groups Belong To: (see list) Account Balance: 1000 Limited Account Balance: No Low Limit: Limit Concurrent Connections: No Maximum Connections: Required Password: Yes Minimum Password Length: 5 Force Periodic Password Changes: Yes Days Between Forced Changes: 90 Require Unique Passwords: Yes Use the Up- and Down-arrow keys to move through the parameters. Each parameter field is discussed in detail after this table.
4. When you have finished specifying all the parameters of your custom template, press <Escape>; select Yes in the confirmation box.	

Default Directory

The "Default Directory" is the parent directory of the users' home directories. The default setting is the SYS volume. Unless you change the default directory parameter, users' home directories are created as directories in SYS (SYS:LARRY, SYS:DEANN, and so on). To eliminate the automatic creation of a home directory, the supervisor should make sure that the "Default Directory" parameter field contains only a volume name.

If you want to create the users' home directories as subdirectories of another directory (such as SYS:HOME), you must have created the parent directory and you must change the default directory parameter. (USERDEF creates home directories only as subdirectories of an existing directory.)

To change the "Default Directory," complete the following steps.

Action	Explanation
1. Select the "Default Directory" parameter field.	
2. Type the name of the parent directory in the space following SYS in the highlighted box. Then press <Enter>.	Users' home directories will now be created as subdirectories of the new default directory.

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Copy PrintCon From

This parameter field allows you to specify where you want to copy the print job configurations from. To copy print job configurations from SUPERVISOR, complete the following steps.

Action	Explanation
1. Select "Copy PrintCon From" and press <Enter>.	The "PrintCon Users" list appears. If you created the print job configuration for user SUPERVISOR before running USERDEF, SUPERVISOR appears on the list of currently existing PRINTCON users.
2. Select "SUPERVISOR."	PRINTCON users appear in the list and SUPERVISOR is highlighted as the user PRINTCON was copied from.

Groups Belonged To

This field allows you to specify the groups you want to assign your users to.

Action	Explanation
1. Select "Groups Belonged To" and press <Enter>.	The "Groups Belonged To" list appears, containing the system-created group EVERYONE.
2. To view a list of other groups, press <Insert>.	The "Groups Not Belonged To" list appears, displaying the names of the groups.
3. Select the group you want to assign new users to.	The group name now appears in the "Groups Belonged To" list. Press <Escape>.
4. Repeat Steps 1 through 3 for every group you want to add users to.	

Account Balance

This option allows you to assign user account balances.

As network supervisor, you can assign users account balances to regulate how much of a given service they can use. The balance is lowered each time the user is charged for a service. The default setting for "Account Balance" is 1,000 charges.

Action
1. Select the "Account Balance" parameter field.
2. To increase or decrease the amount of the balance, type in the new amount. Then press <Enter>.

Limit Account Balance

The default setting for "Limit Account Balance" is No (no limits). Even after the account balance is depleted, users can operate their accounts on unlimited "credit."

Action	Explanation
1. To limit users' credit, change the setting to Yes by typing "Y" and pressing <Enter>.	
2. You must specify how low the account balance can go by setting the "Low Limit" parameter. The default setting is 0. If you want to change the setting, type in a new amount and press <Enter>.	Type a positive number to indicate that the user must always have a balance remaining. For example, 10 indicates that when the user's account drops to 10, the user no longer receives services. Type a negative number to indicate that a user can still receive services after the account balance has been depleted. For example, -20 indicates that the user can receive services for 20 charges after the user's account balance reaches zero.

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Limit Concurrent Connections

Complete the following steps to limit the concurrent connections.

Action	Explanation
1. Select the "Limit Concurrent Connections" field.	The default setting of the "Limit Concurrent Connections" parameter is no limitations.
2. To limit the number of concurrent connections a user can have, type "Y" for Yes and press <Enter>.	
3. If you want to allow fewer connections, type a new number and press <Enter>.	The maximum number of concurrent connections is eight.

Require Password

Complete the following steps to either not require a password or to require a minimum password length.

If you do not want to require a password, type "N" for No and press <Enter>.

Action	Explanation
1. Select the "Require Password" parameter field.	The default setting for "Require Password" is Yes.
2. If you want to require a password, you have two additional options:	
To require passwords to be a certain length, select "Minimum Password Length."	
To change the minimum number of characters, type the new minimum number in the field and press <Enter>.	The default setting requires a password of at least five characters.

Force Periodic Password Changes

Action	Explanation
1. Select "Days Between Forced Changes." You can change the setting to No by typing "N" and pressing <Enter>.	The default setting requires passwords to be changed at fixed intervals.
2. If you want users to change their passwords periodically, you can specify the interval. To increase or decrease the number of days, type the new number in the response field and press <Enter>.	The default setting for the "Days Between Forced Changes" parameter is 90. (When users log in after 90 days, they receive a message that their passwords have expired and that they must enter new passwords.)

Require Unique Password

A unique password is one the user has not used before on the file server.

The default setting is Yes.

If you do not want to require unique passwords, select "Require Unique Passwords," type "N" for No, and press <Enter>.

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Edit the basic login script

The basic login script in the default template is intended as a starting point. Do not change the drive mappings and COMSPEC command in the basic login script. They are needed to give users access to their home directories, the DOS directories, and the commands and utilities in SYS:PUBLIC.

You can, however, add mappings. You should add a search drive mapping to any application subdirectory you may have created.

For a list of other login script commands and explanations of what they do and how to use them, see "Login script commands" in Appendix A of *Installation.*

Action	Explanation
1. Enter USERDEF and select "Edit Template" from the "Available Options" menu.	
2. Select the template you want to edit.	The "Template" menu appears.
3. Select "Edit Login Script" and press <Enter>.	A window appears, displaying the login script from the default template.
4. Add a search drive mapping to each application subdirectory you created.	For example, if you created SYS:PUBLIC/WP for a word processing application, type (on the line following the last search drive mapping) `MAP INS S3:=SYS:PUBLIC/WP` Do not use the same search drive number for more than one subdirectory.
5. Select and enter any additional commands appropriate to your situation. Then press <Escape>. Press <Enter> to confirm the additions you have made to the login script.	The "Save Changes" confirmation box appears. You are returned to the "Template" menu.

(continued)

Action	Explanation
6. When you have completed your custom template, press <Escape>.	
7. Press <Escape> until you return to the "Available Options" menu.	

To create users with the custom template, see "Create multiple users."

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USERLIST

Command Line Utility

Why use USERLIST?

Use USERLIST to accomplish the following tasks.

- View a list of current users for a given file server
- View each user's connection number
- View login time
- View network address and node address
- View the type of object that is attached to the server

Command format

USERLIST [*fileserver*/][*name*] [/**A** | /**O**] [/**C**]

Replace *fileserver*/ with the name of a file server if you want to view the list of users for a file server other than your default file server. The slash (/) indicates a file server rather than a username.

Replace *name* with the name of a user whose connection number and login time you want to view.

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Command options

/Address

Include this option to view not only the connection number and login time of one or more users, but also the network address and the node address of each user.

/Object

Include this option to view the object type attached at that connection.

/Continuous

Include this option if you want the list of users to scroll down without stopping.

Additional information

You must be attached to a file server before you can view the list of users for that file server. (See ATTACH.)

An asterisk (*) appears next to your username in the list of current users.

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View a list of users on a file server

Select one of the following procedures, depending on the file server whose users you want to view.

View default server

Suppose you want to list the users for your default file server. Type

USERLIST <Enter>

You see information similar to the following:

```
User Information for Server PRUFROCK
Connection     User Name   Login Time
----------     ---------   --------------------
  1            JOIE        10-17-1990 8:03 am
  2            *CORRINE    10-17-1990 8:30 am
  3            PAULO       10-17-1990 7:59 am
  4            GUY         10-17-1990 9:30 am
```

View additional servers

Suppose you want to list the users for file server RECORDS, which is not your default file server. Type

USERLIST RECORDS/ <Enter>

You see information similar to the following:

```
User Information for Server RECORDS
Connection     User Name   Login Time
----------     ---------   --------------------
  1            LUPE        7-17-1990 7:31 am
  2            *LINDA      7-17-1990 7:30 am
  3            MARC        7-17-1990 8:51 am
  4            JILLIAN     7-17-1990 7:30 am
```


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View users' network and node addresses

If you want to see the network and node addresses of each user on a file server, include "/A" in your command. To see the network and node addresses of each user on a file server other than your default server, also include the name of the server in the command.

Suppose you want to see the network and node addresses of all users on file server RECORDS. If RECORDS is your default file server, type

USERLIST /A <Enter>

If RECORDS is not your default file server, type

USERLIST RECORDS/ /A <Enter>

You see information similar to the following:

```
User Information for Server RECORDS
Connection UserName  Network Node Address Login Time
---------- --------- ------- ------------ ---------------
  1        ELENA     CED88   2608C234732  10-110-1990 8:03
  2        HERCULE   CED88   2608C374892  10-110-1990 8:30
  3        VANESSA   CED87   2608C857593  10-110-1990 7:59
  4        *LEON     CED87   2608C448928  10-110-1990 9:30
```

The network address identifies each user's network, and the node address identifies the address set on each user's network interface board.

View information about a single user

To view information about a single user, include the username in the command.

View user information on default file server

Suppose you want to view information about user ELENA on your default file server. Type

USERLIST ELENA <Enter>

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You see information similar to the following:

```
Connection   User Name   Login Time
----------   ---------   -------------------
  1          ELENA       10-110-1990 8:03 am
```

View user information with network and node address

Suppose you want to see the network address and the node address for user ELENA. Include "/A" in the command:

USERLIST ELENA /A <Enter>

You see information similar to the following:

```
User Information for Server RECORDS
Connection UserName  Network Node Address Login Time
---------- --------- ------- ------------ ---------------
  1        ELENA     CED88   2608C234732  10-10-1990 8:03
```


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VERSION

Command Line Utility

Why use VERSION?

Use VERSION to view the version of a NetWare utility on your file server.

Command format

VERSION [*path*] *filename*

Replace *path* with the directory path leading to the utility whose version you want to view.

Replace *filename* with the name of the utility whose version you want to view.

VERSION supports wildcard characters.

View the version of utilities on your file server

Choose one of the following procedures.

View a utility in your default directory

Suppose your default file server is EDIT, and your default directory is F:HOME/SANDRA.

Type

VERSION USERLIST <Enter>

You see information similar to the following:

```
USERLIST.EXE:  NetWare UserList, Version 2.10
```


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View a utility in any directory

Suppose you want to view the version of a utility located in directory MINE mapped to drive G. Type

VERSION G:MINE USERLIST <Enter>

You see information similar to the following:

```
USERLIST.EXE:  NetWare UserList, Version 2.10
```

View a group of utilities

If you want to view all .EXE files in your current directory, replace *filename* with an asterisk (*). Type

VERSION *.EXE <Enter>

You see a list of all the files with the .EXE extension.

VOLINFO
(VOLume INFOrmation)

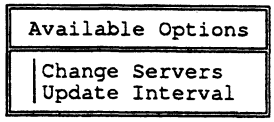
Menu Utility

Why use VOLINFO?

Use VOLINFO to view information about each volume on your file server.

When you enter VOLINFO, you see an "Available Options" menu from which to choose tasks.

The tasks in VOLINFO are organized according to the "Available Options" menu.



Additional information

A volume is the physical portion of the hard disk that stores information on a file server. A volume is also the highest level in the hierarchical directory structure (a NetWare volume is at the same level as a DOS root directory).

Network security does not affect the information you can see or the tasks you can perform in VOLINFO.

VOLINFO displays information for up to 32 volumes in six screens, containing up to six volumes in each screen.

If you have more than six volumes, the menu shown on page 1 of the "View Volume Information" window includes the entries "Next Page" and "Previous Page," since only six volumes fit on each screen.

VOLINFO entries are described on the following page.

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View volume information

Page

Refers to the page number (1 to 6) of the "View Volume Information" window. Each window can display information for as many as six volumes.

Volume name

Identifies the volume you are viewing.

KiloBytes

Refers to the storage capacity of the volume. Total KiloBytes reflects the total volume capacity. Free KiloBytes reflects the amount of unused disk space on the volume.

MegaBytes

Refers to the volume's storage capacity. VOLINFO defaults to megabytes if your file server has more than one gigabyte of disk storage space.

Use the toggle key (<F2>) to view volume storage in both kilobytes and megabytes.

Directories

Refers to the number of a volume's directory entries. Each DOS file, subdirectory, and trustee list on the volume uses one directory entry. Each Macintosh file uses two directory entries. Total Directories refers to the number of directory entries that NetWare has allocated to the volume. Free Directories lists the number of available directory entries.

Updates

The information in each box is updated at intervals varying from 1 to 3,600 seconds. Any user can enter the amount of time between updates or use the default setting of 5 seconds. When the Free figures in the KiloBytes or Directories columns increase or decrease, up and down arrows appear. The arrows reflect changes that occurred after the previous update. The figures flash if the amount of disk space reaches the minimum or maximum level.

View information about another server

Action	Explanation
1. Enter VOLINFO and select "Change Servers" from the "Available Options" menu.	
2. Select the file server you want to view information about.	You see the main VOLINFO screen, which contains information for the file server you selected.

Attach to another file server

Use VOLINFO to view volume information about file servers to which you are not attached.

Action	Explanation
1. Enter VOLINFO and select "Change Servers" from the "Available Options" menu.	
2. Press <Insert> to view a list of the file servers your file server recognizes.	The "Other File Servers" window appears.
3. Select the file server to which you want to attach.	The "User Name" entry box is displayed. *(continued)*

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Action	Explanation
4. Enter your username.	If the username you enter has a password, enter it in the "Password" entry box. The file server and your username appear in the "File Server/User Name" list.
5. Select the newly added file server.	

View additional volume information

If you have six or fewer volumes on your file server (or file servers), this option does not appear.

If you have more than six volumes to view, the additional volumes are shown on other screens.

View next page

Select "Next Page" from the "Available Options" menu to view volume information for volumes that do not appear on the current screen.

For example, suppose you have 17 volumes on your file server and you want to view information about volume 9. Select "Next Page" in the "Available Options" menu. The next page displays the information for volume 9.

View previous page

When you choose "Next Page," you see "Previous Page" when you access the succeeding screens. To return to a previous page, select "Previous Page."

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Adjust elapsed time between updates

You can increase or decrease the amount of time that elapses between volume information updates. The default interval is 5 seconds.

Action	Explanation
1. Enter VOLINFO and select "Update Interval" from the "Available Options" menu.	The "Volume Update Interval" window is displayed.
2. To increase or decrease the elapsed time, delete the previous update interval and enter the new update interval. The interval can be between 1 second and 1 hour (3,600 seconds).	

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WHOAMI

Command Line Utility

Why use WHOAMI?

Use WHOAMI to view the following information about the file servers to which you are attached.

- Your username on each file server
- The names of file servers you are attached to
- The software version each file server is running
- Your login date and time for each server
- The groups you belong to on each server
- Your rights on each server
- Your security equivalences on each server

Command format

WHOAMI [*fileserver*] [*option...*]

Replace *fileserver* with the name of the file server you want to specify.

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Command options

Replace *option* with one or more of the options listed below.

/Security

Use this option to view your security equivalences on each file server you specify.

/Groups

Use this option to view your membership in groups on each file server you specify.

/Rights

Use this option to view your effective rights on each file server to which you are attached.

/Object

Use this option to view object supervisor information as well as the users and groups being supervised.

/Workgroup

Use this option to view workgroup manager information.

/SYstem

Use this option to view general system information.

/All

Use this option to view all the information available with the other options.

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View who you are on your network or internetwork

Type

WHOAMI <Enter>

Information similar to the following is displayed.

```
You are user KARL attached to server MKTG, connection 1
Server MKTG is running NetWare V3.00.
Login time:  Wednesday August 15, 1990  8:03 am

You are user GUEST attached to server ACCT, connection 7
Server ACCT is running NetWare V3.00.
Login time:  Wednesday August 15, 1990  9:34 am
```

The previous screen display indicates that you are attached to both file servers MKTG and ACCT. Your username on server MKTG is KARL, and your username on ACCT is GUEST.

View who you are on a particular file server

To view who you are on a particular file server, include the name of the file server in the command. If you want to see network information about yourself on server MKTG, type

WHOAMI MKTG <Enter>

Information similar to the following is displayed.

```
You are user SANDY attached to server MKTG, connection 1
Server MKTG is running NetWare V3.00.
Login time:  Wednesday August 22, 1990  8:03 am
```

View your group memberships

To view your membership in groups on a file server, include the /Group option.

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Membership on a file server

If you want to view which groups you belong to on server MKTG, type

WHOAMI MKTG /G <Enter>

Information similar to the following is displayed.

```
You are user SANDY attached to server MKTG, connection 1
Server MKTG is running NetWare V3.00.
Login time:  Wednesday August 22, 1990  8:03 am
You are a member of the following groups:
   EVERYONE
   CLERKS
```

Membership on the network

If you want to view all the groups you belong to on all file servers to which you are attached on the network, type

WHOAMI /G <Enter>

Information similar to the following is displayed.

```
You are user KARL attached to server MKTG, connection 1
Server MKTG is running NetWare V3.00.
Login time:  Wednesday August 15, 1990  8:03 am
You are a member of the following groups:
   EVERYONE
   CLERKS

You are user GUEST attached to server ACCT, connection 7
Server ACCT is running NetWare V3.00.
Login time:  Wednesday August 15, 1990  9:34 am
You are a member of the following groups:
   EVERYONE
```

View your security equivalences

To view your security equivalences on a file server, include the /Security option.

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View security equivalences on a file server

Suppose you want to see which groups you are security equivalent to on server MKTG. Type

WHOAMI MKTG /S <Enter>

Information similar to the following is displayed.

```
You are user SANDY attached to server MKTG, connection 1
Server MKTG is running NetWare V3.00.
Login time:  Wednesday August 15, 1990  8:03 am
You are security equivalent to the following:
    EVERYONE (Group)
    CLERKS (Group)
```

View security equivalences on all file servers

Suppose you want to view your security equivalences on all file servers to which you are attached. Type

WHOAMI /S <Enter>

Information similar to the following is displayed.

```
You are user KARL attached to server MKTG, connection 1
Server MKTG is running NetWare V3.00.
Login time:  Wednesday August 22, 1990  8:03 am
You are security equivalent to the following:
    EVERYONE (Group)
    CLERKS (Group)

You are user GUEST attached to server ACCT, connection 7
Server ACCT is running NetWare V3.00
Login time:  Wednesday August 22, 1990  9:34 am
You are security equivalent to the following:
    EVERYONE (Group)
```

View your effective rights

To view your effective rights on a file server, include the /Rights option.

View rights on a server

Suppose your username is KARL and you are attached to file servers COUNT and MKTG. To view your effective rights on COUNT, type

WHOAMI COUNT /R <Enter>

The following information is displayed.

```
You are user KARL attached to server COUNT, connection 1
Server COUNT is running NetWare V3.00.
Login time:  Wednesday August 29, 1990  8:03 am
Your effective rights are:
[ R    F ]
```

View effective rights on all servers

To view your effective rights as user KARL on file servers COUNT and MKTG, type

WHOAMI /R <Enter>

The following information is displayed.

```
You are user KARL attached to server COUNT, connection 1
Server COUNT is running NetWare V3.00.
Login time:  Wednesday August 29, 1990  8:03 am
Your effective rights are:
[ R    F ]

You are user KARL attached to server MKTG, connection 7
Server MKTG is running NetWare V3.00
Login time:  Wednesday August 29, 1990  9:34 am
Your effective rights are:
[ R      ]
```

View your group memberships, security equivalences, and effective rights

To view your group memberships, security equivalences, and effective rights on a file server, include either the /All option or the /G, /S, and /R options.

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View groups and security equivalences on all attached file servers

Suppose you want to view the groups you belong to and your security equivalences on all attached file servers. Type

WHOAMI /G /S <Enter>

or

WHOAMI /A <Enter>

If this command displays a long list of directories, press <Ctrl><S> to make the screen pause. Press any key to resume scrolling. To cancel the command and return to your DOS prompt, press <Ctrl><Break>.

View groups and security equivalences on a specific file server

Suppose you want to view the groups you belong to and your security equivalences on file server MKTG. Type

WHOAMI MKTG /G /S <Enter>

or

WHOAMI MKTG /A <Enter>

If this command displays a long list of directories, press <Ctrl><S> to pause. Press <Enter> to resume scrolling. To cancel the command and return to your DOS prompt, press <Ctrl><Break>.

Information similar to the following is displayed.

```
You are user KARL attached to server MKTG, connection 1
Server MKTG is running NetWare V3.00.
Login time:  Wednesday August 29, 1990  8:05 am
You are security equivalent to the following:
    EVERYONE (Group)

You are a member of the following groups:
    EVERYONE
    [SRWCEMFA]    SYS:
```


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View security equivalence and effective rights

Suppose you want to see your security equivalences and your effective rights in directories on file server MKTG. Type

WHOAMI MKTG /S /R <Enter>

The following information is displayed.

```
You are user KARL attached to server MKTG, connection 1
Server MKTG is running NetWare V3.00.
Login time:  Wednesday August 29, 1990  8:05 am
You are security equivalent to the following:
    EVERYONE (Group)
    [SRWCEMFA]   SYS:
    [ RWC     ]   SYS:
    [S        ]   SYS:
```


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WSGEN
(Work Station Generation)

Command Line Utility

Why use WSGEN?

If you are not using ODI, use WSGEN to create the IPX.COM program which is used with NETX.COM to log in to a file server. WSGEN files enable network communication with file servers, bridges, and other workstations.

If you are using ODI, you do not need to use WSGEN.

Command format

WSGEN

Decide how to generate IPX.COM

The WSGEN.EXE program generates a file that combines the IPX protocol, the LAN driver, and the network board configuration. This file is then used together with the shell to communicate with the file server.

Requirements

Workstations running the WSGEN.EXE program must meet the following minimum requirements:

- 640KB of memory
- DOS 3.0 or above
- High-capacity diskette drive

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Run WSGEN

Complete the following steps to generate IPX.COM:

Action	Explanation
1. Change to the drive containing the WSGEN.EXE file.	This can be either the floppy drive A or the NETWARE directory on the hard disk.
2. Start WSGEN by typing the command WSGEN and pressing the <Enter> key.	A welcome screen appears, explaining the program options. Press <Enter> to continue.
3. From the list that appears, select the driver that matches the network board that you have installed in your workstation.	Highlight the drive name and press <Enter>.
If the driver you want does not appear on the list, you need to use a driver on a floppy disk.	Insert the *LAN_DRV_???* diskette into the floppy drive and press <Insert>. A list of the drivers on the floppy disk appears. Select a driver name by highlighting it and pressing <Enter>. If the name of the driver is the same as that of an existing driver, you may be asked to confirm the replacement. *(continued)*

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4. From the list that appears, select the configuration option that matches the setting on your network board.	Choose the same configuration option for the workstation files as was set on the network board. See your network board installation supplement for more information on how to read the settings from the board. The option screen may read "Self Configured." If it does, IPX.COM automatically adapts to the settings on your network board. Use the Workstation Configuration Worksheet to record the LAN driver configuration for the IPX file that you are generating.
5. Select Yes to generate workstation software for the settings you have chosen.	

An IPX.COM file is created. Place the following lines in the workstation's AUTOEXEC.BAT file:

```
IPX <Enter>
NETX <Enter>
F: <Enter>
LOGIN <Enter>
```

The AUTOEXEC.BAT file executes the IPX and shell file, then allows you to log in to the file server.

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WSUPDATE
(WorkStation UPDATE)

Command Line Utility

Why use WSUPDATE?

Use WSUPDATE to update workstation files, such as the NetWare shell program, from the file server. WSUPDATE can update files on any drive from more recent files on another drive.

Command format

WSUPDATE [*source path*] [*destination drive:destination filename*] */option*

Replace *source path* with a full directory path (including the filename) to the current file.

Replace *destination drive* with a specific drive (A:, B:, C:) or one of the following:

ALL: to search the root directory.

ALL_LOCAL: to search all valid local drives for the workstation.

Replace *destination filename* with the name of the file to be updated.

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Replace */option* with any of the following options:

Option	Description
/F=<path> <filename>]	Add this option if the commands are going to come from a file. Type commands into this file as if you were typing them from the command line. Each command is interpreted separately. If errors are found in one command, the program displays and logs an error and then continues to the next command line. This must be the only parameter on the command line.
/S	Add this option if you want the program to search for the outdated files in all subdirectories of the specified destination drives.
/L=<path> <filename>	Add this option if you want a log file to be created. You must have Read and Write rights to the file.
/O	Add this option if you want to update Read-Only files. Often, shell files have the Read-Only attribute set. If this is the case, you will want to add this option so that these files will be updated. The Read-Only attribute is restored after the copy if performed.

In addition, you can use one of the following options:

Option	Description
/I	This is the default option. The /I option forces the utility to prompt you for an action each time it finds an outdated file. You are able to • Copy the new file over the old file. • Rename the old file and then copy a new file. You are prompted for a filename for the renamed file. • Ignore the new copy and leave the old file intact.
/C	Add this option to automatically copy a new file over an existing one. (This option is not recommended, since there is no backup file in case you want to undo the copy.)
/R	Rename the old file (with a .OLD extension) and then copy the new file.

Additional information

Use the EXTERNAL PROGRAM EXECUTION (#) with WSUPDATE.EXE in a login script if you want the LOGIN utility to execute a command to update workstation files. We recommend that the WSUPDATE command be added to the system login script.

Add the #WSUPDATE command to a login script after copying the updated files to a common directory (such as PUBLIC).

The following restrictions apply:

- The command statement must appear on its own line.
- The command should appear after MAP assignments, since the program will execute in the environment of drive mappings, default drives, and search drives set up previously in the login script.

Update NETX.COM for workstations

Suppose a supervisor wants to update the NETX.COM file for all workstations. Place the following line in the system login script:

```
#WSUPDATE SYS:PUBLIC\NETX.COM ALL_LOCAL:NETX.COM
/L=SYS:PUBLIC\WSUPDATE.LOG /S
```

The log file (WSUPDATE.LOG in the example) must be flagged Read Write. All users must have Read and Write rights to this file.

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Update all shell files on the network

Suppose a supervisor wants all the shell files for each workstation on the network to be checked weekly to make sure all users have the most current version. To automate this process, complete the following:

Copy the new workstation shell files into a common directory (such as PUBLIC).

Create a file containing all the update paths (destination and source) like the one shown below. For this example, we will name the file WSUPDATE.CFG and enter these #WSUPDATE commands into the file:

```
F:NETX.COM C:NETX.COM
F:IPX.COM  C:IPX.COM
F:IPX.EXE  C:IPX.EXE
```

Enter the following command to the login script. You are replacing the destination and source paths with the name of the file containing all of the paths.

If Day_Of_Week = 2, run #WSUPDATE /F=WSUPDATE.CFG

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XMSNETX

(EXtended Memory Shell **NETX**)

Command Line Utility

See the NETX section of this manual.

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