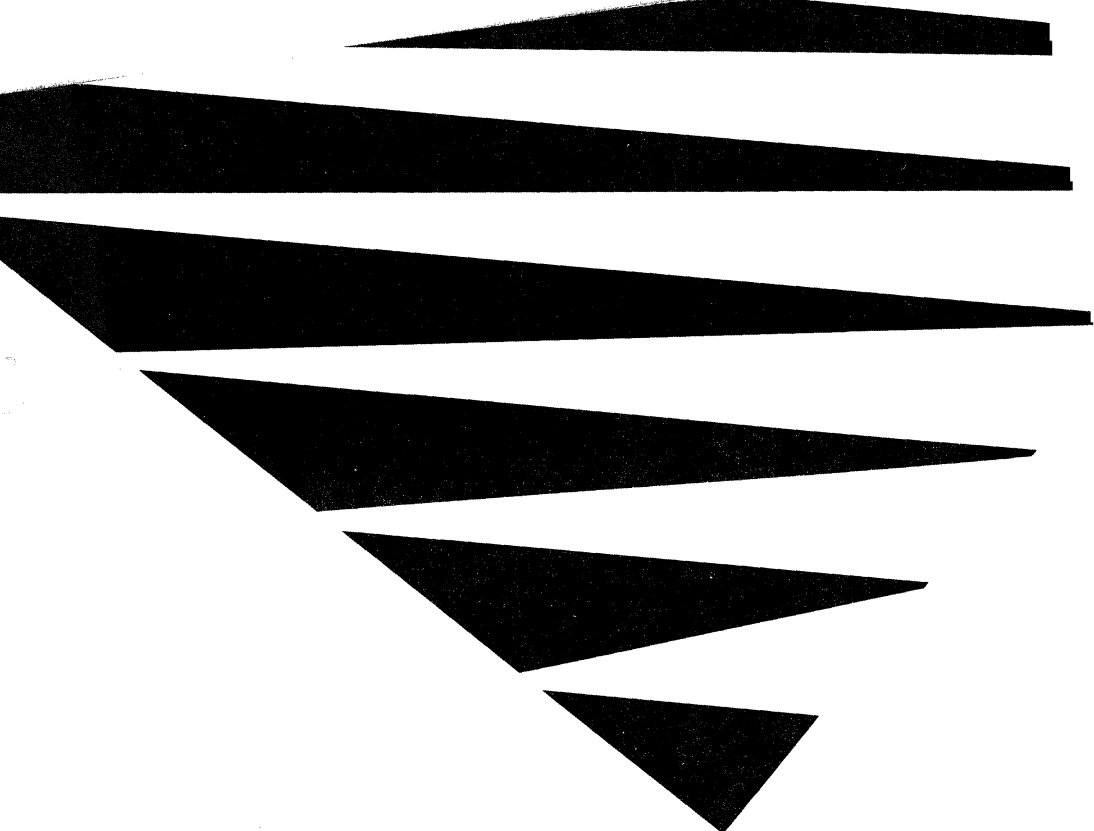ELS NetWare®
Level II

Reference

NOVELL

Reference

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NetWare

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Software Registration and Support

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To ensure continued support and updated information on
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Novell Services and Support

The Novell Services and Systems Group (NSSG) provides a
complete service and support program designed to answer
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NSSG provides everything from a 24-hour hot line to
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NetWire, an on-line information service hosted by
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You can also access libraries of drivers and utility programs, documentation updates, and information about other Novell publications.

For more information about *NetWire*, call Novell at (801) 379-5900.

What to do before calling service support

The following sections contain questions about your network. When you call your Novell representative, you should have the answers to these questions ready. This information will enable the representative to more quickly understand your problem and better assist in its resolution.

Most of the hardware information should be recorded on the NetWare installation worksheets (copies are provided at the back of this manual). Keep the information on the worksheets as accurate and up-to-date as possible.

File server hardware

1. How many file servers are on your network? What is the brand and model of each?

2. How much memory does each file server have? If you have installed add-on memory boards, what kind are they, and what are their settings?

3. How many internal hard disk drives does each file server have? What brand and model are they, and what is their storage capacity? What kind of controller board (brand and model) are the hard disks attached to?

4. What type of network board is installed in each file server (brand and revision number)? What are the hardware configuration settings on each board?

5. What other add-on hardware has been installed in each file server, and how is this hardware set?

6. Are you currently using any Value-Added Processes (VAPs) or other options (such as the IBM asynchronous remote connection) in your system?

Workstation hardware

1. How many workstations are attached to the network? What is the brand and model of each?

2. How much memory does each workstation have? If you have installed any add-on memory boards, what kind are they, and how are they set?

3. What type of network board (brand and revision number) is installed in each workstation? What are the hardware configuration settings on each board?

4. What other add-on hardware has been installed in each workstation, and how is this hardware set?

NetWare operating system

1. What type of NetWare operating system is running in the file server? You will need to know the release number and version (ELS NetWare 286 Level II Nondedicated v2.15, for example).

2. What is the operating system configuration? You will need to know the network addresses, the network board settings, and other information displayed when you enter the CONFIG command at the file server console.

3. What are the current settings for the following system parameters?
   ▪ Number of open files
   ▪ Number of indexed files
   ▪ Limit disk space (yes or no)
   ▪ Number of bindery objects

4. What are the current settings for the following volume parameters on each volume?
   ▪ Volume size
   ▪ Number of directory entries
   ▪ Directory caching (yes or no)

5. How many and what kinds of printers are attached to the file server? What are the hardware communication parameters for serial printers?

Record the problem

1. If the problem produces an error message, write down the exact error message that appears on the screen. Indicate whether the message was received at the file server console or at a workstation.

2. Did the problem occur during a new installation or during an upgrade?

3. Were any changes made to the system prior to the occurrence of the problem?

4. Did the problem occur while you were trying to boot the file server or a workstation? If so, how did the booting process proceed before the problem occurred?

5. If the problem occurred when an application program was running, can the problem be reproduced with no application running?

Notes

How to Use This Manual

This manual is designed as a reference to the NetWare
utilities. Users use some utilities to perform network tasks.
Network supervisors use some utilities to maintain the
network after installation.

Organization of the manual

This manual is designed to be used in different ways,
according to your experience using ELS NetWare. The
documentation is divided into four parts: a task list, a
utilities section, a glossary, and an index.

Task list

The task list can be used by anyone who has a specific task
to complete but does not know which utility to use. In the
task list, network tasks are grouped according to keywords.
One task can appear under several different keywords. For
example, the task to delete a drive mapped to a directory
appears under the keywords "Directories," "Drive Mappings,"
and "Mappings."

Following the task is the name of the utility used to
complete that task and the page number where you can find
an explanation of how to complete that task.

A list of keywords and page numbers prefaces the task list.
This list will help you quickly find the keywords in the task
list.

Utilities and commands

The second section explains how to use each NetWare utility. The utilities are arranged in alphabetical order for easy reference. The explanation of each utility can include the following items.

- The command format and options

- A list of tasks you can complete with the utility and a page number that corresponds to the task

- Additional information about the utility

- Other commands that can be used with the utility

- Examples of using the utility to complete a particular task

If you are not familiar with the utility, refer to the examples for the task you want to complete. If you are an experienced NetWare user, you may want to refer only to the command format.

Glossary/Index

A glossary of NetWare terms and a comprehensive index of this manual are also included.

Types of NetWare utilities

There are three types of NetWare utilities: console commands, command line utilities, and menu utilities. Below are the icons used to represent these utilities and a brief explanation of each type of utility.

This icon marks console commands. You enter console commands at the file server console to monitor and control various file server activities. Use these commands to regulate network printers and print queues, monitor how the file server is being used, and control the way workstations can use the file server's resources.

This icon marks NetWare command line utilities that are executed at the DOS command line. Use command line utilities to accomplish network tasks, such as viewing lists of files, directories, file servers, users, and user rights; copying and printing files; mapping network drives; granting and revoking trustee rights; and logging in to and out of file servers.

Command line utilities read the information you enter at the command line (the DOS prompt) and execute the command almost immediately without leading you through menus and screens. Once you become familiar with the command line utilities, you will find them faster and easier to use than menu utilities.

This icon marks menu utilities. Use menu utilities to perform network tasks by choosing options from menus. You can perform most tasks using either the menu utilities or the command line utilities. However, some tasks can be completed only in the menu utilities, and some tasks in the menu utilities can be performed only by supervisors or users who have supervisor equivalence or operator status.

Using command line utilities and console commands

Command format

This manual uses command formats to explain how to use each command line utility. A command format is a pattern, or an equation, representing all the possible commands you can enter to use a particular command line utility. The command format appears under a brief explanation of the utility. For example, the command format for the NPRINT utility is

NPRINT *filespec* [*option...*]

A command format has up to three components: constants, variables, and symbols.

Constants

Constants appear in upper-case letters. Constants tell what the utility is used for, and must be spelled exactly as shown. Although they appear in upper-case letters, constants may be typed in either lower-case or upper-case letters.

In the NPRINT example, NPRINT is a constant. It indicates that the utility is used to print on the network. You should include constants in your command unless they are enclosed in square brackets, which indicates that the constant is optional. Since NPRINT is not enclosed in square brackets, you must include it in the NPRINT command.

Variables

Variables appear in lower-case letters and are italicized. In the NPRINT example, *filespec* and *option* are variables. Replace a variable with information pertinent to the task you want to accomplish. For example, you would replace *filespec* with the path leading to and including the file you want to indicate, and you would replace *option* with any NPRINT options you want to specify.

Command formats that contain the *option* variable always have options specific to that utility listed below the command format. Options can often be abbreviated. The abbreviations are indicated by red letters.

For example, the following is a partial list of the options that can be included in an NPRINT command:

Server = *server*
Job = *job*
Printer = *n*
Queue = *queue*

Path is also a variable. Replace *path* with any directory path leading to and including the volume, directory, or subdirectory you want to indicate.

For example, suppose you want to see all the files and subdirectories contained in a directory called PROGRAMS. Also, suppose drive G is mapped to PROGRAMS as follows:

Drive G: = COUNT/SYS:PROGRAMS

(COUNT is a file server name; SYS is a volume name; and PROGRAMS is a directory name.)

To view all the files and subdirectories in PROGRAMS, you would use the NDIR command line utility. Here is the appropriate command format:

NDIR [*path*] | [*filespec*]

To specify the directory PROGRAMS in your command, you could issue one of several commands, including the following:

- Change your default drive to drive G and type

    NDIR G: <Enter>

    By not explicitly specifying any directory in your command, you implicitly specify your default directory, which is PROGRAMS.

- Type the following command from any drive:

    NDIR G: <Enter>

    By replacing *path* with G: in your command, you specify PROGRAMS (since drive G is mapped to the directory PROGRAMS).

- Type the following command from any drive:

    NDIR COUNT/SYS:PROGRAMS <Enter>

    By replacing *path* with COUNT/SYS:PROGRAMS, you explicitly specify the directory PROGRAMS in your command. This command is independent of any drive mapping. (It does not matter where drive G or any other drive is mapped.)

    If your default file server is COUNT, you do not need to include COUNT/ in the command above. The following is sufficient:

    NDIR SYS:PROGRAMS <Enter>

Now suppose drive G is mapped as follows:

> Drive G: = COUNT/SYS:

(COUNT is a file server name, and SYS is a volume name. PROGRAMS is still a subdirectory of volume SYS although drive G is not mapped to PROGRAMS.)

To specify the directory PROGRAMS in an NDIR command, you could do one of the following:

- Change your default drive to drive G and type

  > NDIR /PROGRAMS <Enter>

  By replacing *path* with /PROGRAMS, you specify the directory PROGRAMS in your command. (The initial slash / represents the volume name.)

- Type the following from any drive:

  > NDIR G:/PROGRAMS <Enter>

  By replacing *path* with G:/PROGRAMS, you specify the directory PROGRAMS in your command. (The initial slash / represents the volume name.)

Filespec is also a variable. Replace *filespec* with any path leading to and including the file you want to indicate.

For example, suppose you want to see a particular file called ACC.EXE located in a directory called PROGRAMS. Also, suppose drive G is mapped to PROGRAMS as follows:

> Drive G: = COUNT/SYS:PROGRAMS

(COUNT is the file server name; SYS is a volume name; and PROGRAMS is a directory name.)

To view the file ACC.EXE, you would use the NDIR command line utility. Here is the appropriate command format:

NDIR [*path*] | [*filespec*]

To specify the file ACC.EXE, you could issue one of several commands, including the following:

- Change your default drive to drive G and type

      NDIR ACC.EXE <Enter>

  By not explicitly specifying any directory in your command, you implicitly specify your default directory (PROGRAMS). By replacing *filespec* with ACC.EXE, you specify ACC.EXE as the file you want to view.

- Type the following command from any drive:

      NDIR COUNT/SYS:PROGRAMS/ACC.EXE <Enter>

  By replacing *filespec* with G:ACC.EXE in your command, you specify the file you want to view (since drive G is mapped to the directory PROGRAMS).

- Type the following command from any drive:

      NDIR SYS:PROGRAMS/ACC.EXE <Enter>

  By replacing *filespec* with COUNT/SYS:PROGRAMS/ ACC.EXE, you explicitly specify the file you want to view. This command is independent of any drive mapping. (It does not matter where drive G or any other drive is mapped.)

  If your default file server is COUNT, you do not need to include COUNT/ in the command above. The following is sufficient:

      NDIR SYS:PROGRAMS/ACC.EXE <Enter>

Now suppose drive G is mapped as follows:

Drive G: = COUNT/SYS:

(COUNT is a file server name; SYS is a volume name; PROGRAMS is still a subdirectory of volume SYS although drive G is not mapped to PROGRAMS.)

To specify the file ACC.EXE, you could type one of several commands, including the following:

- Change your default drive to drive G and type

    NDIR /PROGRAMS/ACC.EXE <Enter>

    By replacing *filespec* with /PROGRAMS/ACC.EXE, you specify the file you want to view. (The initial slash / represents the volume name.)

- Type the following command from any drive:

    NDIR G:/PROGRAMS/ACC.EXE <Enter>

    By replacing *filespec* with G:/PROGRAMS/ACC.EXE, you specify the file you want to view. (The initial slash / represents the volume name.)

Symbols

The following symbols may appear in command formats:

[ ]   Square brackets

Square brackets indicate that the enclosed item is optional: you can enter a command with or without using the enclosed item. For example, the command format for creating a new print queue is Q[UEUE] *name* CREATE. To enter this command, type either Q *name* CREATE or QUEUE *name* CREATE.

[[ ]]   Nested square brackets

Nested brackets indicate that all enclosed items are optional. If you use the item(s) within the innermost brackets, however, you must use the item(s) within the outer brackets as well.

| Vertical bar

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.

...   Ellipses

Ellipses indicate that you can use the items preceding the
ellipses more than once.

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. Suppose you wanted to search for
all filenames with the extension .EXE in your default
directory. You could type NDIR *.EXE to display that 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 that had a single-
character extension or no extension at all.

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

Using menu utilities

Accessing a menu utility

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

Once you have accessed a menu utility and the main menu is displayed, you are ready to work. The following information explains how to get help once you are in any menu utility, how to select options from menus, which keys to use to perform various tasks, and how to exit a menu utility.

Getting help

To get help from anywhere within the menu utilities, press the Help key. On most keyboards, the first function key (F1) is the Help key. Some keyboards have a key labeled "HELP."

When you press the Help key once, a help screen that applies to the task you are currently working on will appear. When you press the Help key twice, your computer's function key assignments will be listed. There are three screens containing function key assignments. Press the PageDown key to see subsequent screens.

Selecting options

There are two ways to choose an option from a menu or a list:

- Use the direction arrows to highlight the option you want; then press the Enter key.

- Type the first letter of an option to highlight that option. If more than one option in the menu or list starts with the same letter(s), type enough additional letters to distinguish one option from the other(s). For example, if both "Search" and "Select" were options, you would have to type "Sel" to highlight "Select."

You can use the Mark key to highlight multiple options in a list. (<F5> is the Mark key on most computers. Press <F1> or <Help> twice to verify this for your computer.) For example, if you were logged in to four file servers and you wanted to log out of all but one of them, you could enter the SYSCON utility and highlight each file server you wanted to log out of and press the Mark key. As you mark the server names, they will appear in boldface or another color. Press the Delete key. Then, when you press the Enter key, you will be logged out of all the selected file servers. (You can use the Cancel key to unmark marked items. <F7> is the Cancel key on most computers. You can use the Mark key to reverse individual markings.)

You may want to record the keys on your keyboard that correspond to the generic key names used in this manual. Use the Function Key Assignments table on the next page as a record of the key names.

To move back a level in the menu utilities hierarchy, press the Escape key. If you want to move back three levels, press the Escape key three times.

Exiting a menu utility

There are two ways to exit a menu utility:

- Press the Escape key until an exit confirmation box appears. Then highlight "Yes" and press the Enter key.

- 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 will not be saved.

Components in the menu utilities

When you first access a menu utility, the main menu will be displayed. Menus contain options you can choose from. As soon as you choose an option (by highlighting the option and pressing <Enter>), additional menus and displays will appear on the screen. These displays include lists, entry boxes, insets, forms, and confirmation boxes. Each type of screen display is explained and illustrated below.

Working with lists

Lists are similar to menus. However, you can view, add to, or delete from the information in a list. Lists can have more than one column, and they can extend below the screen display. Press the Down-arrow key to see additional listed items.

Typing information in entry boxes

Entry boxes are boxes in which you can type information, such as a username or directory. To change or add information in an entry box, use the Delete, Backspace, or Modify keys, according to the instructions in this manual for the command you are executing. Then type the new information in the entry box.

NetWare wildcards in entry boxes work much like DOS wildcards. You can type * or ? in some entry boxes when you perform a task using the menu utilities. However, unlike DOS wildcards, NetWare wildcards used in an entry box will match anything, including a period. For example, if you type * in an entry box in a menu utility, all of the files will be listed, including those with extensions.

Viewing information in insets

Insets display information that cannot be edited; this information cannot be added to or deleted from using that utility. (The network supervisor can change this information.)

Changing information in forms

Forms are screens that contain fields. You can move around in a form using the arrow keys or the Enter key (when you press the Enter key, the cursor moves to the next field in the form). You can change the information in a field by highlighting the field, pressing the Enter key, and then typing in the appropriate information. (Your rights and status determine the information you can change.)

You can enter text or numbers in most fields. In fields that require a "Yes" or "No" answer, you can enter Y for "Yes" or N for "No."

Some fields have menus from which you can choose options; when this is the case, the menu will appear when you press the Enter key.

Using confirmation boxes

Confirmation boxes are displayed whenever you are about to do something destructive, such as deleting a file or editing something. They also appear when you attempt to exit a menu utility. Confirmation boxes contain the words "Yes" and "No." You can either confirm or cancel an editing change or exit command by selecting "Yes" or "No" and pressing the Enter key.

Task List

Use the task list to find how to complete a specific task. In the task list, network tasks are grouped according to keywords. To find a task in the task list, look under a keyword first, then under the appropriate subheading. One task can appear under several different keywords. For example, the task to delete a drive mapped to a directory appears under the keywords "Directories," "Drive Mappings," and "Mappings."

Following the task is the name of the utility used to complete that task and the page number where you can find instructions to complete that task.

Task keywords

Use this list of keywords and page numbers to quickly find the keywords in the task list.

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File server

List the users defined on a file server	SYSCON	570
Show the name of the file server	NAME SYSCON WHOAMI	299 531 594
View a list of the file servers (including their network and node addresses) that are running on your internetwork	SLIST SYSCON	503 531

Accounting

Charge for the network services a user uses	SYSCON	518
Install the accounting feature on your file server	SYSCON	518
List all file servers on your internetwork that are set up to charge for their services	SYSCON	519
Remove the accounting feature from your file server	SYSCON	520
Set up or delete on accounting server	SYSCON	519
View the system's accounting records	PAUDIT	356

File server (cont.)

Bindery

Check current bindery file for problems	BINDFIX	73
Close bindery files and make backup copies of them	BINDFIX	73
Repair the bindery	BINDFIX	73
Restore a previous version of the bindery files after running BINDFIX	BINDREST	76

Booting and downing

Create or change the AUTOEXEC.SYS file	SYSCON	540
Create or change the system login script	SYSCON	543
Permanently map print queue and spooler mappings	SYSCON	540
Prepare to shut down the file server	DOWN	131
Store console commands you want executed each time the file server comes up	SYSCON	540

Configuration

Reconfigure and regenerate the NetWare operating system	ELSGEN (see *Maintenance for ELS NetWare Level II* manual)

Configuration

List the hardware configuration information for each network supported by the file server	CONFIG	119
View a list of all Value-Added Processes (VAPs) loaded on the operating system	VAP	584
View the file server LAN driver information	FCONSOLE (see *Maintenance for ELS NetWare Level II* manual)	
View the file server's name, network address, and node address	SLIST SYSCON	503 531
View the maximum number of connections the file server will support	SYSCON	531
View the maximum number of disk volumes the file server can support	SYSCON	531
View the version of a NetWare utility you have on the file server	VERSION	585
View the version of NetWare the file server is running	MONITOR NVER SYSCON	291 353 531
View information about NetBIOS, IPX, SPX, LAN driver, shell, and operating system running on your file server	NVER	353

File server (cont.)

Console

Call up the Monitor Display	MONITOR	291
Clear information from the console screen	OFF	354
Update the Monitor Display manually	MONITOR	296
View workstation activity from the file server console	MONITOR	291

Console operators

Assign and delete file server console operators	SYSCON	549
List file server console operators	SYSCON	549

Current system information

List the hardware configuration information for each network supported by the file server	CONFIG	119
View and erase the file server's system error log	SYSCON	539
View approximately how close the file server is to having a full load	MONITOR	291
View detailed information about how the file server is performing	FCONSOLE (see *Maintenance for ELS NetWare Level II* manual)	

File server (cont.)

Current system information

View the number of cache buffers that have been changed in the file server's memory but have not yet been written to the disk

MONITOR 291

View the number of connections currently in use

SYSCON   531

Hard disks

Correct minor hard disk problems without destroying the data on the disk

VREPAIR (see *Maintenance for ELS NetWare Level II* manual)

Monitor the status of network disk drives

DISK   123

Reformat a hard disk that does not perform properly due to major problems

COMPSURF (see *Maintenance for ELS NetWare Level II* manual)

Set or view how much disk space is allotted to each user

SYSCON   558

File server (cont.)

Logging in and out

Allow users to log in after you have issued a DISABLE LOGIN command but have not turned off the file server	ENABLE LOGIN	133
Attach to additional file servers	ATTACH SESSION SYSCON	71 470 527
Change to a different file server as the current file server	SYSCON	529
Clear a user's connection so the user can no longer access the file server until logging in again	FCONSOLE (see *Maintenance for ELS NetWare Level II* manual)	
Create or modify the system login script	SYSCON	543
List the file servers to which you are attached	SYSCON WHOAMI	527 594
List the users currently logged in to a file server	FCONSOLE (see *Maintenance for ELS NetWare Level II* manual) USERLIST	581
List the users on your current file server	SYSCON	570
Log in to a file server	LOGIN	245
Log out from a file server	LOGOUT SESSION SYSCON	246 471 528
Prevent all users from logging in	DISABLE LOGIN	122

File server (cont.)

Logging in and out

View the maximum number of users that can be logged in to the file server at one time	SYSCON 531
View the time a user logged in to the file server	FCONSOLE (see *Maintenance for ELS NetWare Level II* manual) USERLIST 581
View whether new users are allowed to log in	FCONSOLE (see *Maintenance for ELS NetWare Level II* manual)

Messages

Clear a message from the file server console	CLEAR MESSAGE 93
Send a message from the file server console to all workstations logged in or attached to the file server	BROADCAST 77 FCONSOLE (see *Maintenance for ELS NetWare Level II* manual)
Send a message from the file server console to one or more specified workstations	SEND 467
View and erase the file server's error message log	SYSCON 539

Mode

Switch a nondedicated file server from workstation mode into console mode	CONSOLE	121
Switch a nondedicated file server into workstation mode	DOS	128

Security

Allow users to log in to the file server after you have disabled their login rights	ENABLE LOGIN	133
Change the keyboard password	SETKPASS	488
Determine how secure your network configuration is	SECURITY	461
Lock the console keyboard	LOCK	243
Prevent all users from logging in to the file server	DISABLE LOGIN	122
Remove all file server resources allocated to a specific workstation	CLEAR STATION	95
Restrict the days and hours a user can log in	SYSCON	562
Restrict the days and hours all new users can log in	SYSCON	545
Set a password for the keyboard	SETKPASS	487
Set conditions for recognizing and locking out an intruder	SYSCON	546

File server (cont.)

Security

Set password restrictions for all new users	SYSCON	544
Set password restrictions for individual users	SYSCON	555
Temporarily close a user's account	SYSCON	552
Unlock the console keyboard	LOCK	244

Time

Assign time restrictions to an individual user	SYSCON	562
Assign time restrictions to all new users	SYSCON	545
Display the date and time kept by the file server's built-in clock on the console monitor	TIME	573
Set the time and date kept by the file server	SET TIME	495
Synchronize the date and time on your workstation with that of a file server	SYSTIME	571
View the date and time set on a file server from your workstation	FCONSOLE (see *Maintenance for ELS NetWare Level II* manual) SYSTIME 571	

File server (cont.)

Volumes

Add a removable volume to a file server	MOUNT	298
Increase or decrease the amount of time that elapses between volume information updates	VOLINFO	591
Remove a volume from the file server	DISMOUNT	127
View information about a volume on your file server	CHKVOL FILER VOLINFO	91 185 587
View information about a volume that is not on your default file server	CHKVOL VOLINFO	92 590
View information about more than one volume	CHKVOL	92
View statistics (name, block information, caching, etc.) about a volume	FCONSOLE (see *Maintenance for ELS NetWare Level II* manual)	
View the maximum number of volumes the file server can support	SYSCON	531
View the number of directory entries allocated to a volume	VOLINFO	587
View the storage capacity of a volume	VOLINFO	587
View a file	FILER	156

Files

AUTOEXEC.SYS file

Create or change the AUTOEXEC.SYS file	SYSCON	540
Include print queue and spooler mappings in the AUTOEXEC.SYS file	SYSCON	540

Backup and recover

Back up (archive) DOS files to a local drive	LARCHIVE	217
Back up (archive) DOS files to a network directory	NARCHIVE	300
Recover files that have been previously erased	SALVAGE	457
Restore files that were archived to a local drive using LARCHIVE	LRESTORE	250
Restore files that were archived to a network drive using NARCHIVE	NRESTORE	344

Bindery files

Check current bindery files for problems	BINDFIX	73
Close the bindery files and make backup copies of them	BINDFIX	73

Files (cont.)

Bindery files

Repair the bindery	BINDFIX	73
Restore a previous version of the bindery files after running BINDFIX	BINDREST	76

Copy

Confirm that a file should be copied	FILER	161
Confirm that an existing file should be overwritten by a new file	FILER	161
Copy a file from one network directory to another	FILER NCOPY	152 320

Delete

Confirm that a file should be deleted	FILER	160
Delete a file	FILER	145
Permanently delete all previously erased files on the workstation	PURGE	435
Purge all salvageable files on the file server	FCONSOLE (see *Maintenance for ELS NetWare Level II* manual)	

Files (cont.)

Directories

File attributes

Include and exclude patterns

Files (cont.)

Open files

Display all files a user has open	FCONSOLE (see *Maintenance for ELS NetWare Level II* manual)
View the status of an open file	FCONSOLE (see *Maintenance for ELS NetWare Level II* manual)

Print

Change the way a file is to be printed after it is in the print queue	PCONSOLE 377
Print an existing file from outside an application	NPRINT 342 PCONSOLE 371
Print files from applications that are not designed to run on networks	CAPTURE 83

Save

Close a workstation's open files	CLEAR STATION 94
Create a file to be printed later	CAPTURE 84
Save data from your application to a file	CAPTURE 84
Save information from the workstation screen to a file	CAPTURE 84

Files (cont.)

Search modes

Assign an executable file or files to search for data files	SMODE	508
Change your search mode settings	SMODE	511
View your current search mode settings	SMODE	510

Security

Allow other users to access and write to files in which you are currently working (after entering a HOLDON command)	HOLDOFF	215
Display all logical record locks a connection has logged with the server	FCONSOLE (see *Maintenance for ELS NetWare Level II* manual)	
Hide a file so it will not show in a directory search and cannot be deleted or copied over	HIDEFILE	213
Make a hidden file visible	SHOWFILE	501
Prevent other users from accessing and writing to files in which you are currently working	HOLDON	216
See system and hidden files	FILER	168
Temporarily make a hidden file visible	FILER	168

Games

Play a network game (SNIPES)   NSNIPES   350

Groups

Change

Add a user to an existing group   SYSCON   534

Assign or change the full name   SYSCON   537
of a group

Rename a group   SYSCON   537

Create or delete

Assign a full name to a group   SYSCON   537

Create a group   SYSCON   533

Delete a group   SYSCON   534

File server

List the groups assigned to a   SESSION   478
file server   SYSCON   533

Set or view the console   SYSCON   549
operator status of a group

Identification number

View the group identification   SYSCON   538
number

Groups (cont.)

Rights

Change a group's trustee rights in a directory	SYSCON	536
Delete a group's trustee rights in a directory	GRANT REMOVE REVOKE SYSCON	200 446 452 537
Give a group trustee rights in a directory	GRANT SYSCON	200 535
View a group's trustee rights in a directory	SYSCON	535
View the group trustees of a directory	TLIST	577

Users

Add a user to a group	SYSCON	534
Delete a user from a group	SYSCON	534
List the users in a group	SYSCON	534

Hard disks

Disk space

Set or view how much file server disk space is allotted to a user	SYSCON	558

Hard disks (cont.)

Performance

Correct minor hard disk problems without destroying data on the disk	VREPAIR (see *Maintenance for ELS NetWare Level II* manual)	
Monitor the status of network disk drives	DISK	123
Reformat a hard disk that does not perform properly due to major problems	COMPSURF (see *Maintenance for ELS NetWare Level II* manual)	

Identification numbers

View the group identification number	SYSCON	538
View the print queue object identification number	PCONSOLE	382
View the print server object identification number	PCONSOLE	386

Jobs. *See* Print jobs.

Logging in and out

Attach to additional file servers	ATTACH	71
	SESSION	470
	SYSCON	527
List the file servers to which you are attached	SYSCON	527
	WHOAMI	594
List the users currently logged in to a file server	FCONSOLE (see *Maintenance for ELS NetWare Level II* manual)	
	USERLIST	581
List the users defined on your file server	SYSCON	570
Log in to a file server	LOGIN	246
Log out from a file server	LOGOUT	249
	SESSION	471
	SYSCON	528
View the time a user logged in to the file server	FCONSOLE (see *Maintenance for ELS NetWare Level II* manual)	
	USERLIST	581

File servers

Attach to and log out of additional file servers	ATTACH	71
	SESSION	470
	SYSCON	527
Choose an attached file server as the current file server	SYSCON	529

Logging in and out (cont.)

File servers

List the users defined on your file server	SYSCON	570
View whether new users are allowed to log in	FCONSOLE (see *Maintenance for ELS NetWare Level II* manual)	

Passwords

Allow users to change their own passwords	SYSCON	555
Change a user's password	SETPASS	492
	SYSCON	566
Change the minimum password length	SYSCON	555
Create a password for a user	SETPASS	491
	SYSCON	566
Limit the number of times a user can log in with an expired password	SYSCON	555
Require a user to have a password	SYSCON	555
Require users to change their passwords periodically	SYSCON	555
Require users to use a new password each time they change it	SYSCON	555
Set password restrictions for individual users	SYSCON	555

Logging in and out (cont.)

Restrictions and charges

Allow users to log in after you have entered a DISABLE LOGIN command but have not turned off the file server	ENABLE LOGIN	133
Limit the number of times a user can log in with an expired password	SYSCON	555
Limit the number of workstations a user can log in from at one time	SYSCON	554
Prevent all users from logging in	DISABLE LOGIN	122
Restrict the days and hours users can log in	SYSCON	562
Restrict the workstations a user can log in from	SYSCON	559
View the maximum number of users that can be logged into the file server at one time	SYSCON	531

Usernames

Change to a different username on your current file server	SESSION SYSCON	471 529
List the usernames you used to attach to a file server	WHOAMI	594

Login scripts

System login scripts

Create or change the system login script	SYSCON	543

User login scripts

Change a user's login script	SYSCON	551
Copy one user's login script to another user	SYSCON	552
Create a user's login script	SYSCON	551
View a user's login script	SYSCON	551

Mappings

Drive mappings

Change a network drive mapping	MAP SESSION	285 476
Change a search drive mapping	MAP SESSION	287 482
Delete a drive mapping	MAP SESSION	288 475
Delete a search drive mapping	MAP SESSION	288 484
List your drive mappings	MAP SESSION	284 472

Mappings (cont.)

Drive mappings

Map a network drive to a directory	MAP SESSION	285 473
Map a search drive to a directory	MAP SESSION	287 480

Printer mappings

Permanently map a print queue to a printer	SYSCON	540
Temporarily map a print queue to a printer	PRINTER	418

Spooler mappings

Change a spooler mapping	SPOOL	513
List spooler mappings	SPOOL	514
Permanently map spooler mappings	SYSCON	540

Menus

Access a customized menu	MENU	289
Change the colors on menu screens for NetWare utilities	COLORPAL	98

Clear a message from the file server console screen	CLEAR MESSAGE 93
Enable your workstation to receive messages	CASTON 89
Prevent messages from reaching your workstation	CASTOFF 87
Send a message from the file server console to all workstations logged in or attached to the file server	BROADCAST 77 FCONSOLE (see *Maintenance for ELS NetWare Level II* manual)
Send a message from the file server console to one or more specified workstations	SEND 467
Send a message from your workstation to a group	SEND 464 SESSION 478
Send a message from your workstation to other users	SEND 463 SESSION 486
View and erase the file server's error message log	SYSCON 539

NetWare operating system

Reconfigure and regenerate the NetWare operating system	ELSGEN (see *Maintenance for ELS NetWare Level II* manual)	
View the Value-Added Processes (VAPs) that are loaded on the operating system	VAP	584
View the version of NetWare the file server is running	FCONSOLE (see *Maintenance for ELS NetWare Level II* manual)	
	MONITOR	291
	NVER	353
	SYSCON	531

Passwords

Console

Set or change the password for the file server console keyboard	SETKPASS	488

Create or change

Allow users to change their own passwords	SYSCON	555
Change a user's password	SETPASS	492
	SYSCON	566
Create a user's password	SETPASS	491
	SYSCON	566

Passwords (cont.)

Restrictions

Allow users to change their own passwords	SYSCON	555
Change the minimum length for a user's password	SYSCON	555
Limit the number of times a user can log in with an expired password	SYSCON	555
Require a user to have a password	SYSCON	555
Require users to change their passwords periodically	SYSCON	555
Require users to use a new password each time they change it	SYSCON	555
Set password restrictions for all new users	SYSCON	544
Set password restrictions for individual users	SYSCON	555

Print jobs

Change

Change the way a job is to be printed after it is in the print queue	PCONSOLE	377

Configure

Choose the default print job configuration	PRINTCON	394
Copy one user's print job configuration to another user	PRINTCON	395
Create a print job configuration	PRINTCON	388
Delete a print job configuration	PRINTCON	392
Edit a print job configuration	PRINTCON	393
Rename a print job configuration	PRINTCON	393
Set the parameters for a print job	PCONSOLE	373

Delete

Delete all print jobs in a queue	QUEUE	442
Delete one print job	PCONSOLE	378
	QUEUE	441

Priority

Change the order of jobs in a queue	PCONSOLE	379
	QUEUE	440
List the print jobs in a print queue	PCONSOLE	370
	QUEUE	439

Print jobs (cont.)

Stop

Interrupt a print job and reprint pages	PRINTER	425
Place a hold on a print job	PCONSOLE	380

Print queues

List a printer's queues	PRINTER	422
List the queues serviced by a file server	PCONSOLE QUEUE	370 438
Permanently map a print queue to a printer	SYSCON	540
View the print queue object identification number	PCONSOLE	382
View the queue status	PCONSOLE	381

Add or create

Add an existing queue to a printer	PRINTER	417
Create a new print queue	PCONSOLE QUEUE	362 437

Change

Rename a print queue	PCONSOLE	364
Reroute an existing queue from one printer to another	PRINTER	418

Print queues (cont.)

Delete or remove

Delete a print queue	PCONSOLE	365
Destroy a print queue and remove it from the list of printers on a file server	QUEUE	443
Temporarily remove a queue from a printer	PRINTER	420

Printers

Permanently map a print queue to a printer	SYSCON	540
Reroute an existing queue from one printer to another	PRINTER	418

Print jobs

Change the order of jobs in a queue	PCONSOLE QUEUE	379 440
Delete all print jobs in a queue	QUEUE	442
Delete one print job in a queue	PCONSOLE QUEUE	378 441
List the print jobs in a print queue	PCONSOLE QUEUE	370 439
Place a hold on a print job	PCONSOLE	380
View the number of entries in a queue	PCONSOLE	381

Print queues (cont.)

Print servers

Add a print server to a queue	PCONSOLE 384
Delete a print server from a queue	PCONSOLE 385
View the number of print servers attached to a queue	PCONSOLE 383
View the print servers that are allowed to service a print queue	PCONSOLE 383
View the print servers that are currently attached to a queue	PCONSOLE 382

Printers

Permanently map a print queue to a printer	SYSCON	540
Reroute an existing queue from one printer to another	PRINTER	418

Users and operators

Assign queue operators	PCONSOLE	367
Assign queue users	PCONSOLE	366
List all printers attached to a file server	PRINTER	423
List the users assigned to a queue	PCONSOLE	383

Printers (cont.)

LPT ports

End the capture of an LPT port	ENDCAP	135
View the current status of your LPT ports	CAPTURE	86

Mappings

Change spooler mappings	SPOOL	513
List the spooler mappings	SPOOL	514
Permanently map a print queue to a printer	SYSCON	540
Permanently map spooler mappings	SYSCON	540
Temporarily map a print queue to a printer	PRINTER	418

Paper

Advance the paper in the printer by one sheet	PRINTER	421
Change the type of print form (paper) mounted in a printer	PRINTER	418
Define the type of print form (paper) your printer will use	PRINTDEF	413
Mark the position on the page where the printing will start	PRINTER	424
View the types of print forms (paper) defined for your printer	PRINTDEF	415

Printers (cont.)

Print servers

Add a print server	PCONSOLE 384
Delete a print server	PCONSOLE 385
List print servers	PCONSOLE 386
Rename a print server	PCONSOLE 385
View a print server's full name	PCONSOLE 386
View a print server's object identification number	PCONSOLE 386
View the number of print servers attached to a queue	PCONSOLE 382
View the print servers that are allowed to service a print queue	PCONSOLE 383
View the print servers that are currently attached to a queue	PCONSOLE 382

Print queues

Add an existing queue to a printer	PRINTER 417
List print queues	PCONSOLE 370 PRINTER 422 QUEUE 438
List print jobs in a printer's queue	PCONSOLE 370 QUEUE 439

Printers (cont.)

Print queues

Permanently map a print queue to a printer	SYSCON	540
Reroute an existing queue from one printer to another	PRINTER	418
Temporarily remove a queue from a printer	PRINTER	420
View the number of a print job you want to delete or remove from a queue	QUEUE	439

Start or stop

Restart a printer that has been stopped using the PRINTER command	PRINTER	427
Stop a printer and reprint some pages of the print job	PRINTER	425
Temporarily stop a printer	PRINTER	428

Printing

Files

Print a file from outside an application	NPRINT	342
	PCONSOLE	371
Print from applications that are not designed to run on networks	CAPTURE	83
Print information from your workstation screen (screen dumps)	CAPTURE	84

Paper

Advance the paper in the printer by one sheet	PRINTER	421
Change the type of print form (paper) mounted in a printer	PRINTER	418
Define the type of print form (paper) your printer will use	PRINTDEF	413
Mark the position on the page where the printing will start	PRINTER	424
View the types of print forms (paper) defined for your printer	PRINTDEF	415

Print jobs

Change the order of jobs in a queue	PCONSOLE	379
	QUEUE	440
Delete all the print jobs in a queue	QUEUE	442
Delete one print job in a queue	PCONSOLE	378
	QUEUE	441

Print jobs

List the print jobs in a print queue	PCONSOLE QUEUE	370 439
Place a hold on a print job	PCONSOLE	380

Printers

Charge each user for printer resources used	SYSCON	518
List all printers attached to a file server	PRINTER	423

Spooler mappings

Change a spooler mapping	SPOOL	513
List spooler mappings	SPOOL	514
Permanently map spooler mappings	SYSCON	540

Queues. See **Print queues.**

Rights

Effective rights

	View your effective rights in all directories	WHOAMI	597
	View your effective rights in any directory	RIGHTS	454
	View your effective rights in your current directory	FILER	140
		RIGHTS	453

Maximum rights mask

	Add or delete a right in the current directory's maximum rights mask	FILER	141
	View the maximum rights mask of a subdirectory	LISTDIR	240

Security equivalences

	Assign a user's security equivalence	SYSCON	567
	Delete a user's security equivalence	SYSCON	567
	Give a user the same security equivalence as another user	SYSCON	567
	View your security equivalences	WHOAMI	596

Rights (cont.)

Trustees

Add or delete trustee rights in a directory	FILER	143
Assign or change a group's trustee rights in a directory	GRANT SYSCON	200 535
Assign or change a user's trustee rights in a directory	GRANT SYSCON	200 568
Delete a group from the trustee list of a directory	GRANT REMOVE SYSCON	200 446 537
Delete a user from the trustee list of a directory	FILER REMOVE SYSCON	143 445 569
Give a user the same trustee rights as another user	SYSCON	567
List a group's trustee rights	SYSCON	535
List a user's trustee rights	SYSCON	568
View the group trustees of a directory	TLIST	577
View the trustee list of a directory	TLIST	575
View the user trustees of a directory	TLIST	576

Search drives. *See* Drive mappings.

Servers. *See* **File server.**

Security

Determine how secure your network configuration is	SECURITY	461

Account restrictions

Limit the number of workstations a user can log in from at one time	SYSCON	554
Set or view how much file server disk space each user can use	SYSCON	558
Set password restrictions	SYSCON	555
Set up default account restrictions (account expiration date, connection limitations, password restrictions, disk space limitations) to be assigned automatically to new users	SYSCON	544
Set up one temporary account to expire on a set date	SYSCON	553
Set up several temporary accounts to expire on a set date	SYSCON	544
Temporarily close a user's account	SYSCON	552

Security (cont.)

Console

Lock the file server console keyboard	LOCK	243

Files

Change the file attributes in a directory	FLAG	192
Hide a file so it will not show in a directory search and cannot be deleted or copied over	HIDEFILE	213

Login restrictions

Allow users to log in to the file server after you have disabled their login rights	ENABLE LOGIN	133
Limit the number of workstations a user can log in from at one time	SYSCON	554
Prevent all users from logging in to the file server	DISABLE LOGIN	122
Restrict the days and hours users can log in	SYSCON	562
Restrict the workstations a user can log in from	SYSCON	559

Security (cont.)

Password restrictions

Allow users to change their own passwords	SYSCON	555
Change a user's password	SETPASS	492
	SYSCON	566
Change the minimum password length	SYSCON	555
Limit the number of times a user can log in with an expired password	SYSCON	555
Require a user to have a password	SYSCON	555
Require users to change their passwords periodically	SYSCON	555
Require users to use a new password each time they change it	SYSCON	555
Set password restrictions for an individual user	SYSCON	555
Set password restrictions to be automatically assigned to all new users	SYSCON	544

System restrictions

Set conditions for recognizing and locking out an intruder	SYSCON	546
Unlock an account that has been closed because of an intruder detection	SYSCON	563

Subdirectories. *See* **Directories.**

Time

Assign time restrictions to an individual user	SYSCON	555
Assign time restrictions to be automatically assigned to all new users	SYSCON	544
Display the date and time kept by the file server's built-in clock	TIME	573
Set the date and time set on the file server	SET TIME	495
Synchronize the date and time on your workstation with that of a file server	SYSTIME	571
View the current directory's creation date and time	FILER	140
View the date and time set on a file server	FCONSOLE (see *Maintenance for ELS NetWare Level II* manual) SYSTIME	571

Transaction Tracking System (SFT NetWare only)

Set the logical and physical levels to track	SETTTS	498
View statistics about the Transaction Tracking System	FCONSOLE (see *Maintenance for ELS NetWare Level II* manual)	
View the current transaction tracking setting	SETTTS	497
View whether a file server supports Transaction Tracking System	FCONSOLE (see *Maintenance for ELS NetWare Level II* manual) SYSCON	531

Trustee rights. *See* **Rights.**

Spooler. *See* **Printing.**

Usernames. *See* **Users.**

Users

Create or delete

Assign or change a user's full name	SYSCON	565
Create a large number of users	MAKEUSER	277
	USERDEF (see *Installation for ELS NetWare Level II* manual)	
Create a user	SYSCON	564
Delete a large number of users	MAKEUSER	281
Delete a user	SYSCON	564
Rename a user	SYSCON	564

Accounting

Give all users unlimited credit	SYSCON	544
Set a default credit limit for all users	SYSCON	544
Set up default account balances to be automatically assigned to new users	SYSCON	548

Account restrictions

Give all users unlimited credit	SYSCON	544
Reopen a user's account	SYSCON	563
Set up a temporary account to expire on a set date	SYSCON	553

Users (cont.)

Account restrictions

Set up default account restrictions to be assigned automatically to new users	SYSCON	544
Temporarily close a user's account	SYSCON	552
Unlock a user's account that has been locked because of an intruder detection	SYSCON	563

Addresses

View a user's network and node address	USERLIST	580

File server information

Assign or delete a user as a file server console operator	SYSCON	549
List the file servers to which you are attached	SYSCON WHOAMI	527 594
List the users currently logged in to a file server	FCONSOLE (see *Maintenance for ELS NetWare Level II* manual) USERLIST	581
List the users defined for your file server	SYSCON	570
Set or view the amount of file server disk space allotted to each user	SYSCON	558

Groups

Add a user to a group	SYSCON	534
Delete a user from a group	SYSCON	534
View which groups you belong to	WHOAMI	595

Logging in and out

Attach to additional file servers	ATTACH	71
	SESSION	470
	SYSCON	527
Log in to a file server	LOGIN	246
Log out of a file server	LOGOUT	249
	SESSION	471
	SYSCON	528
View the time you logged in to a file server	USERLIST	581
	WHOAMI	594

Login restrictions

Allow users to log in after you have disabled their login rights	ENABLE LOGIN	133
Limit the number of workstations a user can log in from at one time	SYSCON	554
Prevent users from logging in to the file server	DISABLE LOGIN	122
Restrict the days and hours a user can log in	SYSCON	562

Users (cont.)

Login restrictions

Restrict the days and times all new users can log in	SYSCON	545
Restrict the days and times an individual user can log in	SYSCON	562
Restrict the workstations a user can log in from	SYSCON	559

Login scripts

Change a user's login script	SYSCON	551
Copy one user's login script to another user	SYSCON	552
Create a user's login script	SYSCON	551
View a user's login script	SYSCON	551

Passwords

Allow users to change their own passwords	SYSCON	555
Change a user's password	SETPASS SYSCON	492 566
Create a password for a user	SETPASS SYSCON	491 566
Limit the number of times a user can log in with an expired password	SYSCON	555
Require users to change their passwords periodically	SYSCON	555

Users (cont.)

Passwords

Require a user to have a password	SYSCON	555
Require users to change their passwords periodically	SYSCON	555
Require users to use a new password each time they change it	SYSCON	555
Set or change the minimum password length	SYSCON	555
Set password restrictions for a user	SYSCON	555

Queues

Assign a user to a print queue	PCONSOLE	366
Assign a user to be a print queue operator	PCONSOLE	367

Security equivalences

Assign a user's security equivalence	SYSCON	567
Delete a user's security equivalence	SYSCON	567
Give a user the same security equivalence as another user	SYSCON	567
View your security equivalences	WHOAMI	596

Users (cont.)

Trustees

Assign or change a user's trustee rights	GRANT SYSCON	200 568
Delete a user's trustee rights	GRANT REMOVE REVOKE SYSCON	200 445 451 568
Give a user the same trustee rights as another user	SYSCON	567
List a user's trustee rights	SYSCON	568
View the user trustees of a directory	TLIST	576
View your effective rights in all directories	WHOAMI	597
View your effective rights in any directory	RIGHTS	454
View your effective rights in your current directory	FILER RIGHTS	140 453

Usernames

Change to a different username on your current file server	SESSION SYSCON	471 529
List the usernames you used to attach to a file server	WHOAMI	594
Rename a user	SYSCON	564

Versions

View the version of a NetWare utility on your file server	VERSION	585
View the version of NetWare the file server is running	MONITOR NVER SYSCON	291 353 531
View the version of software (NetBIOS, IPX, SPX, LAN driver, shell, operating system) running on your file server or workstation	NVER	353

Volumes

Add a removable volume to a file server	MOUNT	298
Increase or decrease the amount of time that elapses between volume information updates	VOLINFO	591
Remove a volume from the file server	DISMOUNT	127
View information about a volume on your file server	CHKVOL FILER VOLINFO	91 185 587
View information about a volume that is not on your default file server	CHKVOL VOLINFO	92 590
View information about more than one volume	CHKVOL	92

Volumes (cont.)

View statistics (size, blocks, caching, etc.) about a volume	FCONSOLE (see *Maintenance for ELS NetWare Level II* manual)	
View the storage capacity of a volume	VOLINFO	587
View the maximum number of volumes the file server can support	SYSCON	531
View the number of directory entries allocated to a volume	VOLINFO	587

Workstations

View the version of software (NetBIOS, IPX, SPX, LAN driver, shell, operating system) your workstation is using	NVER	353

Addresses

View a user's network and node address	USERLIST	580

Workstations (cont.)

File server

Break the communication link between the file server and a cleared workstation	CLEAR STATION	95
Clear a user's connection so the user can no longer access the file server until logging in again	FCONSOLE (see *Maintenance for ELS NetWare Level II* manual)	
Remove all file server resources allocated to a specific workstation	CLEAR STATION	95

Messages

Enable your workstation to receive messages	CASTON	89
Prevent messages from reaching your workstation	CASTOFF	87
Send a message from your workstation to a user or group	SEND SESSION	463 486

Mode

Switch a nondedicated file server from workstation mode into console mode	CONSOLE	121
Switch a nondedicated file server into workstation mode	DOS	128

Workstations (cont.)

Restrictions

Limit the number of workstations a user can log in from at one time	SYSCON	554
Restrict the workstations a user can log in from	SYSCON	559

ARCONFIG

If your file server includes a LAN B or LAN C connection to a remote workstation, you must configure the software that will be running in your remote workstation and file server. Use ARCONFIG to configure the software.

For more information on using ARCONFIG, see the *Installation for ELS NetWare Level II* manual.

ATOTAL

Accounting Services **TOTAL**

Use ATOTAL to total the accounting services usage on your
network. ATOTAL is run from the SYS:SYSTEM directory,
so you must have supervisor rights to that directory. The
accounting feature must be installed on your file server.

Command format

ATOTAL

Additional information

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

- Total blocks read

- Total blocks written

- Total connect time in minutes

- Total service requests

- Total disk storage in blocks per day

The totals are listed only if the accounting feature is installed
on the file server and services are being charged (see "Install
the accounting feature" on page 518 and "Set charge rates"
on page 520).

View a summary of the accounting services used on your network

1. Change to the SYS:SYSTEM directory.

2. Type

   ATOTAL <Enter>

   You see the following message on the screen:

   `Processing accounting records...`

   After the accounting records have been processed, the daily and weekly totals for each service are listed on the screen.

Redirect the output of ATOTAL to a file

ATOTAL's output usually fills more than one screen on the computer. To view the output later, or to view it screen-by-screen, redirect the output to a file.

To redirect the output to a file, type

   ATOTAL > *filename* <Enter>

Print a hard copy of the file

To print a hard copy of the file, type

   NPRINT *filename* <Enter>

ATTACH

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

Command format

ATTACH [*server[/user]*]

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

Additional information

You must be logged in to a file server before you can use
ATTACH to log in to 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.

Access additional file servers

To attach to additional file servers while remaining logged in
to your current file server, complete the following steps.

1. Type

     ATTACH *server/user* <Enter>

     Replace *server* with the name of the file server you want
     to attach to, and *user* with the username you want to use
     on that file server.

     If you do not specify the file server and username in the
     command, you are prompted to enter each one
     individually.

2. If a password is required for the username you typed,
     the following prompt appears on your screen:

     Enter your password:

     Type your password and press <Enter>.

     A message similar to the following appears on your
     screen, indicating the file server you are attached to:

     Your station is attached to server SALES.

When you log in with a username that does not require a
password (user GUEST frequently does not have a
password), you are not prompted to enter a password.

BINDFIX

BINDery FIX

Use BINDFIX to correct problems with the NetWare bindery.

Since the bindery files are in the SYS:SYSTEM directory, you must have supervisor rights in that directory to use BINDFIX.

Command format

BINDFIX

Additional information

Use BINDFIX if you think data in the bindery files has been corrupted. BINDFIX corrects the following problems:

- A username cannot be deleted or modified.

- A user's password cannot be changed.

- A user's rights cannot be modified.

- The "Unknown Server" error message appears during print spooling even though you are spooling on the default server.

- Error messages referring to the bindery are displayed on the file server console monitor.

How BINDFIX works

BINDFIX shuts down the bindery files so users cannot access them. Then BINDFIX rebuilds and reopens the bindery files.

While rebuilding the files, BINDFIX lists the tasks it is performing. You are prompted to specify whether to delete the mail directories and trustee rights of users whose accounts have been deleted.

BINDFIX creates new NET$BIND.SYS and
NET$BVAL.SYS files. The previous versions of
NET$BIND.SYS and NET$BVAL.SYS are renamed
NET$BIND.OLD and NET$BVAL.OLD.

If the reconstructed bindery does not solve the problem with
the file server, or if there is a power loss while BINDFIX is
running, you can restore the previous version of the bindery
using BINDREST (if you haven't deleted the .OLD files).

After verifying that the new bindery files are correct, delete
the two .OLD files from the SYS:SYSTEM directory.

Repair the bindery

Before you run BINDFIX, make sure all users have logged
out of the network.

1. Change to the SYS:SYSTEM directory.

2. Type

    BINDFIX < Enter >

   You see the following message while BINDFIX closes
   the bindery files and makes backup copies of them,
   renaming the backup copies with the ".OLD" extension.

   Rebuilding Bindery. Please Wait.

As BINDFIX scans the current bindery files for inconsistencies and tries to correct any problems it finds, you see a message similar to the following:

```
Checking for invalid nodes.
Checking object's property lists.
Checking properties to see that they are in an
    object property list.
Checking objects for back-link property.
Checking set consistency and compacting sets.
Building avail lists and new hash tables.
There are XX Object Nodes and XX Property Nodes
    free.
Checking User objects for standard properties.
Checking group objects for standard properties.
Checking links between users and groups for
    consistency.
```

3. The following prompt appears:

```
Delete mail directories or users that no longer
    exist? (y/n):
```

Type the appropriate response.

If you answer "No," skip to Step 4.

If you answer "Yes," the mail subdirectories of users that no longer exist on the network are deleted, and you see messages similar to the following:

```
Checking for mail directories of users that no
    longer exist.
Deleting mail dir #
Checking for users that do not have mail
    directories.
Adding mail dir user #
```

4. The following prompt appears:

```
Delete trustee rights to users that no longer exist?
    (y/n):
```

If you answer "No," skip to Step 5.

If you answer "Yes," BINDFIX scans all mounted
volumes and removes users that no longer exist from all
trustee lists. You see information similar to the
following on your screen:

```
Checking Volume SYS.  Please wait.
Checking Volume VOL1.  Please wait.
```

5. If the bindery check is successful, you see the following:

```
Bindery check successfully completed.

Please delete the files NET$BIND.OLD and
NET$BVAL.OLD after you have verified the
reconstructed bindery.
```

Verify the reconstructed bindery and then delete the
files as prompted. These files are in the SYS:SYSTEM
directory.

If the bindery check is unsuccessful, you see the
following:

```
Bindery check NOT successfully completed.
```

In this case, you may want to use BINDREST. If you
have not already deleted the ".OLD" files, BINDREST
restores the ".OLD" bindery files and returns the bindery
to its original state.

BINDREST

BINDery **REST**ore

Use BINDREST to restore a previous version of the bindery
files after you have run BINDFIX.

Since the bindery files are in the SYS:SYSTEM directory,
you must have supervisor rights in that directory to use
BINDREST.

Command format

BINDREST

Additional information

BINDFIX creates NET$BIND.OLD and NET$BVAL.OLD
files as backups. If BINDFIX fails, you can run BINDREST
to restore the files to their original version and name.
BINDREST, in effect, cancels the changes made by
BINDFIX by renaming NET$BIND.OLD and
NET$BVAL.OLD to NET$BIND.SYS and
NET$BVAL.SYS.

Restore a previous version
of the bindery files after running BINDFIX

In the SYS:SYSTEM directory, type

BINDREST <Enter>

BINDREST restores the previous version of the bindery
files.

BROADCAST

Use BROADCAST at the file server console to send a message to all users logged in or attached to the file server.

Command format

BROADCAST *message*

Replace *message* with the information you want to send to the users (up to 60 characters).

Additional information

Users who are logged in using ACS or NACS, users who are logged in on remote workstations, and users who have used CASTOFF with the All option do not receive BROADCAST messages.

Send a message to all users logged in or attached to the file server

To send a message to all users logged in or attached to the file server, type

BROADCAST *message* <Enter>

Replace *message* with the information you want to send (up to 60 characters).

To delete the message from a workstation screen and resume work, press <Ctrl> and <Enter> simultaneously.

BROADCAST

Example

To broadcast a message warning users that you are going to shut down the file server, type

BROADCAST The file server will be turned off in five
     minutes. <Enter>

All attached users receive BROADCAST messages on the 25th line of the screen. Messages do not interfere with the workstation's screen display.

For Texas Instruments Workstations

Texas Instruments (TI) workstations do not receive or display the message until the user presses the key (usually the Enter key) that allows a NetWare packet to be sent. The user can erase the message by pressing the Escape key.

CAPTURE

Use CAPTURE to send data from your workstation to a network printer or to a network file.

Command format

CAPTURE [*option...*]

Replace *option* with one or more of the options listed below. (The SHow option cannot be used with other options.)

Command options

SHow

Include this option to view the current status of LPT ports. Do not use SHow with other CAPTURE options.

Autoendcap

Include this option if you want to send data to a network printer or to a network file when you exit or enter an application. Autoendcap does not automatically end the capture of an LPT port as its name implies.

Default: Autoendcap enabled

NOAutoendcap

Include this option to prevent data from being sent to a network printer or file when you enter or exit an application.

Local=*n*

Include this option to indicate which LPT port to capture. Replace *n* with 1, 2, or 3.

Default: L = 1

CAPTURE

TImeout=*n*

> Include this option to enable the TImeout feature. Replace
> *n* with a number (1 through 1,000) representing the number
> of seconds between the moment you press the print key(s)
> (defined by your application) to print a job and the moment
> the job is queued for printing or saved to a network file.
>
> Default: TI = 0 (TImeout disabled)

Server=*server*

> This option indicates which file server the data should be
> sent to for printing. Replace *server* with the name of the file
> server.
>
> Default: your default server

Job=*job*

> Include this option to specify the name of the print job
> configuration to be used. You can also define print jobs
> using PRINTCON.

Printer=*n*

> Include this option to indicate which network printer the
> print job should be sent to. Replace *n* with the number of
> the network printer (0, 1, 2, 3, or 4).
>
> Default: P = 0

Queue=*queue*

> Include this option to indicate which queue the print job will
> be sent to. Replace *queue* with the name of a queue.
>
> Default: Q = PRINTQ_0

Form=*form* or *n*

> Include this option to specify the form the job will be printed on. Replace *form* with the name of the form, or replace *n* with the number of the form. (Supervisors define forms on the file server using PRINTDEF.)

Copies=*n*

> Include this option to indicate how many copies of the print job you want to print. Replace *n* with a number. You can specify up to 256 copies.
>
> Default: Copies = 1

Tabs=*n*

> Include this option only if your application does not have a print formatter (most applications do). This option replaces all tab characters in your print job with the number of spaces *n* (0 to 18) you specify.
>
> Default: Tabs = 8

NoTabs

> Include this option only if your application does not have a print formatter (most do). This option ensures that all the tabs in your print job arrive at the printer unchanged.

NAMe=*name*

> Include this option to specify the username you want to appear on the upper half of your banner page. Replace *name* with a username.
>
> Default: the username you used to log in

Banner=*banner*

> Include this option to specify the banner word to appear on the lower half of your banner page. Replace *banner* with any word or phrase up to 12 characters long. Use an underline character to represent a space between words (for example, IN_THE_BLACK).
>
> Default: Banner = LST:

NoBanner

> Include this option to specify that a banner page not be printed.

FormFeed

> Include this option to enable form feed after your print job has been printed.
>
> Default: form feed enabled

NoFormFeed

> Include this option to disable form feed at the printer.

CReate=*filespec*

> Include this option if you want to send data to a file and not to a network printer. Replace *filespec* with the name of the file you want to create. Specify the file server, volume, and directory if you want to save the file to a directory other than your default directory.

Keep

> Include this option as a safety feature when you plan to capture data over several hours.

Keep ensures that the file server retains all data it receives from your workstation if your workstation hangs or loses power while you are capturing data to the file server. Fifteen minutes after your workstation hangs or loses power, the file server sends the data it received from your workstation to a network printer for printing.

If you do not include Keep in your CAPTURE command and your workstation hangs or loses power as you are capturing data, the file server discards the data it received.

Additional information

If a default job configuration and form are defined on the network (with PRINTCON and PRINTDEF), CAPTURE follows those defaults. If the defaults are not defined on the network, CAPTURE follows its own defaults.

Print data from your application on a network printer

To print data on a network printer from an application not designed to run on a network, complete the following steps.

1. Type

    CAPTURE <Enter>

    You can include any CAPTURE option except SHow.

2. Enter the application. Create a file if you need to.

3. Print data using the print keys for the application.

4. When you are finished printing, exit the application. To end the capture of the LPT port, type

    ENDCAP <Enter>

CAPTURE

Print screens

To print data (screen dumps) from the workstation screen, complete the following steps.

1. Type

    CAPTURE <Enter>

2. Make sure the information you want to print appears on your workstation screen.

3. Press the keys to print the screen (usually <Shift> <Print Screen> or just <Print Screen>, depending on your keyboard). CAPTURE sends your print job to the default print queue of your default file server, and the job is printed.

4. When you are finished printing screens, type

    ENDCAP <Enter>

Save data to a network file

To save data to a network file to be printed later, complete the following steps.

1. Type

    CAPTURE CR=*filename* <Enter>

    Replace *filename* with the name of the file you want to save data to.

    To save data to a directory other than your default directory, specify the directory path in the command.

2. Enter the application.

3. Make sure the information you want to save to the file appears on your workstation screen. Press the keys to print the screen (usually <Shift> <Print Screen> or just <Print Screen>, depending on the keyboard). Repeat this step for as many screens as you want to save to the file.

4. Exit your application.

5. At the DOS prompt, type

   ENDCAP <Enter>

   This command ends the capture of the LPT port.

Example

To create a file called TESTFILE and save data to that file in your default directory, complete the following steps.

1. To save data to your default directory, type

   CAPTURE CR=TESTFILE NA <Enter>

   (NA stands for NoAutoendcap. Disabling Autoendcap lets you enter and exit applications without prematurely closing the file you are creating. For more information about Autoendcap, see the CAPTURE options.)

2. Enter the application.

3. With the information you want to save to the file appearing on your workstation screen, press the keys to print the screen (usually <Shift> <Print Screen> or just <Print Screen>, depending on the keyboard).

4. Exit your application.

5. At the DOS prompt, type

   ENDCAP <Enter>

CAPTURE

View the status of your LPT ports

To view the status of your LPT ports, type

CAPTURE SH <Enter>

When you include the SHow option in a CAPTURE command, you do not capture an LPT port. You can view the status of your LPT ports at any time without affecting the capture of an LPT port.

Example

Suppose you have captured LPT1 and want to view its status and the status of other LPT ports. Type

CAPTURE SH <Enter>

Information similar to the following appears on your screen:

```
LPT1:   Capturing data to server COUNT
        Capture Defaults:   Enabled
        Automatic Endcap:   Enabled
        Banner:  LST:
        Form Feed:   Yes
        Copies:  1
        Tabs:  Converted to 8 spaces
        Form:  0
        Timeout Count:  Disabled

LPT2:   Capturing Is Not Currently Active.

LPT3:   Capturing Is Not Currently Active.
```

CASTOFF

Use CASTOFF if you do not want to receive messages sent from other users or from the file server.

Command format

CASTOFF [All]

⚠ When a workstation receives a message, the workstation is prevented from executing any further commands until the message is cleared. Clear the message by pressing <Ctrl> <Enter>.

Before starting a process (compiling, recalculating, remote hookup) that can run unattended on a workstation, you should execute CASTOFF to prevent other users from interrupting the process.

Block messages sent from other users

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

CASTOFF <Enter>

The following message appears on your monitor:

Broadcast messages from other stations will now be
     rejected.

To enable your workstation to receive messages from other users, use CASTON.

CASTOFF

Block messages sent from all network stations

To prevent messages sent from all network stations
(including workstations and the file server) from reaching
your workstation, type

CASTOFF A < Enter >

To allow your workstation to receive messages from other
workstations and the file server, use CASTON.

Use CASTON if you no longer want to prevent messages from reaching your workstation. (CASTOFF prevents messages from reaching your workstation.) The default setting is CASTON enabled.

Command format

CASTON

Enable your workstation to receive messages

To enable your workstation to receive messages, type

CASTON <Enter>

The following message appears on your screen:

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

CHKVOL

CHecK VOLume

Use CHKVOL to view information about a volume.

Command format

CHKVOL [*path* ...]

Replace *path* with any directory path leading to and including the volume you want to indicate.

Additional information

CHKVOL displays the following information:

- The name of the file server the volume is located on
- The volume name
- The total storage capacity of the volume in bytes
- The number of bytes currently in use
- The number of files currently existing on the volume
- The number of bytes remaining on the volume
- The number of bytes available to you
- The number of directory entries available on the volume

Note: The number of directory entries available does not indicate the number of directories you can still create on the volume. Each directory, DOS file, subdirectory, and trustee list on a volume uses one directory entry. Macintosh files use two directory entries.

Use NetWare CHKVOL to view this information because DOS CHKDSK does not provide the same information.

You can use wildcards (* and ?) in CHKVOL commands.

View information about your default volume

To view information about your default volume, type

CHKVOL <Enter>

Information similar to the following appears:

```
Statistics for fixed volume COUNT/SYS:
153501696    bytes total volume space,
102195200    bytes in 7197 files,
51306496     bytes remaining on volume,
51306496     bytes available to user SANDY,
2019         directories available.
```

This screen display shows information about volume SYS on file server COUNT.

View information about any volume on your file server

Specify the volume in your command to view information about any volume on your file server.

Example

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>

CHKVOL

View information about a
volume not on your default file server

To view information about a volume that is not on your default file server, include the file server name and volume name in the command.

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.)

Example

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

1. Use ATTACH to attach to server SALES.

2. Type

    CHKVOL SALES/SYS: <Enter>

View information about several volumes

You can use one CHKVOL command to view information about more than one volume. As you type the command, leave a space before each *path* that you identify.

Example

To view information for volume SYS on server SALES (identified by SALES/SYS), and volume SYS on server MFG (identified by MFG/SYS), type

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

Use CLEAR MESSAGE to remove messages from the bottom of the file server console screen.

Command format

CLEAR MESSAGE

Additional information

This command allows you to clear a message from the file server console screen without clearing the entire console, as may be necessary in certain troubleshooting situations.

Clear a message from the file server console

To clear a message from the file server console, type

CLEAR MESSAGE <Enter>

The message received at the console disappears.

CLEAR STATION

Use CLEAR STATION to remove all file server resources allocated to a specific workstation. Use with caution!

Command format

CLEAR STATION *n*

Replace *n* with the number of the workstation you want to clear from the file server.

Additional information

Use CLEAR STATION when a workstation has somehow "crashed" and has left open files on a file server.

When CLEAR STATION is used, the file server closes all of the workstation's open files and erases all internal tables the file server uses to keep track of the workstation (including any drive mappings not saved in the login script). The communication link between the file server and the cleared workstation is broken. If the workstation is in the middle of a transaction or a file update when it is cleared, files can be saved with incorrect data.

Remove all file server resources allocated to a specific workstation

To clear a workstation, enter the command at the file server console, replacing *n* with the number of the workstation. (You can determine the number of the workstation by using MONITOR.)

For example, to clear workstation 5, type

CLEAR STATION 5 <Enter>

If the cleared workstation is attached to only one file server when CLEAR STATION is executed, you must reboot the workstation using DOS and reload the NetWare shell. (You cannot use the LOGIN command because the workstation no longer has a communication link to the file server.)

If the cleared workstation is attached to another file server and has a drive mapped to that server, you do not need to reboot DOS and reload the NetWare shell to log in or attach to the file server from which CLEAR STATION was executed.

To log in again, switch to a drive that is mapped to a file server other than the one from which CLEAR STATION was executed.

Next, ensure that the MAP, ATTACH, or LOGIN command line utility is accessible, either from the default drive or from a search drive on the default server.

Then execute the MAP, LOGIN, or ATTACH command, specifying the file server from which the workstation was cleared. You are prompted for a username and can log in.

COLORPAL

COLOR PALette

COLORPAL is a menu-driven utility that works with all the
NetWare menu utilities (including menus you create with
MENU) to "paint" a color scheme on your menu screen.
Each color scheme is called a palette. As a regular user,
you can use COLORPAL to

- Change the colors of the palettes that already exist;

- Add new color palettes;

- Delete color palettes you no longer want.

⚠️ If you have a COMPAQ or AT&T 6300 computer (or any
computer with a monochrome monitor and a composite
color adapter), you may have trouble reading your menu
screens until you use different default color palettes or
modify your current color palettes. For information about
the menu screen problem and how to fix it, see "Change the
default color palettes for non-IBM computers," on page 108.

Default color palettes affect menus

NetWare's default menu color palettes are set to blue and
white. Although it is possible to change the default color
palettes, we suggest that you do not do so, because you
cannot change these defaults for one utility only; the change
affects every menu utility on the system (SYSCON,
SESSION, FILER, etc.). You can, however, easily create
your own color palettes, as explained under "Create new
color palettes" on page 101.

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

COLORPAL affects color monitors

If you have a color monitor, your menus appear in blue and white when you run any NetWare menu utility.

COLORPAL's main color table is located in the file IBM$RUN.OVL in the SYS:PUBLIC directory. Changes you make are stored in this IBM$RUN.OVL file. Since this file resides in a public directory, changes you make 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). For this reason, only the network supervisor should make changes to the IBM$RUN.OVL file.

However, you can make changes to the default color palettes or create new color palettes that affect your computer only.

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, such as the AT&T 6300 and some COMPAQs, may be affected by COLORPAL's default settings. Menu screens may not be readable unless you use different default color palettes.

The CMPQ$RUN.OVL file, which is also in SYS:PUBLIC, contains default color palettes (set to black and white) that should be used by computers with unreadable screens. If your monitor is unreadable, you can use the defaults in the CMPQ$RUN.OVL file 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" on page 109. If you don't want to change the short machine type, you can change the default color palettes to black and white with COLORPAL.

COLORPAL

Get ready to run COLORPAL

You can create your own color palettes for NetWare menu utilities by either changing the default color palettes or creating additional color palettes. (Additional palettes affect the menus you create with MENU, but not the defaults.)

> ⚠ Do not run COLORPAL from SYS:PUBLIC, or you will overwrite the system default color palettes.

To create your own color palettes without changing the default palettes for the entire network, you must isolate the changes you make in COLORPAL for your own monitor. You can do this two ways:

- By copying the IBM$RUN.OVL file into another network directory and running COLORPAL there;

- By running COLORPAL from a directory other than SYS:PUBLIC.

With either method, you use a copy of the color table (found in the IBM$RUN.OVL file), which you can modify with COLORPAL. Instructions for each method are in "Copy IBM$RUN.OVL into a network directory" on the next page and "Run COLORPAL from a network directory" on page 100.

Copy IBM$RUN.OVL into a network directory

To create your own color defaults to use with the menu
utilities, complete the following steps.

1. Copy the IBM$RUN.OVL file from the SYS:PUBLIC
    directory to another network directory, such as your
    home directory. For example, if your home directory is
    F:\SYS:HOME\JODI, change to SYS:PUBLIC and
    type

    > NCOPY IBM$RUN.OVL TO SYS:HOME\JODI
    >   <Enter>

2. Change to the directory to which you copied
    IBM$RUN.OVL. For example, type

    > F: <Enter>

3. Run COLORPAL on a drive mapped to that directory.
    Your changes are saved in the IBM$RUN.OVL file.

4. To save your changes, select "Yes" in the "Save Changes"
    confirmation box.

5. Access the correct IBM$RUN.OVL file by changing to
    the directory from which you ran COLORPAL. Then
    run a menu utility.

    For example, if you ran COLORPAL from
    F:\SYS:HOME\JODI, you can either change to drive F
    before running a menu utility, or map your first search
    drive to F:\SYS:HOME\JODI.

COLORPAL

Run COLORPAL from a network directory

Another way to create your own color defaults is to call up
COLORPAL from any directory other than SYS:PUBLIC.
Complete the following steps.

1. Access COLORPAL from any network directory in
   which you have the appropriate rights (Read, Write,
   Open, Create, and Delete). When you access
   COLORPAL from another directory, the
   IBM$RUN.OVL file is automatically copied 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" on the next page). Changes you make in
   COLORPAL are saved in the new IBM$RUN.OVL file
   that was copied into your current directory.

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 when you do a directory search.)

   For example, map your first search drive to your home
   directory by typing

   MAP S1:=*file server*/SYS:HOME/JODI <Enter>

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
   (SYS:HOME/JODI in the example above). However, if
   your first search drive is mapped to SYS:PUBLIC, the
   system defaults are used instead of the defaults you set.

Create new color palettes

The palettes you create with COLORPAL can be used only with menus you create, not with the NetWare menu utilities. To change the palettes used with the menu utilities, you must change the default color palettes (palettes 0 through 4). For more information, see "Change the default color palettes" on page 105.

To use your own color palettes with the menus you create with MENU, see "Add a color palette to your menu script" on page 104.

To create a new color palette, complete the following steps.

1. Enter COLORPAL.

   The "Defined Palettes" menu is displayed, listing palettes 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 screen background

   - Palette 2 for help screens

   - Palette 3 for error messages

   - Palette 4 for exit and alert portals

2. Since palettes 0 through 4 are being used by NetWare, you must add a new palette to the list to change the color palette on a menu you create. To do this, 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 appears as follows:

```
Defined Palettes

Color Palette  0
Color Palette  1
Color Palette  2
Color Palette  3
Color Palette  4
Color Palette  5
Color Palette  6
Color Palette  7
```

3. To edit the color scheme of any palette you have
   created, select the palette from this list. The "Edit
   Attribute" and "Current Palette" windows appear.

   The "Edit Attribute" window displays the attributes you
   can change:

   ```
   Edit Attribute

   Background Normal
   Background Reverse
   Foreground Intense
   Foreground Normal
   Foreground Reverse
   ```

   The color attributes, as they appear in NetWare
   menus, are as follows:

   - "Background Normal" is used for the field on which
     the menu titles and text are displayed.

   - "Foreground Normal" is used for normal text and
     border displays.

   - "Foreground Intense" is used to highlight the text and
     borders for menu options currently active.

   - "Foreground Reverse" is used for text covered by the
     highlight bar.

   - "Background Reverse" is used for the highlight bar.

The "Current Palette" window displays the following:

```
Normal
Intense
Reverse
```

The three lines in the current palette show how the
various color attributes appear before you make
changes.

4. To change an attribute, select the attribute in the "Edit
Attribute" box.

For example, to change the background of your current
palette from blue to black, select "Background Normal."
The "Select Color" list appears.

The list varies according to whether you are editing the
foreground or the background.

If you are editing a foreground color from the "Edit
Attributes" box, the color list includes the following
colors:

```
Black           Light Cyan
Blue            Light Green
Brown           Light Magenta
Cyan            Light Red
Dark Gray       Magenta
Green           Red
Intense White   White
Light Blue      Yellow
```

However, if you are editing a background color, the list
includes fewer color choices:

```
Black           Green
Blue            Magenta
Brown           Red
Cyan            White
```

When the "Select Color" list appears, the color currently
being used for the specified attribute is highlighted.

5. Select a new color in the "Select Color" list. The "Current Palette" window reflects changes you make.

   In the example, you would select "Black" to change the background to black.

   You can repeat this procedure (starting with Step 2) to change any color attributes on your new palettes.

6. To exit the program, press <Escape> until you see the following prompt:

   Save Changes

   No
   Yes

7. Select "Yes" to save the changes or "No" to discard them. The following prompt appears:

   Exit ColorPal

   No
   Yes

8. Select "Yes" to exit.

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

"%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 had defined color palette number 6, for example, you could use it with a specific menu by typing "6" in the third position after the menu's name.

Delete color palettes

1. Enter COLORPAL. The "Defined Palettes" menu is displayed, listing palettes 0 through 4 and any palettes that you have defined.

2. Color palettes 0 through 4 are used by NetWare and cannot be deleted. To delete any other palette, highlight it and press <Delete>. The "Delete Palette" confirmation box appears.

3. Select "Yes" to delete the color palette.

Change the default color palettes

To change the default color palettes, first ensure that the IBM$RUN.OVL or CMPQ$RUN.OVL file in the SYS:PUBLIC directory is flagged Normal. You must have Read, Write, Open, and Delete rights to modify the file.

Use caution in changing the default color palettes. Make sure you have followed the instructions under "Get ready to run COLORPAL" on page 98.

1. Enter COLORPAL. The "Defined Palettes" menu is displayed, listing palettes 0 through 4 and any other palettes you have defined.

> **Note:** We suggest that you leave your palette choices at the default value, even for color monitors. Although color manipulation is easy, it is sometimes hard to keep track of the color schemes you have chosen, and this can create a busy, hard-to-read screen.

2. Select the default palette you want to change. The "Edit Attribute" and "Current Palette" windows appear.

   The "Edit Attribute" window displays the attributes you can change:

   ```
   Background Normal
   Background Reverse
   Foreground Intense
   Foreground Normal
   Foreground Reverse
   ```

   The color attributes, as they appear in NetWare menus, are explained below:

   - "Background Normal" is used for the field on which the menu titles and text are displayed.

   - "Foreground Normal" is used for normal text and border displays.

   - "Foreground Intense" is used to highlight the text and borders for menu options currently active.

   - "Foreground Reverse" is used for text covered by the highlight bar.

   - "Background Reverse" is used for the highlight bar.

   The "Current Palette" window displays the following:

   ```
   Normal
   Intense
   Reverse
   ```

The three lines in the "Current Palette" window show how the color attributes appear before you make changes.

3. To change an attribute, select it from the "Edit Attribute" box.

For example, to change the background of your current palette from blue to black, select "Background Reverse" in the "Edit Attribute" box. The "Select Color" list appears.

This list varies according to whether you are editing the foreground or the background.

If you are editing a foreground color, the list includes these choices:

```
Black           Light Cyan
Blue            Light Green
Brown           Light Magenta
Cyan            Light Red
Dark Gray       Magenta
Green           Red
Intense White   White
Light Blue      Yellow
```

However, if you are editing a background color, the list includes fewer choices:

```
Black           Green
Blue            Magenta
Brown           Red
Cyan            White
```

When the "Select Color" window appears, the color currently being used by the specified attribute is highlighted.

4. Select the new color. The "Current Palette" window reflects changes you make.

In the example, you would select "Black" to change the background to black.

Repeat this procedure (starting with Step 2 on page 106) to change any color attributes in the default palettes.

5. To exit the program, press <Escape> until you see the following prompt:

```
Save Changes

No
Yes
```

6. Select "Yes" to save the changes or "No" to discard them. The following prompt appears:

```
Exit ColorPal

No
Yes
```

7. Select "Yes" to exit.

Change the default color palettes for non-IBM computers

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

The NetWare color palettes are stored in the IBM$RUN.OVL file in the SYS:PUBLIC directory. All menu utilities use the blue and white default color palettes stored in this file until either the palettes are changed to black and white or the utility is instructed to search for a different overlay file.

NetWare v2.1 and above includes a new file called CMPQ$RUN.OVL, which contains black and white default color palettes. These defaults should be used by computers that have problems using the blue and white defaults.

If you have a computer (such as an AT&T or COMPAQ) 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 one of the following steps:

■ Change the short machine type specified in the boot diskette's SHELL.CFG file to CMPQ. See the next section.

■ Change the prefix of the CMPQ$RUN.OVL file to match the short machine type (such as AT&T). See page 111.

■ Change the default color palettes to black and white using COLORPAL. See page 113.

Change the short machine type in the SHELL.CFG file

If any stations on your network have menu screens that are unreadable, you can solve the problem by changing the short machine type (in a SHELL.CFG file on the boot diskette) from "IBM" to "CMPQ" for each computer that exhibits the problem. The computers then access the CMPQ$RUN.OVL file (with the black and white color palette defaults) when you run NetWare menu utilities.

If you do not have a SHELL.CFG file on your boot diskette, you can create one by following the instructions in the *Installation for ELS NetWare Level II* manual.

COLORPAL

To change the short machine type, complete the following steps.

1. Insert the workstation boot diskette into drive A.

2. Bring up the SHELL.CFG file with a text editor.

3. Erase the existing short machine type (if it is not CMPQ) and type "CMPQ" in its place.

   If no short machine type is specified, insert the following line anywhere in the SHELL.CFG file:

   SHORT MACHINE TYPE = CMPQ

Rename the NetWare Electronic Mail files

If you change the short machine type of your workstation and you plan to continue using the NetWare Electronic Mail utility, you must copy and rename the Electronic Mail overlay and help files.

To duplicate and rename the mail files (you need Write and Create rights in SYS:PUBLIC), complete the following steps.

1. Make sure your default drive is mapped to the SYS:PUBLIC directory.

2. Type

   ```
   NCOPY IBM$EMS.OVL CMPQ$EMS.OVL  <Enter>
   NCOPY IBM$EMS.HLP CMPQ$EMS.HLP  <Enter>
   NCOPY IBM$DRV.OVL CMPQ$DRV.OVL  <Enter>
   ```

The files are duplicated with the new names.

Now you have IBM$*.* mail files and CMPQ$*.* mail files in SYS:PUBLIC. Depending on the short machine type in the SHELL.CFG file, each workstation accesses the corresponding default color palettes and mail files.

Change the prefix of the CMPQ$RUN.OVL file

You can solve the problem of unreadable menu screens by changing the prefix of the CMPQ$RUN.OVL file to whatever your short machine type is; for example, you could change the file to AT&T$RUN.OVL (the new prefix you give the file must match the short machine type in your SHELL.CFG file).

To rename the CMPQ$RUN.OVL file instead of changing the short machine type, complete the following instructions.

At the DOS prompt, type

REN CMPQ$RUN.OVL AT&T$RUN.OVL < Enter >

This example assumes that all workstations on the network use the short machine type AT&T and none use CMPQ. The defaults saved in the AT&T$RUN.OVL file are now used by all computers whose short machine type is specified as AT&T.

If you have more than one type of computer with a monochrome monitor attached to a composite color adapter, you can duplicate and rename the CMPQ$RUN.OVL file so that you have overlay files for each type of computer on your network.

For example, if you have IBM, COMPAQ, and AT&T computers on your network, you can map your default drive to SYS:PUBLIC and type the following:

NCOPY CMPQ$RUN.OVL AT&T$RUN.OVL < Enter >

(You must have Read, Open, Create, and Delete rights in SYS:PUBLIC.) You now have "IBM," "CMPQ," and "AT&T" overlay files that are accessed according to the short machine type found in the SHELL.CFG file on the boot diskette of each workstation.

Rename the NetWare Electronic Mail files

If you change the prefix of the CMPQ$RUN.OVL file and
plan to continue using the NetWare Electronic Mail utility,
you must also copy and rename the Electronic Mail overlay
and help files.

To duplicate and rename the mail files (you need Write and
Create rights in SYS:PUBLIC), complete the following steps.

1. Make sure your default drive is mapped to the
   SYS:PUBLIC directory.

2. Type

   NCOPY IBM$EMS.OVL AT&T$EMS.OVL <Enter>
   NCOPY IBM$EMS.HLP AT&T$EMS.HLP <Enter>
   NCOPY IBM$DRV.OVL AT&T$DRV.OVL <Enter>

   (This example assumes that the short machine type is
   AT&T.) The files are duplicated with the new names.
   If you have specified other short machine types for
   computers on your network, duplicate and rename the
   mail files for each short machine type you have
   specified.

   Now you have IBM$*.* mail files and AT&T*.* mail files
   (or whatever you renamed the mail files to) in
   SYS:PUBLIC. Depending on the short machine type in the
   SHELL.CFG file, each computer accesses the corresponding
   default color palettes and mail files.

Change the default color palettes to black and white

You can use COLORPAL to change your current default color palettes to black and white. With black and white defaults, your menus have the correct contrast and are readable. To change your default color palettes to black and white, complete the following steps.

Note: Use the Escape key at any point in the COLORPAL program to return to the previous menu, or to exit the program altogether.

1. Ensure that your default directory is SYS:PUBLIC and that you have Read, Write, Open, Create, and Delete rights.

2. Enter COLORPAL. The "Defined Palettes" menu is displayed, listing palettes 0 through 4. NetWare menus use these palettes for the following:

   ■ Palette 0 for lists, menus, and normal text

   ■ Palette 1 for main headers and screen background

   ■ Palette 2 for help screens

   ■ Palette 3 for error messages

   ■ Palette 4 for exit and alert portals

3. Select the default palette you want to change. For example, select "Palette 0." The "Edit Attribute" and "Current Palette" windows appear.

   The "Edit Attribute" window displays some of the attributes you can change:

   ```
   Background Normal
   Background Reverse
   Foreground Intense
   Foreground Normal
   Foreground Reverse
   ```

The color attributes, as they appear in NetWare menus, are as follows:

- "Background Normal" is used for the field on which the menu titles and text are displayed.

- "Foreground Normal" is used for normal text and border displays.

- "Foreground Intense" is used to highlight the text and borders for menu options currently active.

- "Foreground Reverse" is used for text covered by the highlight bar.

- "Background Reverse" is used for the highlight bar.

The "Current Palette" window displays the following:

```
Normal
Intense
Reverse
```

The three lines in the "Current Palette" window show how the color attributes appear before you make changes.

4. To change these attributes to the correct value of black and white, select the first attribute in the "Edit Attribute" box. The "Select Color" list appears.

    For example, select "Background Normal" to change its color.

    Whenever you choose an attribute in the "Edit Attribute" box, the "Select Color" list appears. This list varies according to whether you are editing the foreground or the background.

If you are editing a foreground color, the color list
includes the following colors:

Black	Light Cyan
Blue	Light Green
Brown	Light Magenta
Cyan	Light Red
Dark Gray	Magenta
Green	Red
Intense White	White
Light Blue	Yellow

However, if you are editing a background color, the
list includes fewer color choices:

Black	Green
Blue	Magenta
Brown	Red
Cyan	White

When the "Select Color" window appears, the color
currently being used by the specified attribute is
highlighted.

5. To change an attribute's color, select the new color in
   the "Select Color" window. The "Current Palette"
   window reflects changes you make.

   Refer to the following list as you change each attribute's
   color:

   "Background Normal" = Black
   "Background Reverse" = White
   "Foreground Intense" = Intense White
   "Foreground Normal" = White
   "Foreground Reverse" = Black

   For example, to change the color of Background
   Normal, select "Black." Once you change the color of an
   attribute, you return to the "Edit Attribute" list.

6. Change the color of each attribute.

7. When you have changed all the attributes for a
   particular color palette, press <Escape>. You return to
   the "Defined Palettes" list.

8. Repeat steps 2 through 6 for each default color palette.

9. To exit the program, press <Escape> until you return
   to the "Defined Palettes" menu. Press <Escape> again.
   The following prompt appears:

   ```
   Save Changes

   No
   Yes
   ```

10. Select "Yes" to save the changes or "No" to discard them.

    The following prompt appears:

    ```
    Exit ColorPal

    No
    Yes
    ```

11. Select "Yes" to exit.

Follow this procedure to change any color attributes on the
default palettes.

COMCHECK performs a diagnostic test to determine whether a network's stations are communicating properly across the cabling system.

Use COMCHECK after the network has been installed to isolate faulty cable segments or network interface boards.

For more information on using COMCHECK, see the *Installation for ELS NetWare Level II* manual.

COMPSURF

COMPrehensive SURFace Ananysis

Use COMPSURF to reformat problem hard disks. After the network has been installed and is running, you may choose to reformat network hard disk drives that do not perform properly because of major hard disk problems.

COMPSURF destroys all data contained on a hard disk. Use COMPSURF to reformat disks only as an extreme measure to correct major disk problems, such as it being impossible to read data from or write data to the disk.

To correct minor hard disk problems without destroying the data on the hard disk, use VREPAIR.

For more information on running COMPSURF, see the *Maintenance for ELS NetWare Level II* manual.

CONFIG

Use CONFIG to display a list of the operating system's hardware configuration information for each network supported by the file server.

Command format

CONFIG

Additional information

When you run CONFIG, the file server console displays the following information about each network:

- The network address (including the board address)
- The hardware type
- The hardware settings (read from the settings made in the operating system, not directly from the board)

Display a list of the network configurations in the file server

To display the network address of the file server, the hardware type, and the hardware settings for each network supported by your file server, type

CONFIG <Enter>

Information similar to the following appears on the console:

```
Hardware Configuration Information for Server Prufrock

     Number of Service Processes:  05

LAN A Configuration Information:
       Network   Address:  [1986BEEF] [      01]
       Hardware     Type:  NetWare RX-Net
       Hardware Settings:  IRQ = 2, I/O Base = 2E0h,
          RAM Buffer at    D000:0

LAN B Configuration Information:
       Network   Address:  [      FF] [02608C227148]
       Hardware     Type:  NetWare RX-Net
       Hardware Settings:  IRQ = 9, IO Address = 300,
          DMA 7, no ROM used (check decode)
```

Use this information when installing other servers or bridges to ensure that the settings on the network interface boards and the network names and addresses do not conflict.

Use CONSOLE to switch a NetWare nondedicated file server from workstation mode to console mode, so you can use console commands. This command is executed at the DOS prompt.

Command format

CONSOLE

Switch a nondedicated file server
from workstation mode to console mode

To enable the console function of a nondedicated file server that is currently in workstation mode, type

CONSOLE < Enter >

You can now use console commands.

DISABLE LOGIN

Use DISABLE LOGIN to prevent users from logging in to
the file server.

Command format

DISABLE LOGIN

Additional information

Use this command when you must shut down a file server
for repair, maintenance, backup, or software loading.
Always use BROADCAST or SEND to inform users that
the file server will be shut down.

> ⚠ Users who are logged in using ACS and users who are
> logged in on remote workstations do not receive
> BROADCAST messages.

Prevent users from logging in to the file server

To prevent users from logging in to the file server, type

DISABLE LOGIN <Enter>

Users logged in to the file server are not affected. However,
once a user logs out, the user cannot log in until LOGIN is
enabled. To re-enable login privileges, use ENABLE
LOGIN.

Use DISK to monitor the status of network disk drives. This command lets you see which disks are functioning normally and which are not.

Command format

DISK

Monitor the status of network disk drives

To view information about network disk drives, type

DISK <Enter>

The status of all drives on your network are listed on the console screen in a format similar to the following:

PHYSICAL DISKS STATUS AND STATISTICS

	cha	con	drv	stat	IO Err	Free	Used
00	1	0	0	OK	3	699	8
02	2	0	0	NO HOT	0	0	0

	cha	con	drv	stat	IO Err	Free	Used
01	1	0	1	OK	6	699	8
03	2	0	1	OFF	0	0	0

Note: The DISK data shown above actually appears on the file server console in two side-by-side sections. Line 01 appears to the right of line 00, and line 03 appears to the right of line 02, and so forth.

The columns in the DISK screen contain the following information:

- The first column (which has no heading) contains the drive number for each drive listed. This drive number is referred to in error messages.

- The "cha" column indicates the drive channel.

- The "con" column indicates the controller number of the hard disk controller board.

- The "drv" column indicates the physical drive number of the disk drive.

- The "stat" column indicates the status of the drive.

  The "OK" designation indicates that the drive is set up for Hot Fix.

  The "NO HOT" designation indicates that Hot Fix is not functioning on a disk drive set up for Hot Fix.

  The "OFF" designation indicates that the drive is not operating.

- The "IO Err" column indicates the number of input/output errors that have occurred on the disk drive (in other words, how many times data has been redirected on the drive).

- The "Free" column indicates how many blocks in the disk's Hot Fix redirection area are unused.

- The "Used" column indicates how many blocks have been used in the disk's Hot Fix redirection area. (The sum of the "Free" and "Used" columns equals the number of blocks originally set aside for the redirection area.)

Refer to the screen below as you read the information
following it.

```
PHYSICAL DISKS STATUS AND STATISTICS

      cha   con   drv   stat     IO Err   Free   Used
00     1     0     0    OK          3      699     8
02     2     0     0    NO HOT      0        0      0

      cha   con   drv   stat     IO Err   Free   Used
01     1     0     1    OK          6      699     8
03     2     0     1    OFF         0        0      0
```

This sample DISK screen shows the following information:

- Drives 00 and 01 are set up for Hot Fix and are
  operating normally, as indicated by the "OK."

- Drive 02 is operating, but its Hot Fix capability has been
  turned off. Because Hot Fix controls data integrity, the
  drive needs to be shut down, repaired, and reinstalled
  with Hot Fix as soon as possible. For information
  concerning Hot Fix, see the *Installation for ELS NetWare
  Level II* manual.

- Drive 03, which is not operating at all, needs to be
  repaired and reinstalled with Hot Fix as soon as possible.

Note: All abnormal conditions indicated by the DISK command or
by file server messages <u>must</u> be corrected before you reboot
the file server.

If you have any questions about the data you see when you
run DISK, contact your Novell Authorized Reseller.

Use OFF to clear the information from the console.

DISMOUNT

Use DISMOUNT with the MOUNT command to replace a "removable volume."

Command format

DISMOUNT [PACK] [*removable volume number*]

Include the constant PACK in the DISMOUNT command whenever dismounting diskette packs. (Because each diskette contains one volume, each diskette pack is actually several volumes.) Using the DISMOUNT PACK command allows you to dismount all diskette pack volumes with one command.

Replace *removable volume number* with the number of the volume you want to remove (if applicable).

Additional information

Before a new removable volume can be mounted, the current volume must be dismounted with DISMOUNT. DISMOUNT closes all open files and ensures all directories are updated before the removable volume is physically removed from the file server.

⚠ Do not dismount a volume that is being physically accessed by the disk drive. You could cause severe physical damage to the drive.

Do not dismount a volume while other users are working on it. You could cause data loss.

Some disk subsystems have 8-inch floppy diskette drives. Other disk subsystems have drives for "packs" of floppy diskettes. These diskette packs can be removed and reinserted as necessary. Still other disk subsystems have removable hard disk drives. All floppy diskettes, diskette packs, and removable hard disks (storage media that can be physically removed and replaced) are removable volumes.

You cannot use DISMOUNT with NetWare 68 file servers.

Remove a volume from the file server

To remove a volume from a file server, specify the appropriate volume number (if applicable) in the DISMOUNT command.

If the volume you want to dismount is currently in use when you run DISMOUNT, the file server console displays a message asking if you want to dismount the volume anyway.

Example

Suppose you want to dismount removable volume 2. Type

    DISMOUNT 2 <Enter>

DOS

Use the DOS command to switch a NetWare nondedicated
file server from console mode to workstation mode. You
can then use the file server as a workstation even though it
is still functioning as a file server.

Command format

DOS

Switch your nondedicated file server to workstation mode

To switch your nondedicated file server to workstation mode,
type

DOS <Enter>

You can now use the file server as a workstation. To switch
the file server back to file server mode, use CONSOLE.

DOSGEN

DOS Remote Image File GENeration

If you add remote workstations to your network, you must create boot files for these workstations using DOSGEN.

For more information on using DOSGEN, see the *Installation for ELS NetWare Level II* manual.

DOWN

Use DOWN to write cache buffers to the disk and to shut down the operating system before turning off the file server.

Command format

DOWN

Additional information

To ensure data integrity, always use DOWN before turning off power to the file server.

Do not issue the DOWN command until you are sure all users are logged out of the file server. You can use BROADCAST or SEND to inform users that they should close all files and log out. In addition, use MONITOR to make sure all users have logged out before you use DOWN.

Changes made to data files are often held temporarily in file server cache buffers (file server memory). Normally, these changes are not written to the disk (permanently saved) until the file server processor has some idle time. When the DOWN command is executed, cache buffers are written to the disk, open files are closed, and appropriate directory tables and File Allocation Tables are updated.

Prepare file server to be turned off

To shut down the file server, type

DOWN <Enter>

If a user is logged in to the file server when DOWN is executed, the following message appears on the user's workstation screen:

SERVER *server name* IS DOWN (CTRL-ENTER to clear)

ELSGEN

ELS NetWare **GEN**eration

Use ELSGEN to change the file server configurations and regenerate the operating system after initial installation.

ELSGEN has two main parts: the Network Configuration utility and the NetWare Installation utility.

For information on using ELSGEN, refer to the *Maintenance for ELS NetWare Level II* manual.

Use ENABLE LOGIN to restore users' login rights.

Command format

ENABLE LOGIN

Additional information

Use ENABLE LOGIN only if you have disabled login rights with the DISABLE LOGIN command and have not turned off the file server.

If you have turned off the file server, you do not need to enable login rights. Login rights are enabled automatically when the file server is turned on.

Allow users to log in

To allow users to log in again after you have disabled login rights, type

ENABLE LOGIN < Enter >

All login rights are restored.

ENDCAP

END CAPture

Use ENDCAP to end the capture of one or more of your workstation's LPT ports. ENDCAP is used only after you have used CAPTURE.

Command format

ENDCAP [*option* ...]

Replace *option* with one or more of the options listed below.

Command options

Local=*n*

Include this option to end the capture of the specified LPT port. Replace *n* with 1, 2, or 3.

ALL

Include this option to end the capture of all LPT ports.

Cancel

Include this option to end the capture of LPT1 and to discard data without printing it.

CancelLocal=*n*

Include this option to end the capture of an LPT port and to discard data without printing it. Replace *n* with 1, 2, or 3.

Cancel ALL

Include this option to end the capture of all LPT ports and to discard any data without printing it.

End the capture of an LPT port

Using ENDCAP without using any options ends the capture of LPT1. To end the capture of a specific LPT port, include the port number in the command. To end the capture of all LPT ports, include ALL in the command.

To view the effect of an ENDCAP command, use CAPTURE with the SHow option.

Example 1

Suppose you have captured LPT2 only and want to end the capture. Type

    ENDCAP L=2 <Enter>

LPT2 is no longer captured.

Example 2

Suppose you have captured all LPT ports and want to end the capture. Type

    ENDCAP ALL <Enter>

The LPT ports are no longer captured.

ENDCAP

Send data to a network printer or file

You can use ENDCAP to send data to a network printer or file.

1. Disable the Autoendcap option by typing

    CAPTURE NA < Enter >

    Do not enable the TImeout option.

2. Enter and exit applications and send data to network printers or files.

3. Type

    ENDCAP < Enter >

This process is useful if you want to save several screens or files from different applications to the same network file.

Customize your ENDCAP command

By including options in your ENDCAP commands, you can customize the command to fit your needs. For example, to end the capture of LPT2, specify LPT2 in your ENDCAP command by using the Local=n option:

    ENDCAP L=2 < Enter >

To cancel the capture of LPT2 and to discard any data waiting to be sent to a network printer or file, use the CancelLocal=n option:

    ENDCAP CL=2 < Enter >

FCONSOLE

File Server CONSOLE

Use FCONSOLE to access information that you can use to analyze the file server's operation and fine tune its performance.

FCONSOLE allows you to broadcast console messages, view connection information, down the file server, view file information, view LAN driver information, and view other network statistics.

For more information on using FCONSOLE, see the *Maintenance for ELS NetWare Level II* manual.

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

```
         Available Topics

Current Directory Information
File Information
Select Current Directory
Set Filer Options
Subdirectory Information
Volume Information
```

Current Directory Information

Use this option to view information about the current
directory.

The specific tasks are listed on page 139.

File Information

Use this option to perform file tasks and to view file
information.

The specific tasks are listed on page 145.

Select Current Directory

Use this option to change your current directory path.

See page 157.

Set Filer Options

Use this option to change the defaults used by the "File Information" and "Subdirectory Information" options.

See page 160.

Subdirectory Information

Use this option to perform subdirectory tasks and to view subdirectory information.

The specific tasks are listed on page 170.

Volume Information

Use this option to view information about the volume on which the current directory is located.

See page 185.

Current Directory Information tasks

FILER

View the current directory's creation date and time

1. Enter FILER and select "Current Directory Information" from the "Available Topics" menu.

2. Select "Creation Date" in the "Current Directory Information" list.

The current directory's creation date and time appear in an inset.

View current effective rights

1. Enter FILER and select "Current Directory Information" from the "Available Topics" menu.

2. Select "Current Effective Rights" in the "Current Directory Information" list.

Your effective rights in the current directory are displayed.

Add/delete a right in the
current directory's maximum rights mask

You must have effective Parental rights in the current
directory or its parent directory to modify the maximum
rights mask by adding or deleting rights.

Add a right to the current directory's maximum rights mask

1. Enter FILER and select "Current Directory Information"
    from the "Available Topics" menu.

2. List your current directory's maximum rights by
    choosing "Maximum Rights Mask" from the "Current
    Directory Information" list.

3. Press <Insert>. The "Other Rights" list is displayed.

4. Select the right you want to add, or use the Mark key
    (<F5> on most machines) to select multiple rights.

The rights you selected are added.

Delete a right from the current directory's maximum rights mask

1. Enter FILER and select "Current Directory Information"
    from the "Available Topics" menu.

2. Select "Maximum Rights Mask" from the "Current
    Directory Information" list to display your current
    directory's maximum rights.

3. Highlight the right you want to delete, or use the Mark
    key (<F5> on most machines) to highlight multiple
    rights. Then press <Delete>.

4. The "Revoke Right" confirmation box is displayed.
    Select "Yes." The rights will be deleted.

FILER

View the directory owner

1. Enter FILER and select "Current Directory Information" from the "Available Topics" menu.

2. Select "Directory Owner" in the "Current Directory Information" list and press <Enter>.

The name of the directory owner is displayed.

Add/delete trustees in your current directory

You must have effective Parental rights in the directory or its parent directory to view the trustees of a directory. If you do not have the appropriate rights, the "Trustees" option does not appear in your menu.

Add trustees to your current directory

1. Enter FILER and select "Current Directory Information" from the "Available Topics" menu.

2. List the trustees in your current directory by selecting "Trustees" in the "Current Directory Information" list.

3. Press <Insert>. The "Others" list is displayed.

4. Select the user or group you want to add as a trustee, or use the Mark key (<F5> on most machines) to select multiple users or groups.

The users or groups you selected are given trustee rights.

Delete trustees from your current directory

1. Enter FILER and select "Current Directory Information" from the "Available Topics" menu.

2. List the trustees in your current directory by selecting "Trustees" from the "Current Directory Information" list.

3. To delete a trustee, highlight the user's or group's name, or use the Mark key (<F5> on most machines) to highlight multiple user or group names. Then press <Delete>. The "Delete Trustee From Directory" confirmation box is displayed.

4. Select "Yes." The user or group is no longer a trustee of the directory.

Add/delete trustee rights in a directory

You must have effective Parental rights in the current directory or in its parent directory to modify the rights of trustees in a directory.

Add trustee rights in a directory

1. Enter FILER and select "Current Directory Information" from the "Available Topics" menu.

2. List the trustees in your current directory by selecting "Trustees" from the "Current Directory Information" list.

3. Select the appropriate user's name. The "Trustee Rights" list appears.

4. To add a right, press <Insert>. The "Other Rights" list
   is displayed.

5. Select the right you want to add, or use the Mark key
   (<F5> on most machines) to select more than one
   right. Then press <Enter>.

The rights are added to the "Trustee Rights" list.

Delete trustee rights in a directory

1. Enter FILER and select "Current Directory Information"
   from the "Available Topics" menu.

2. List the trustees in your current directory by selecting
   "Trustees" from the "Current Directory Information" list.

3. Select the appropriate user's name. The "Trustee
   Rights" list appears.

4. Highlight the right you want to delete, or use the Mark
   key (<F5> on most machines) to delete multiple rights.
   Then press <Delete>. The "Revoke Right" (or "Revoke
   All Marked Rights") confirmation box appears.

5. Select "Yes" to revoke the rights.

File Information tasks

Delete a file

You must have the Delete right to delete files in a directory, and the Search right to view files in a directory.

1. Enter FILER and select "File Information" from the "Available Topics" menu. A list of the files in your current directory is displayed.

2. Highlight the file you want to delete, or use the Mark key (<F5> on most machines) to highlight multilple files. Then press <Delete>. The "Delete File" (or "Delete All Marked Files") confirmation box appears.

3. Select "Yes" to delete the files.

FILER

Rename a file

To rename a file, you must have the Modify right.

1. Enter FILER and select "File Information" from the "Available Topics" menu. A list of the files in your current directory is displayed.

2. Highlight the file you want to rename; then press the Modify key (<F3> on most machines). The "Edit File Name" entry box is displayed.

3. Press the Backspace key to delete the file's name.

4. Type the new filename and press <Enter> to rename the file.

Rename a group of files

Using FILER, you can rename a group of files that have identical filename extensions. When you rename the files, you must specify both an original pattern and a replacement pattern. Whatever is specified in the original pattern is replaced by whatever is specified in the replacement pattern.

For example, suppose you want all files that have an .MDR extension to have an .EDS extension. Group the files by specifying *.MDR as the Mark Pattern. (The asterisk is a wildcard.) However, suppose you want to rename only some of the files that have the .MDR extension. You can specify an Unmark Pattern, such as CH3.*, that excludes the files matching the unmark pattern.

After you specify the files you want included in or excluded from the group, specify *.MDR as the Original Name Pattern and *.EDS as the Rename Pattern.

When you rename the files, all extensions are changed according to the specified patterns.

After you group the files, specify which files you want excluded from the group, and specify the original and replacement patterns, you can rename the files in the group.

Follow the instructions given below to group files by their filename extensions, to exclude files from the group, or to rename the files in the group.

1. Enter FILER and select "File Information" from the "Available Topics" menu. A list of the files in your current directory is displayed.

2. Press <F6> to display the "Mark Pattern" entry box.

3. Type the pattern that identifies the files you want to change. Press <Enter>.

To exclude certain files from the group of files you have marked for renaming, complete Steps 4 and 5.

4. Press <F8> to display the "Unmark Pattern" entry box.

5. Type the pattern for the filenames you want to exclude from the group you specified. Press <Enter>.

To rename the files you have marked, complete the following steps.

6. Press <F3> to display the "Original Name Pattern" entry box.

7. Type the original pattern and press <Enter>. The "Rename Pattern" entry box is displayed.

8. Type the new filename pattern; then press <Enter>. The filenames you marked are renamed.

FILER

Add/delete file attributes

The following attributes can be assigned to network files.

File attributes

Read-Only

Users can read the file but cannot modify it.

Read-Write

Users can read and modify the file. A file is Read-Write when the Read-Only attribute is not set.

Shareable

The file can be used by more than one user at a time.

Non-shareable

The file can be opened by only one user at a time. A file is Non-shareable when the Shareable attribute is not set.

Normal

A file with the Normal attribute has been flagged Non-shareable/Read-Write. You can flag a file Normal at the command line, but not in FILER.

Hidden

> The file does not appear when you do a directory search in DOS. (It does appear with the NetWare NDIR command, however.) You can make a hidden file visible by using the SHOWFILE utility or by setting the Hidden and System file search attributes.

Indexed

> A file is flagged Indexed so that the read/write head can pick up all the information from the File Allocation Table in an orderly, efficient manner. This makes retrieving large files faster.

Modified Since Last Backup

> The file has been modified since the last time the system was backed up.

System

> System files are files that the system uses to function. Only system files should have this attribute. System files do not appear when you do a directory search in DOS. (They do appear with the NetWare NDIR command, however.)

Transactional

> Transactional files are protected by SFT NetWare's Transaction Tracking System (TTS). (This file attribute is available in SFT NetWare only.) TTS prevents data corruption by ensuring that when a file is being modified, either all changes are made or no changes are made. Only data files should be flagged Transactional.

FILER

Add file attributes

You must have the Modify right to add file attributes. Complete the following steps.

1. Enter FILER and select "File Information" from the "Available Topics" menu. A list of the files in your current directory is displayed.

2. Select the file whose attributes you want to view. The "File Information" list is displayed. Select "Attributes" from this list. The "File Attributes" list is displayed. The list may not contain any attributes initially.

3. Press <Insert>. The "Other File Attributes" list appears.

4. Select the attribute you want to add, or use the Mark key (<F5> on most machines) to select multiple attributes. Then press <Enter>.

The attributes are added to the "File Attributes" list.

Add file attributes to multiple files

You must have the Modify right to add file attributes. Complete the following steps.

1. Enter FILER and select "File Information" from the "Available Topics" menu. A list of the files in your current directory is displayed.

2. Use Mark key (<F5> on most machines) to designate which files you want to add file attributes to.

3. Press <Enter>. The "Multiple File Operations" list appears.

4. Select "Set Attributes." The "File Attributes" list is displayed. The list may not contain any attributes initially.

5. Press <Insert> to display the "Other File Attributes" list.

6. Select the attribute you want to add, or use the Mark key (<F5> on most machines) to select multiple attributes.

The attributes are added to the "File Attributes" list.

Delete file attributes

You must have the Modify right to delete file attributes.

You can delete attributes from only one file at a time.

1. Enter FILER and select "File Information" from the "Available Topics" menu. A list of the files in your current directory is displayed.

2. Select the file whose attributes you want to view. The "File Information" list is displayed.

3. Select "Attributes" from the "File Information" list.

4. Highlight the attribute you want to delete, or use the Mark key (<F5> on most machines) to highlight multiple attributes. Then press <Delete>. The "Remove File Attribute" (or "Remove All Marked Files") confirmation box appears.

Note: If a file is flagged with both System and Hidden attributes, do not delete one attribute without deleting the other. If you only delete one attribute, the file is still hidden.

5. Select "Yes." The attributes are deleted from the "File Attributes" list, and the file is no longer flagged with the attributes you deleted.

Copy a file

To copy a file, you must have Read, Open, and Search rights
in the directory from which you are copying, and Open,
Create, Write, and Delete rights in the directory to which
you are copying.

Complete the following steps.

1. Enter FILER and select "File Information" from the
    "Available Topics" menu. A list of the files in your
    current directory is displayed.

2. Select the file you want to copy. "The File Information"
    list is displayed.

3. Select "Copy File." The "Destination Directory" entry
    box is displayed.

4. Type the directory path for the destination of the file
    you want to copy; then press <Enter>.

    You can also type in a network drive letter as the
    destination directory. For example, if you want to copy
    a file to SYS:HOME/MARCI and drive G is mapped to
    that directory, you can type "G:" in the destination
    directory instead of specifying the entire directory path.

    If you do not know the directory path, complete the
    following steps as needed. For example, if you
    know the name of the file server and volume but not
    the directory, type them in and skip to "Choose
    directories" on page 154.

Choose the file server

If you need to choose the file server that contains the directory you are copying the file to, complete Steps 5 through 7.

5. To choose another file server, you must first delete the entire directory path listed in the "Destination Directory" box using the Backspace key. Then press <Insert>. The "File Servers/Local Drives" list is displayed.

   If the file server you want to choose is listed, skip to Step 7.

   If the file server you want to choose is *not* listed, continue with Step 6.

6. You must be attached to a file server before you can add it to the directory path. If you are not currently attached to the file server you want to choose, press <Insert>. The "Other File Servers" list is displayed.

6a. Select the name of the file server you want to attach to and press <Enter>. The "New User Name" entry box is displayed.

6b. Type your username and press <Enter>.

6c. If that username has a password, the "Password" entry box is displayed. Type the password and press <Enter>. The file server you just attached to is added to the "File Servers/Local Drives" list.

7. Select the server you want for your new directory path. The specified file server becomes the file server in your current directory path and is added to the "Destination Directory" box.

Choose the volume

If you need to choose the volume for your destination directory, complete Steps 8 and 9.

8. If you have just chosen the file server, the "Volumes" list should be displayed on your screen. Otherwise, be sure that only the file server name has been specified in the directory path; then press <Insert>.

9. Select the volume you want. The volume you choose becomes the volume in your current directory path.

Note: Choosing ".." takes you to the parent directory in the directory structure. The ".." option appears in each of the following lists: Available Volumes, Network Directories, and Local Directories. If ".." appears as the only entry in the "Network Directories" list, there are no directories below the current level.

Choose directories

If you need to choose the directory or subdirectory you are copying the file to, complete the following steps.

10. If you have just chosen the volume of your directory path, the "Network Directories" list should be displayed on your screen. Otherwise, be sure that only the file server and volume have been specified in the directory path; then press <Insert>.

11. Select the directory you want. The specified directory is added to your destination directory path.

12. Repeat Step 11 as many times as necessary to complete the directory path. Then press <Escape>.

13. Press <Enter>. The "Destination File Name" entry box appears.

14. If you want the destination filename to be different from the current filename, delete the current filename with the Backspace key and type a new filename. Otherwise, leave the filename as it is. Then press <Enter>. The file is copied.

View additional file information

Access the following information by selecting "File Information" from the "Available Topics" menu in FILER. Select the appropriate option from the "File Information" list.

File information options

Creation Date

Gives the date the file was placed in the specified directory.

Last Accessed Date

Gives the date the file was last accessed.

Last Archived Date

Gives the date the file was last archived.

Last Modified Date

Gives the date and time the file was last modified.

FILER

Owner

Gives the name of the user who owns the file.

Size

Gives the number of bytes in the file.

View File

Allows you to view the file. (See "View a File" below.)

View a file

1. Enter FILER and select "File Information" from the "Available Topics" menu.

2. Select "View File" from "File Information" list.

The file appears on the screen. If it is not a text file, it appears on the screen as a mixture of alphabetic and graphics characters. You can move through the file by using the arrow keys or the PageDown and PageUp keys.

If you want to move quickly to a certain position in your file and you know the position of the byte you want to move to, press the Modify key (<F3> on most machines). The "Go To Offset" entry box is displayed. Type the number of the byte position and press <Enter>. The line containing the byte you specified is displayed as close as possible to the top line of the screen.

When you finish viewing the file, press <Escape>.

Select Current Directory

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

Change the current directory path

1. Enter FILER and select "Select Current Directory" from the "Available Topics" menu. The current directory path is displayed.

2. Press the Backspace key 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 is 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 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 Steps 4 through 9 as needed. For example, if you know the name of the file server and volume, type them in and skip to "Choose a directory" on page 159.

FILER

Choose the file server

If you need to choose the file server for your new directory path, complete the following steps.

4. Delete the entire directory path listed in the "Current Directory Path" box using the Backspace key. Then press <Insert>. The "File Servers/Local Drives" list is displayed.

    If the file server you want to choose is listed, skip to Step 6.

    If the file server you want to choose is *not* listed, continue with Step 5.

5. You must be attached to a file server before you can add it to the directory path. If you are not currently attached to the file server you want to choose, press <Insert>. The "Other File Servers" list is displayed.

5a. Select the file server you want to attach to. The "New User Name" entry box is displayed.

5b. Type your username and press <Enter>.

5c. If that username has a password, the "Password" entry box is displayed. Type the password and press <Enter>. The file server you just attached to is added to the "File Servers/Local Drives" list.

6. Select the file server you want for your new directory path. The specified file server becomes the file server in your current directory path and is added to the "Destination Directory" box.

Choose the volume

If you need to choose the volume for your destination directory, complete the following steps.

7. 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>.

8. Select the volume you want for your current directory path.

Note: Choosing ".." takes you to the parent directory in the directory structure. The ".." option appears in each of the following lists: Available Volumes, Network Directories, and Local Directories. If ".." appears as the only entry in the "Network Directories" list, there are no directories below the current level.

Choose a directory

If you need to choose the directory or subdirectory you are copying the file to, complete the following steps.

9. If you have just added the volume of your directory path, the "Network Directories" list should be displayed on your screen. Otherwise, be sure that only the file server and volume have been specified in the directory path, and press <Insert>.

10. Select the directory you want for your current directory path.

11. Repeat Step 9 as many times as necessary to complete the directory path. Then press <Escape>.

12. Press <Enter>. The drive is now mapped to the specified directory.

Set Filer Options tasks

Confirm file deletions

To delete a group of marked files without confirming each file's deletion, set Confirm Deletions to "No." With the default set to "No," you are asked only once to confirm the deletion of all the files in the group. However, if you delete a single file, you still receive the "Delete File" prompt.

If Confirm Deletions is set to "Yes," you are asked to confirm the deletion of each file individually.

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

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

2. Select "Confirm Deletions" in the "Filer Options Settings" list. The "Confirm Deletion Of Each File Individually" entry box is displayed.

3. Select "Yes" or "No." The default is set accordingly. When you exit FILER, the default is reset to "No."

Confirm file copies

Since the NetWare 2.1x version of FILER does not support copying multiple files, this setting has no effect.

Confirm file overwrites

The Confirm File Overwrites default 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 default is set to "Yes," you are asked to confirm that you want the existing file to be overwritten. (The FILER default is "Yes.") If the default is set to "No," the file is overwritten automatically.

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

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

2. Select "Confirm File Overwrites" in the "Filer Option Settings" list. The "Confirm Overwrite Of Each Existing File Individually" entry box is displayed.

3. Select "Yes" or "No." The default is set accordingly. When you exit FILER, the default is reset to "Yes."

FILER

Add, modify, or delete a directory exclude pattern

When you list directories in FILER, you can exclude from
the list directories that fit certain patterns. Exclude patterns
take precedence over include patterns if there is overlap.
Any changes you make to exclude patterns are deleted when
you exit FILER.

Add a directory exclude pattern

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

2. Select "Directories Exclude Pattern" from the "Filer
   Options Settings" list.

3. To add an exclude pattern, press <Insert>. The "New
   Pattern" entry box is displayed.

4. Type the directory exclude pattern you want; then press
   <Enter>. Directories that match the pattern you
   specified are now excluded from directory searches while
   you are using FILER.

5. Repeat Steps 2 through 4 to add more directory exclude
   patterns.

Modify a directory exclude pattern

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

2. Select "Directories Exclude Pattern" in the "Filer Options Settings" list.

3. Select the exclude pattern you want to modify; then press the Modify key (<F3> on most machines). The pattern you have chosen is displayed in the "Edit Pattern" entry box.

4. Edit the pattern as you want; then press <Enter>. The pattern you edited is displayed in the "Exclude Directory Patterns" list.

Delete a directory exclude pattern

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

2. Select "Directories Exclude Pattern" in the "Filer Options Settings" list.

3. Highlight the exclude pattern you want to delete; then press <Delete>. The "Delete Pattern" confirmation box is displayed.

4. Select "Yes" to delete the pattern. The exclude pattern you deleted no longer applies to your directories list.

FILER

Add, modify, or delete a directory include pattern

When you list directories in FILER, you can choose to list only those directories that fit certain patterns. Exclude patterns take precedence over include patterns if there is overlap. Changes you make to include patterns are deleted when you exit FILER.

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

Add a directory include pattern

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

2. Select "Directories Include Pattern" from the "Filer Options Settings" list.

3. Press <Insert>. The "New Pattern" entry box appears.

4. Type the directory include pattern you want; then press <Enter>. The include pattern is added to the "Include Directory Patterns" list.

Modify a directory include pattern

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

2. Select "Directories Include Pattern" from the "Filer Options Settings" list. The "Include Directory Patterns" list is displayed. The list shows an asterisk (*), which includes all directory patterns.

3. Select the asterisk (*) to modify the default pattern. The "Edit Pattern" entry box appears.

4. 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*.

Delete a directory include pattern

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

2. Select "Directories Include Pattern" from the "Filer Options Settings" list.

3. Highlight the include pattern you want to delete; then press < Delete >.

4. Select "Yes" from the "Delete Pattern" confirmation box.

Add, modify, or delete a file exclude pattern

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

Add a file exclude pattern

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

2. Select "File Exclude Pattern" from the "Filer Options Settings" list. The "Exclude File Patterns" list is displayed. The default is no pattern. To exclude files from a list, you have to add an exclude pattern.

3. To add an exclude pattern, press < Insert >. The "New Pattern" entry box is displayed.

FILER

4. Type the file exclude pattern you want; then press
    <Enter>. Files that fit the specified pattern do not
    appear in the "Files" list.

5. Repeat Steps 2 through 4 to add more file exclude
    patterns.

Modify a file exclude pattern

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

2. Select "File Exclude Pattern" from the "Filer Options
    Settings" list. The "Exclude File Patterns" list appears.

3. Select the exclude pattern you want to modify; then
    press the Modify key (<F3> on most machines). The
    pattern you have chosen is displayed in the "Edit
    Pattern" entry box.

4. Edit the pattern as you want; then press <Enter>.
    Files that fit the edited pattern do not appear when you
    display a list of files.

Delete a file exclude pattern

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

2. Select "File Exclude Pattern" from the "Filer Options
    Settings" list. The "Exclude File Patterns" list appears.

3. Highlight the exclude pattern you want to delete; then
    press <Delete>.

4. Select "Yes" from the "Delete Pattern" confirmation box.
    The exclude pattern you deleted is no longer used.

Add, modify, or delete a file include pattern

When you list files, you can choose to include files that fit certain patterns. The "File Include 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 * (which includes all files), you must delete or modify the asterisk. Any changes you make in exclude patterns are deleted when you exit FILER.

Add a file include pattern

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

2. Select "File Include Pattern" from the "Filer Options Settings" list. The "Include File Patterns" list appears.

3. To add an include pattern, press < Insert >. The "New Pattern" entry box appears.

4. Type the file include pattern you want; then press < Enter >. The files with the specified patterns are listed.

Modify a file include pattern

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

2. Select "File Include Pattern" from the "Filer Options Settings" list. The "Include File Patterns" list appears.

3. Select the include pattern you want to modify. The "Edit Pattern" entry box appears.

4. Use the Backspace key 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*.

Delete a file include pattern

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

2. Select "File Include Pattern" from the "Filer Options Settings" list. The "Include File Patterns" list appears.

3. Highlight the include pattern you want to delete; then press <Delete>.

4. Select "Yes" from the "Delete Pattern" confirmation box.

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 (which are normally invisible to the user). File search attributes you set are deleted when you exit FILER.

Add file search attributes

System and hidden files are normally not shown in file listings. However, the "File Search Attribute" option lets you specify whether you want to see such files.

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

2. Choose "File Search Attributes" from the "Filer Options Settings" list. The "Search File Attributes" list appears. A blank list indicates that you do not have any search file attributes.

3. To add a search file attribute, press <Insert>. The "Other Search Attributes" list appears.

4. Select the search file attribute you want to add. The attribute appears in the "Search File Attributes" list.

Delete search file attributes

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

2. Choose "File Search Attributes" from the "Filer Options Settings" list. The "Search File Attributes" list appears. If the list is blank, you do not have any search file attributes to delete.

3. Highlight the search file attribute you want to delete, or use the Mark key (<F5> on most machines) to highlight multiple search file attributes. Then press <Delete>.

4. Select "Yes" at the "Delete Search Attribute" (or "Delete All Marked Search Attributes") confirmation box. The deleted attributes are no longer used.

Subdirectory Information tasks

Create subdirectories

You can create a subdirectory in FILER if you have the Create right in the parent directory.

FILER allows you to use up to 14 characters in a subdirectory name, with or without an extension. However, we strongly suggest that you use DOS conventions for naming subdirectories. (DOS allows up to 11 characters if an extension is included.) A subdirectory with a name longer than DOS allows appears when you do a DOS directory search, but only as many characters as DOS recognizes appear on the screen.

To create a directory, complete the following steps.

1. Enter FILER and select "Subdirectory Information" from the "Available Topics" menu.

2. List the subdirectories of your current directory. This list contains the subdirectories of the last directory in your current directory path. If the list contains no subdirectory entries, the last directory in your current directory path has no subdirectories.

3. Press <Insert>. The "New Subdirectory Name" entry box appears.

4. Type the new subdirectory's name; then press <Enter>. The subdirectory is created and appears in the "Subdirectories" list.

Delete subdirectories

To delete a subdirectory, you must have the Delete right.

1. Enter FILER and select "Subdirectory Information" from the "Available Topics" menu. The subdirectories of your current directory are listed.

2. Highlight the subdirectory you want to delete, or use the Mark key (<F5> on most machines) to highlight multiple subdirectories; then press <Delete>.

   The "Delete Subdirectory Options" list appears.

3. Select either the "Delete Entire Subdirectory Structure" or "Delete Subdirectory's Files Only" option.

3a. If you choose to delete the entire subdirectory structure, the "Delete Entire Directory Structure (Including Subdirectories and Files)" or "Delete All Marked Subdirectories (Including Their Subdirectories And Files)" confirmation box is displayed. To delete the entire structure, all files, and all subdirectories and files under that level, select "Yes."

3b. If you choose "Delete Subdirectory's Files Only," the "Delete All Files from Subdirectory" or "Delete All Files From The Marked Subdirectories" confirmation box appears. To delete all files, select "Yes." Only the files in the specified subdirectory or subdirectories are deleted.

Delete a group of subdirectories

Using FILER, you can delete a number of subdirectories at one time, if the group of subdirectories has a common pattern. A pattern is anything the names of the subdirectories have in common that can be used to identify them as part of a group (for example, they might all have a common extension or they might all begin with SYS).

When you delete the subdirectories, you must specify a pattern. The pattern is used by FILER to group subdirectories. For example, suppose you want to delete all subdirectories that have an .MDR extension. You would group the subdirectories by specifying *.MDR as the Mark Pattern. (The asterisk is a wildcard.)

However, suppose you want to delete only some of the subdirectories that have the .MDR extension. You can specify an Unmark Pattern, such as CH3.*, that excludes the subdirectories matching the Unmark Pattern.

After you have grouped the subdirectories and specified which subdirectories you want excluded from the group, you can delete the subdirectories in the group.

To delete a group of subdirectories, you must have the Delete right.

Follow the appropriate instructions given below to group subdirectories, to exclude subdirectories from the group, or to delete the subdirectories in the group.

FILER

Group subdirectories

1. Enter FILER and select "Subdirectory Information" from the "Available Topics" menu. The subdirectories of your current directory are listed.

2. To mark the subdirectory names you want to delete, press <F6>. The "Mark Pattern" entry box appears. The default pattern is an asterisk (*), which includes all subdirectories.

3. Type the pattern of the subdirectories you want to delete. Then press <Enter>.

   For example, to delete all subdirectories with the extension .TST, type

       *.TST <Enter>

Exclude subdirectories from the group

4. If you want to exclude one or more subdirectory names from those you have marked, press <F8>. The "Unmark Pattern" entry box appears. The default pattern is an asterisk (*), which includes all subdirectories.

5. Type the pattern for the subdirectory names you want to exclude from the group; then press <Enter>.

   For example, to delete all the subdirectories with the extension .TST except the subdirectory REV2.TST, type REV2.* and press <Enter>. The subdirectory REV2.TST is excluded.

Delete the subdirectories in a group

6. Press <Delete>. The "Delete Subdirectory Options" list appears.

7. Select either "Delete Entire Subdirectory Structure" or "Delete Subdirectory's Files Only."

7a. If you choose to delete the entire subdirectory structure, the "Delete All Marked Subdirectories (Including Their Subdirectories And Files)" confirmation box appears. To delete the entire subdirectory, select "Yes."

7b. If you choose "Delete Subdirectory's Files Only," the "Delete All Files from Subdirectory" confirmation box appears. To delete all files from the subdirectory, select "Yes." Only the files in the specified subdirectory are deleted.

Rename subdirectories

To rename a subdirectory, you must have the Modify right.

1. Enter FILER and select "Subdirectory Information" from the "Available Topics" menu. The subdirectories of your current directory are listed.

2. Select the subdirectory you want to rename and press the Modify key (<F3> on most machines). The "Edit Directory Name" entry box appears.

3. Use the Backspace key to delete the subdirectory name.

4. Type the new subdirectory name. (Use DOS naming conventions when renaming a subdirectory.) Then press <Enter>. The subdirectory is renamed.

FILER

Rename a group of subdirectories

Using FILER, you can simultaneously rename subdirectories that have identical extensions. When you rename the subdirectories, you must specify an original pattern and a replacement pattern. The original pattern is used in FILER to place subdirectories that match it into a group. Whatever is specified in the original pattern is replaced by whatever is specified in the replacement pattern.

For example, suppose you want all subdirectories that have a .TST extension to have a .REV extension. You would group the subdirectories by specifying *.TST as the Mark Pattern. (The asterisk is a wildcard.) However, suppose you want to rename only some of the subdirectories that have the .TST extension. You can specify an Unmark Pattern, such as SUB1.*, that excludes the subdirectories matching the unmark pattern.

After you have specified the subdirectories you want included in or excluded from the group, you would specify *.TST as the Original Name Pattern and *.REV as the Rename Pattern. When you renamed the subdirectories, all extensions would be changed according to the specified patterns.

After you have grouped the subdirectories, specified which subdirectories you want excluded from the group, and specified the original and replacement patterns, you can rename the subdirectories in the group.

Follow the appropriate instructions given below to group files by their subdirectory name extensions, to exclude subdirectories from the group, or to rename subdirectories in the group.

Group subdirectories by subdirectory name extensions

1. Enter FILER and select "Subdirectory Information" from the "Available Topics" menu. The subdirectories of your current directory are listed.

2. To indicate the subdirectory names you want to change, press <F6>. The "Mark Pattern" entry box appears.

3. Type the subdirectory pattern you want to change. Then press <Enter>.

Exclude subdirectories from the group

To exclude subdirectories from those you already marked for renaming, complete the following steps.

4. Press <F8> to display the "Unmark Pattern" entry box.

5. Type the pattern for the subdirectory names you want to exclude from the group; then press <Enter>. The subdirectories that fit the pattern you typed are excluded from those you specified with the marked pattern.

Modify the subdirectories in the group

To modify the subdirectories you marked, complete the following steps.

6. Press the Modify key (<F3> on most machines). The "Original Name Pattern" entry box is displayed.

7. Type the original name pattern; then press <Enter>. The "Rename Pattern" entry box appears.

8. Type the new subdirectory pattern; then press <Enter>. The subdirectory names you marked are changed to the new pattern.

FILER

View a subdirectory's creation date and time

1. Enter FILER and select "Subdirectory Information" from the "Available Topics" menu. The subdirectories of your current directory are listed.

2. Select the subdirectory to view its creation date and time. The "Subdirectory Information" list appears.

3. Select "Creation Date." The subdirectory's creation date and time are displayed in an inset.

Add or delete rights in the maximum rights mask of the current subdirectory

Add rights to the maximum rights mask

1. Enter FILER and select "Subdirectory Information" from the "Available Topics" menu. The subdirectories of your current directory are listed.

2. Select the appropriate subdirectory and press <Enter>. The "Subdirectory Information" list appears.

3. Select "Maximum Rights." The "Maximum Rights" list appears.

4. Press <Insert>. The "Other Rights" list appears. (If the list is blank, the subdirectory has all rights possible.)

5. Select the right you want to add, or use the Mark key (<F5> on most machines) to select multiple rights. The rights are added to the "Maximum Rights" list.

Delete rights from the maximum rights mask

1. Enter FILER and select "Subdirectory Information" from the "Available Topics" menu. The subdirectories of your current directory are listed.

2. Select the appropriate subdirectory. The "Subdirectory Information" list appears.

3. Select "Maximum Rights." The "Maximum Rights" list appears.

4. Highlight the right you want to delete, or use the Mark key (<F5> on most machines) to highlight multiple rights. Then press <Delete>.

5. Select "Yes" from the "Revoke Right" (or "Revoke All Marked Rights") confirmation box to delete the rights.

Add or delete rights in the maximum rights mask for multiple subdirectories

You can add rights to or delete rights from the maximum rights mask for several subdirectories at one time. You must have the Parental right.

Add rights to the maximum rights mask

1. Enter FILER and select "Subdirectory Information" from the "Available Topics" menu. The subdirectories of your current directory are listed.

2. Using the Mark key (<F5> on most machines), select each subdirectory whose maximum rights mask you want to change. The "Multiple Subdirectory Operations" list appears.

3. Select "Set Maximum Rights." The "Maximum Rights" list appears.

4. Press <Insert> to display the "Other Rights" list. If the list is blank, the subdirectories already have all the rights possible.

5. Select the right you want to add, or use the Mark key (<F5> on most machines) to select more than one right.

6. Press <Escape>. The "Set Marked Subdirectories To Specified Maximum Rights" confirmation box appears.

7. Select "Yes" to save your changes. The rights you specified are added.

Delete rights from the maximum rights mask

1. Enter FILER and select "Subdirectory Information" from the "Available Topics" menu. The subdirectories of your current directory are listed.

2. Using the Mark key (<F5> on most machines), select each subdirectory whose maximum rights mask you want to change. The "Multiple Subdirectory Operations" list appears.

3. Select "Set Maximum Rights." The "Maximum Rights" list appears.

4. Highlight the right you want to delete, or use the Mark key (<F5> on most machines) to highlight multiple rights. Then press <Delete>.

5. Select "Yes" from the "Revoke Right" (or "Revoke All Marked Rights") confirmation box to delete the rights you have marked.

6. Press <Escape>. The "Set Marked Subdirectories To Specified Maximum Rights" confirmation box appears.

7. Select "Yes." The rights you have specified are deleted.

View the current subdirectory's owner

1. Enter FILER and select "Subdirectory Information" from the "Available Topics" menu. The subdirectories of your current directory are listed.

2. Select the subdirectory whose owner you want to view. The "Subdirectory Information" list appears.

3. Select "Owner." The name of the subdirectory's owner appears in an inset.

Add or delete trustees in a subdirectory

Add trustees to a subdirectory

To add a trustee to a subdirectory, you must have the Parental right.

1. Enter FILER and select "Subdirectory Information" from the "Available Topics" menu. The subdirectories of your current directory are listed.

2. Select the subdirectory whose trustees you want to view. The "Subdirectory Information" list appears.

3. Select "Trustees." The "Trustee Name/Trustee Type/Rights" list appears.

4. Press <Insert>. A list of the other users and groups on your current file server is displayed.

5. Select the user or group you want to make a trustee of your subdirectory, or use the Mark key (<F5> on most machines) to select multiple users or groups.

The users or groups you specified are now trustees of the subdirectory.

Delete trustees from a subdirectory

To delete a trustee of a subdirectory, you must have Parental and Delete rights.

1. Enter FILER and select "Subdirectory Information" from the "Available Topics" menu. The subdirectories of your current directory are listed.

2. Select the subdirectory whose trustees you want to view. The "Subdirectory Information" list appears.

3. Select "Trustees." The "Trustee Name/Trustee Type/Rights" list appears.

4. Highlight the trustee you want to delete, or use the Mark key (<F5> on most machines) to highlight multiple trustees; then press <Delete>.

5. Select "Yes" from the "Delete Trustee From Directory" (or "Delete All Marked Trustees From Directory") confirmation box to delete the trustees.

Add or delete a user's trustee rights in a directory

Add a user's trustee rights in a directory

You must have Parental rights in the current directory or in its parent directory to modify trustee rights in a directory. Complete the following steps.

1. Enter FILER and select "Subdirectory Information" from the "Available Topics" menu. The subdirectories of your current directory are listed.

2. Select the directory that includes the appropriate user. The "Subdirectory Information" list appears.

3. Select "Trustees." The "Trustee Name/Trustee Type/Rights" list appears.

4. To add a right, select the trustee's name. The "Trustee Rights" list is displayed. (Initially, this list may be empty.)

5. Press <Insert>. The "Other Rights" list is displayed.

6. Select the right you want to add, or use the Mark key (<F5> on most machines) to select multiple rights.

The rights are added to the "Trustee Rights" list for the user you specified.

FILER

Delete a user's trustee rights in a directory

To delete a trustee of a subdirectory, you must have Parental rights in the current directory or in its parent directory.

1. Enter FILER and select "Subdirectory Information" from the "Available Topics" menu. The subdirectories of your current directory are listed.

2. To delete a user's trustee rights in a directory, select the appropriate directory. The "Subdirectory Information" list appears.

3. Select "Trustees." The "Trustee Name/Trustee Type/Rights" list appears.

4. To delete a right, select the trustee's name. The "Trustee Rights" list appears.

5. Highlight the right you want to delete, or use the Mark key (<F5> on most machines) to highlight multiple rights. Then press <Delete>.

6. Select "Yes" from the "Revoke Right" (or "Revoke All Marked Rights") confirmation box to revoke the rights.

View volume information

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

- File server name

- Volume name

- Volume type

- Number of total bytes

- Number of bytes available

- Maximum number of directory entries available

- Number of available directory entries

Enter FILER and select "Volume Information" from the "Available Topics" menu. The "Volume Information" inset displays all the information listed above for the current volume.

Use FLAG to view or change file attributes in a directory.

Command format

FLAG [*path* | *filespec* [*option* ...]]

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

Replace *filespec* with any path leading to and including the file you want to indicate.

Replace *option* with one or more of the options listed below.

Command options

Shareable

Use this option to flag a file Shareable.

NonShareable

Use this option to flag a file Non-Shareable.

ReadOnly

Use this option to flag a file Read-Only.

ReadWrite

Use this option to flag a file Read-Write.

Normal

Use this option to flag a file Non-Shareable and Read-Write.

Transactional

Use this option to flag a file Transactional (SFT NetWare only).

Indexed

Use this option to flag a file Indexed.

SUBdirectory

Use this option if you want your FLAG command to affect not only the specified directory but all subdirectories of that directory as well. You can use this option to view or change file attributes in subdirectories.

Additional information

To use FLAG to change file attributes in a given directory, your effective rights in that directory must include Search and Modify rights. (For more information about rights, see the Network Security module in the *Installation for ELS NetWare Level II* manual.)

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

You can use wildcard characters (* and ?) with FLAG.

You can also use FILER to flag files.

FLAG

Attributes you can change with FLAG

A file can have up to eight attributes. They are as follows:

Read-Only or Read-Write
Hidden
System
Shareable or Non-Shareable
Modified
Indexed
Execute-Only
Transactional (SFT NetWare only)

FLAG allows you to view or to change four of the eight attributes listed above:

- Read-Only or Read-Write

  If you flag a file Read-Only, users with sufficient effective rights can read the file but cannot write to it.

  If you flag a file Read-Write, users with sufficient effective rights can both read the file and write to it.

- Shareable or Non-Shareable

  If you flag a file Shareable, more than one user can access the file at one time.

  If you flag a file Non-Shareable, only one user can access the file at one time.

- Indexed

  If you flag a file Indexed, the File Allocation Table (FAT) indexes the bytes that make up the file. This index allows you to access the file quickly. Use this attribute with large files (2MB or larger).

- Transactional (SFT NetWare only)

  If you flag a file Transactional, the Transaction Tracking System monitors transactions on the file. Transaction Tracking ensures that if a user accesses and writes to a file, either all or none of the changes are recorded. (See SETTTS.)

View file attributes in your default directory

To view the attributes of files in your default directory, type

FLAG <Enter>

Information similar to the following appears on your screen:

```
SALES.EXE   Shareable                         ReadOnly
SALES.BAT   Shareable                        Read/Write
SALES.HLP   Shareable                         ReadOnly
SALES.DAT   Non-shareable                    Read/Write
            Transactional Index
```

The first column shows the filename. The second column
shows if the file is flagged Shareable or Non-Shareable. The
third column shows if the file is flagged Read-Only or Read-
Write. The fourth and fifth columns show if the file is
flagged Transactional or Indexed.

To view the attributes of several related files in your default
directory, include wildcard characters in your FLAG
command. To view the attributes of all files with the
extension .DAT, type

FLAG *.DAT <Enter>

To view the attributes of a single file in your default
directory, specify the filename in your command. For
example, to view the attributes of the file SALES.DAT, type

FLAG SALES.DAT <Enter>

FLAG

View file attributes in any directory

To view the attributes of all the files in any directory on your network, specify the directory in your command.

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 the file attribute, type

FLAG P: <Enter>

or

FLAG SALES/SYS:PROGRAMS <Enter>

View the attributes of one file

To view the attributes of a single file in any directory, specify the *filespec* in your command.

Example

Suppose you want to view the attributes of a file called SALES.DAT in the PROGRAMS directory. Type

FLAG P:SALES.DAT <Enter>

or

FLAG SALES/SYS:PROGRAMS/SALES.DAT <Enter>

Change file attributes in your default directory

To change the attributes of all the files in your default directory, include an asterisk (*) in your command and the appropriate options. The asterisk replaces *filespec* and represents all the files in your default directory.

To change the attributes of a single file in your default directory, specify the file in the command.

Example 1

Suppose you want to flag <u>all</u> the files in your default directory as Shareable and Read-Only. Type

FLAG * S RO <Enter>

Example 2

Suppose you want to flag the SALES.DAT file as Shareable and Read-Only. Type

FLAG SALES.DAT S RO <Enter>

FLAG

Change file attributes in any directory

To change the attributes of all the files in any directory, specify the directory and the appropriate options in the command.

To change the attributes of a single file in any directory, also specify the name of the file in the command.

Example 1

Suppose you want to flag all the files in the PROGRAMS directory as Shareable and Read-Only. 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 Shareable and Read-Only, type

FLAG P: S RO <Enter>

or

FLAG SALES/SYS:PROGRAMS S RO <Enter>

Example 2

Suppose you want to flag the SALES.DAT file in the PROGRAMS directory as Shareable and Read-Only. Type

FLAG P:SALES.DAT S RO <Enter>

or

FLAG SALES/SYS:PROGRAMS/SALES.DAT S RO
       <Enter>

FLAGDIR

FLAG DIRectories

Use FLAGDIR to view or change the attributes of subdirectories in a given directory.

Command format

FLAGDIR [*path* [*option* ...]]

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

Replace *option* with one or more of the options listed below.

Command options

Normal

Include this option to cancel other directory attributes that have been set. This option corresponds with the public folder in the Macintosh environment.

Hidden

Include this option to hide a directory so users cannot see it in a directory listing. This option does not prevent a user from changing to the directory.

System

Include this option if the directory is used for the system to function. A directory flagged with this option does not appear in a directory search.

FLAGDIR

Private

Include this option to prevent users from viewing the
contents of a subdirectory. Users can see the Private
subdirectory in the parent directory; however, they cannot
see the contents of the subdirectory unless they have the
Search right in the subdirectory. This option does not
prevent users from changing to the directory or its
subdirectories. This option corresponds to the private (gray)
folder in the Macintosh environment.

Additional information

To change a directory's attributes, you must have the
Parental and Modify rights in its parent directory. (For
information on directory rights, see the *Installation for ELS
NetWare Level II* manual.)

You must be attached to a file server before you can view or
change attributes of directories on that server.

View directory attributes in your default directory

You do not need to specify the directory path to view directory attributes of your default directory.

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

To view the attributes of a single subdirectory in your default directory, specify the subdirectory name in your command.

Example 1

To view the attributes of your default directory, type

FLAGDIR <Enter>

Information similar to the following appears on your screen:

MARKETING/SYS:HOME   Normal

The first column shows the directory name. The second column shows the directory attributes.

Example 2

To view attributes of the subdirectories in your default directory, type

FLAGDIR * <Enter>

Example 3

Suppose you want to view the attributes of a directory called SALES in your default directory. Type

FLAGDIR SALES <Enter>

FLAGDIR

View directory attributes of any directory

To view the attributes of any directory on your network, specify the directory path in your command.

To view the attributes of the subdirectories in any directory on your network, use wildcard characters.

To view the attributes of a subdirectory in any directory on your network, specify the directory path in your command.

Example 1

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

To view the attributes of the PROGRAMS directory, type

FLAGDIR P: < Enter >

or

FLAGDIR MARKETING/SYS:PROGRAMS < Enter >

Example 2

Suppose you want to view the attributes of all subdirectories in 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

To view the attributes of the subdirectories in the PROGRAMS directory, type

FLAGDIR P:* <Enter>

or

FLAGDIR MARKETING/SYS:PROGRAMS/* <Enter>

Example 3

Suppose you want to view the attributes of the PROMO subdirectory in 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

To view the attributes of the PROMO subdirectory, type

FLAGDIR P:PROMO <Enter>

or

FLAGDIR MARKETING/SYS:PROGRAMS/PROMO
    <Enter>

FLAGDIR

Change directory attributes in your default directory

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

To change the attributes of more than one subdirectory in
your default directory, include wildcard characters in your
FLAGDIR command.

Example 1

Suppose you want to change the directory attributes of
SYS:HOME/TERRI. Your current directory must be
SYS:HOME, and you must have Parental and Modify rights
in SYS:HOME. To flag SYS:HOME/TERRI as Private and
Hidden, type

    FLAGDIR TERRI PH   <Enter>

Example 2

Suppose you want to change the attributes of all
subdirectories of SYS:HOME/TERRI. Your current
directory must be SYS:HOME, and you must have the
Parental and Modify rights in SYS:HOME. To flag
SYS:HOME/TERRI as Hidden, type

    FLAGDIR * H   <Enter>

Change directory attributes in any directory

To change the attributes of any directory on your network, specify the directory path and the appropriate options in your command.

To change the attributes of all subdirectories in any directory on your network, include wildcard characters in your FLAGDIR command.

Example 1

Suppose you want to flag the PROGRAMS directory as Private. Also suppose that drive M is mapped to PROGRAMS as follows:

Drive M: = MARKETING/SYS:PROGRAMS

To flag the PROGRAMS directory as Private, type

FLAGDIR M: P   <Enter>

or

FLAGDIR MARKETING/SYS:PROGRAMS P   <Enter>

Example 2

Suppose you want to flag all subdirectories in the PROGRAMS directory as Hidden. Also suppose that drive M is mapped to PROGRAMS as follows:

Drive M: = MARKETING/SYS:PROGRAMS

To flag all subdirectories as Hidden, type

FLAGDIR M:* H   <Enter>

or

FLAGDIR MARKETING/SYS:PROGRAMS/* H   <Enter>

Use GRANT to grant trustee rights to users or groups in a
given directory. You can also use the SYSCON menu utility
to grant trustee rights to users or groups.

Command format

GRANT *option* ... [FOR *path*] TO [USER] *user* | [GROUP]
  group

Replace *option* with one or more of the options listed below.

Replace *path* with any directory path leading to the volume,
directory, or subdirectory where you want to grant rights.

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

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

If a user and a group have the same name, you must use the
constant GROUP before the name of the group.

Command options

Read

Use this option to grant the Read right.

Write

Use this option to grant the Write right.

Open

Use this option to grant the Open right.

Create

Use this option to grant the Create right.

Delete

Use this option to grant the Delete right.

Parental

Use this option to grant the Parental right.

Search

Use this option to grant the Search right.

Modify

Use this option to grant the Modify right.

All

Use this option to grant all eight trustee rights.

NO RIGHTS

Use this option to revoke all rights.

You can include ONLY or ALL BUT before any of the first eight options listed above (for example, ONLY Read). If you include ONLY, you grant only the specified right. If you include ALL BUT, you grant all but the specified right. For more information on these rights, see the Network Security module in the *Installation for ELS NetWare Level II* manual.

GRANT

Additional information

You must be attached to a file server before you can grant trustee rights in a directory on that server. (See ATTACH.)

You must have Parental effective rights in a directory to grant trustee rights to other users or groups in that directory.

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

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

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.

GRANT, REVOKE, and REMOVE are closely related. If you use REVOKE to revoke all trustee rights from a user or group, the user or group remains a trustee of that directory until you use REMOVE to remove the user or group.

Grant rights in your default directory

When granting a user or a group rights in your default directory, you need not include the directory path in your command.

Example

Suppose you want to grant the trustee rights Read, Open, and Search to user FRED in your default directory. Type

GRANT R O S TO FRED <Enter>

Grant rights in any directory

To grant rights in a directory other than your default directory, you must specify the directory path in the command.

Example

Suppose you want to grant the trustee rights Read, Open, and Search to group CLERKS in the ACCPAY directory. Also suppose drive P is mapped as follows:

Drive P: = COUNT/ACCT:ACCPAY

To grant Read, Open, and Search rights to CLERKS, type

GRANT R O S FOR P: TO CLERKS <Enter>

or

GRANT R O S FOR COUNT/ACCT:ACCPAY TO CLERKS
<Enter>

Use options with GRANT

You can use options to grant specific rights, grant all rights, or revoke rights.

Example 1

Suppose you want to grant all rights except the Parental right to user JOE in your default directory. Type

GRANT ALL BUT P TO JOE <Enter>

Example 2

Suppose you want to grant Read rights to group TEST and to revoke all other rights that the group has in your default directory. Type

GRANT ONLY R TO TEST <Enter>

Example 3

Suppose you want to grant all rights to user ALLEN in your default directory. Type

GRANT ALL TO ALLEN <Enter>

Example 4

Suppose you want to revoke all rights from group TEST in your default directory. Type

GRANT NO RIGHTS TO TEST <Enter>

Grant rights to a group

To grant trustee rights to a group, specify the group name in the command instead of a username.

HELP

Use HELP to view on-line information on using the
NetWare utilities. NetWare HELP allows you to search for
and retrieve information from infobases (information
databases). You can follow menus and link tokens (■) that
connect related information, or you can search for words or
phrases using the Search feature.

Command format

HELP [*command name*]

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

Additional information

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

+ 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

HELP

Use the following keystrokes to perform various functions in NetWare HELP.

AND	<Alt><A>	(in Search only)
BLOCK	<Alt><B>	
DEFAULTS	<Alt><F8>	
DIRECTORY	<Alt><D>	
HELP	<F1>	
NOT	<Alt><N>	(in Search only)
OR	<Alt><O>	(in Search only)
OUTPUT	<Alt><O>	
REFERENCES	<Alt><R>	
RESET	<Alt><F7>	
SEARCH	Spacebar	
TERMINATE	<Alt><T>	(for Print only)

Access information about NetWare utilities

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 the directory in which it is locate 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 hightlighted infobase.

To open an infobase, use the Up- and Down-arrow keys to highlight the name and press <Enter>.

Access information about a specific utility

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

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.

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, and then press <Enter>.

Use the search feature

The search feature allows you to search for words or phrases in the infobase.

To begin a search, complete the following steps.

1. With the cursor in a window, but not under a link token, press <Enter> to bring up the complete infobase.

2. Press the spacebar. The "Index" and "Results" windows appear, and the cursor moves to the bottom of the original 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. Press <Tab> or <Shift> <Tab> to scroll through the segments. If you want to see where the segment appears in the complete infobase, press <Enter> at the segment marker (this is supposed to be a triangle pointing right).

5. To exit the Search feature, press <Esc>.

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.

Example 1

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

    LOGIN <Enter>

Example 2

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

    "LOGIN SCRIPT" <Enter>

Example 3

To search for combinations of words, use a space or the ampersand symbol (&) 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>

or

LOGIN&SCRIPT <Enter>

Example 4

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>

Example 5

To search for all occurrences of a word except when it is used with another specific word, use the circumflex symbol (^) to represent the "not" operator. For example, to search for all occurrences of the word *login*, except when it is used with the word *script*, type

LOGIN^SCRIPT <Enter>

HELP

Example 6

Use the wildcard characters * and ? to search for variations of words. For example, to seach 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>

Example 7

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

"LOGIN SCRIPT"5 <Enter>

Example 8

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* within two words but in any order, type

"LOGIN SCRIPT"@2 <Enter>

Print from HELP

You can block text in NetWare HELP and print it on an
IBM ProPrinter.

To print from HELP, complete the following steps.

1. Press <Alt> <B> to begin blocking. Use the standard
   editing keys to block the desired text.

2. Press <Alt> <O> to send the block to a printer.

3. Select "Printer."

4. Highlight the desired settings. Select "Yes" in the "Store
   Settings" option.

Save text to a file

You can block text from NetWare HELP to save to a file for
use in word processing programs or other applications.

To save text to a file, complete the following steps.

1. Press <Alt> <B> to begin blocking text.

2. Press <Alt> <O> to send the block to a file.

3. Select "Disk" to view the list of settings. You can either
   use the current settings or choose new settings.

4. To save the text to a new file, select "Yes" in the "Store
   Settings" option.

   To save the text to an existing file, type the name of the
   file in the "File Name" option and press <Enter>.
   Then select "Append."

HIDEFILE

Use HIDEFILE to hide a specified file or files so the files
will not show in a DOS directory search and cannot be
deleted or overwritten.

Command format

HIDEFILE [*drive*:] [*directory*/] *filename*

Replace *drive* with the letter of the drive that contains the
file you want to hide.

Replace *directory* with the name of the directory that
contains the file you want to hide.

Replace *filename* with the name of the file you want to hide.
You can use wildcard characters (* and ?) when specifying a
filename.

Additional information

You must have the Modify right in the specified directory to
use the HIDEFILE utility in that directory. To execute
HIDEFILE, you must either be in the directory that contains
the HIDEFILE.EXE file (usually the SYS:SYSTEM
directory), or you must map a drive to that directory and
specify the drive before the command. For example, if you
mapped drive G to SYS:SYSTEM, you could type
G:HIDEFILE in any directory to execute the HIDEFILE
utility.

HIDEFILE hides files by setting the DOS Hidden and
System file attributes (refer to your DOS technical reference
manual for details).

Hiding a file prevents it from being overwritten by a COPY command that specifies the same filename. (A COPY command specifying the name of a hidden file returns a File Creation Error message.) Hidden files cannot be deleted, nor can they be copied to other directories.

However, hidden files are still accessible to most DOS commands (such as the TYPE command) and can be modified. Hidden files can also be backed up and restored using the NetWare BACKUP and RESTORE utilities if you have a Novell file server.

Use SHOWFILE to reveal files hidden by HIDEFILE.

Hide a specified file or files

In the directory that includes the HIDEFILE.EXE file, type

HIDEFILE *filename* <Enter>

If the file you want to hide is not in the SYS:SYSTEM directory, add the appropriate directory path by typing a drive letter or specifying the directory path. You can specify a complete or partial *directory* path.

Example

Suppose you want to hide the file TEST, which is located in the directory SALES. Drive G is mapped to the SYS:SYSTEM directory.

1. Change to the SALES directory.

2. Type

G:HIDEFILE TEST <Enter>

Your workstation screen displays the following message:

FS1/SYS:SALES
TEST hidden

3. List the files and directories in the SALES directory by typing

    DIR <Enter>

TEST is not listed, as shown below:

```
Volume in drive D is SYS
Directory of D:\SALES

OEMDOC  24325-02-893:53p
DOC     <DIR>5-01-893:23p
    2 File(s)  5566464 bytes free
```

4. Even though TEST is hidden, you can display the contents of the file on the workstation screen by typing

    TYPE TEST <Enter>

5. To make TEST visible again, type

    G:SHOWFILE TEST <Enter>

TEST appears again in the directory listing.

HOLDOFF

Use HOLDOFF to reverse the effect of a HOLDON command. (You never use HOLDOFF unless you use HOLDON first.)

Command format

HOLDOFF

Cancel a HOLDON command

To cancel a HOLDON command, type

HOLDOFF <Enter>

HOLDON

Command
Line Utility F>

Use HOLDON to hold open any files you access and to prevent other users from writing to files you are working in. (HOLDON does not prevent other users from reading files.)

Command format

HOLDON

Additional information

When you access a data file with an application, most applications hold the file open while you work in the file. If the file were not held open, another user could access and write to the file while you were working in it. When you were finished working in the file, you would overwrite the other user's saved data.

HOLDON is designed to be used with applications that do not hold files open.

Prevent users from writing to your open files

To hold open a file and prevent other users from accessing it, type

HOLDON <Enter>

HOLDON now holds open any file you access with an application until you run HOLDOFF or until you reboot your workstation.

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LARCHIVE

Local Drive **ARCHIVE**

Use LARCHIVE to archive DOS files to a local disk drive (to floppy diskettes or to local hard disks).

Command format

LARCHIVE [*path* | SYSTEM]

Macintosh considerations

LARCHIVE does not back up

- Macintosh files;

- Any files that were created by a DOS workstation and then accessed by a Macintosh workstation. (When a Macintosh workstation accesses a file created by a DOS workstation, the file is given Macintosh file characteristics.)

You must use the MACBACK utility to back up Macintosh files and files that have Macintosh characteristics.

If you want to back up both DOS and Macintosh files, we suggest you use the backup and restore utilities in the following order:

- Back up DOS files using LARCHIVE.

- Back up Macintosh files using MACBACK.

- Restore DOS files using LRESTORE.

- Restore Macintosh files using MACBACK.

Because you must use the MACBACK utility to back up Macintosh files and the LARCHIVE or NARCHIVE utilities to back up DOS files, you may want to keep DOS and Macintosh files in separate directories.

LARCHIVE

Additional information

You must issue your LARCHIVE command from a network drive mapped to the file server from which you want to archive files.

To archive files from a given directory, your effective rights in that directory must include Read, Open, Search, and Modify.

To archive security files for your file server, you must be logged in as SUPERVISOR or have equivalent rights. (The file server security files include NET$BIND.SYS and NET$BVAL.SYS located in the SYS:SYSTEM directory.) The security files contain lists of users, groups, passwords, security equivalences, full names, and ID numbers.

The log report is a file called ARCHIVE.LOG created by LARCHIVE and stored with the other archived files. It includes the following information:

- The date and time of your archiving session

- The directory path of each directory from which you archived one or more files

- A list of all archived files

Which files do you want to back up? Choose an answer from the list below and follow the specified example:

- Certain or all files from one particular directory. Refer to Example 1 on page 219.

- Certain or all files from one particular directory and one or more (but not all) subdirectories. Refer to Example 1 on page 219.

- Certain or all files from one particular directory and all subdirectories. Refer to Example 2 on page 224.

- Certain or all files from various directories and subdirectories throughout the directory structure of the file server. Refer to Example 3 on page 228.

- Certain or all files from all directories and subdirectories on a specific volume (or volumes) on your file server. Refer to Example 4 on page 232.

Archive DOS files to a local disk drive

The following examples show how to archive DOS files.

Example 1

Suppose you want to archive certain files from directory SANDY to a local disk drive. Or suppose you want to archive files from directory SANDY and from one or more (but not all) subdirectories of SANDY. To do so, complete the following steps.

1. Type one of the following commands:

    LARCHIVE SYS:HOME/SANDY <Enter>

    or

    LARCHIVE F: <Enter>

    Or, if drive F is your default drive, type

    LARCHIVE <Enter>

    The following prompt appears:

    Enter the letter of the LOCAL disk drive on which to
        archive files:

2. Type the letter of the local disk drive you are archiving
   files to. For example, to archive files to floppy diskettes
   inserted into drive A, type

   A <Enter>

   To archive files to drive C mapped to a local hard disk,
   type

   C <Enter>

   The following prompt appears:

   ```
   Do you want to print a log report of this session?
   (Y/N)
   ```

3. To print a log report immediately following your
   archiving session, answer "Yes." You are asked whether
   you want to print the log report on a local printer or a
   network printer, and how many copies you want to print.

   If you do not want to print a log report immediately
   following the archiving session, answer "No." (If you
   answer "No," you can print the log report later by using
   the NPRINT utility to print the ARCHIVE.LOG file.)

   The following prompt appears:

   ```
   Do you want to save directory rights and trustee
   lists? (Y/N)
   ```

4. If you want to archive the maximum rights mask and the
   trustee list for each directory from which you archive
   files, answer "Yes." Otherwise answer "No."

   If you are not logged in as SUPERVISOR, the "Select
   specific directories to be backed up?" prompt in Step 5
   appears. (Skip to this prompt at the end of Step 5.)

If you are logged in as SUPERVISOR or have equivalent rights, the following prompt appears:

```
Do you want to archive the system's user and group
  definitions? (Y/N)
```

5. If you want to archive the file server security files (NET$BIND.SYS and NET$BVAL.SYS found in SYS:SYSTEM), answer "Yes." Otherwise answer "No."

The following prompt appears:

```
Select specific directories to be backed up?
(N = Back up all directories)
```

6. Answer "Yes."

If you are not logged in as SUPERVISOR, continue with Step 7.

If you are logged in as SUPERVISOR or have equivalent rights and if you answered "Yes" in Step 5, the following prompt appears:

```
SYS:SYSTEM
If you are archiving to a floppy disk drive (or
    other removable media), insert a diskette.
Press the space bar to continue.
```

7. If you are archiving to floppy diskettes, insert a floppy diskette into drive A and press the space bar.

The following prompt appears:

```
SYS/HOME/SANDY
Back up?  (Y/N)
```

8. Answer "Yes."

The following prompt appears:

```
Select the back up mode for this directory from the
    following:
1)Back up ALL qualified files in each directory
2)Back up ONLY qualified files that have been
    modified since last backup
3)Choose specific files to be backed up
```

9. To archive certain files from directory SANDY regardless of whether or not they have been modified since the last backup, type "1" and press <Enter>.

To archive only certain files from directory SANDY that have been modified since the last backup, type "2" and press <Enter>.

To choose files to archive one by one, type "3" and press <Enter>. The name of each file will appears on your screen with the question "Back Up?" Answer "Yes" or "No" to each prompt. Then skip to Step 12.

If you chose Option 1 or 2, the following prompt appears:

```
Do you want to:
1)Select specific files
2)Ignore specific files
3)Back up all files
```

10. To archive only certain files (for example, *.DAT files or IPX*.* files), type "1" and press <Enter>.

To archive all files (or all modified files if you chose "2" for the previous prompt) except certain files that you specify later, type "2" and press <Enter>.

To archive all files (or all modified files if you chose "2" for the previous prompt), type "3" and press <Enter>. LARCHIVE archives all indicated files. Now skip to Step 12.

If you chose Option 1 or 2, the following prompt
appears:

```
Enter list of file specifications to be used for
    selecting files or <RETURN> if none.  Multiple
    lines may be entered.
>
```

11. Specify the files or kinds of files you want to archive (or
exclude if you chose Option 2). You can enter up to 50
file specifications. To enter more than one specification
on a single line, separate the specifications with commas.

After you have typed all the files you want to archive,
press <Enter> twice.

For example, to archive *.DAT files and IPX*.* files,
type

    *.DAT <Enter>
    IPX*.* <Enter> <Enter>

LARCHIVE now archives all specified files from
directory SANDY to the local drive you specified (either
to floppy diskettes or to a local hard disk).

12. LARCHIVE repeats Steps 7 through 11 for each
subdirectory of SANDY. Continue to answer the
prompts until the following message appears:

```
Archiving Session Completed.
```

Your DOS prompt now appears. If you specified a log
report to be printed, it is printed at this time.

Example 2

Suppose you want to archive certain files from directory
SANDY and certain files from *all* subdirectories of directory
SANDY to a local disk drive. Complete the following steps.

1. Type one of the following commands:

   LARCHIVE SYS:HOME/SANDY <Enter>

   or

   LARCHIVE F: <Enter>

   Or, if drive F is your default drive, type

   LARCHIVE <Enter>

   The following prompt appears:

   ```
   Enter the letter of the LOCAL disk drive on which to
       archive files:
   ```

2. Type the letter of the local disk drive you are archiving
   files to. For example, to archive files to floppy diskettes
   inserted into drive A, type

   A <Enter>

   To archive files to drive C mapped to a local hard disk,
   type

   C <Enter>

   The following prompt appears:

   ```
   Do you want to print a log report of this session?
       (Y/N)
   ```

3. To print a log report immediately following your archiving session, answer "Yes." You are asked whether you want to print the log report on a local printer or a network printer, and how many copies you want.

   If you do not want to print a log report immediately following your archiving session, answer "No." (If you answer "No," you can print the log report later by using NPRINT to print the ARCHIVE.LOG file.)

   The following prompt appears:

   ```
   Do you want to save directory rights and trustee
       lists? (Y/N)
   ```

4. If you want to archive the maximum rights mask and the trustee list for each directory from which you archive files, answer "Yes." Otherwise answer "No."

   If you are not logged in as SUPERVISOR, the "Select specific directories to be backed up?" prompt in Step 5 appears. (Skip to this prompt at the end of Step 5.)

   If you are logged in as SUPERVISOR or have equivalent rights, the following prompt appears:

   ```
   Do you want to archive the system's user and group
       definitions? (Y/N)
   ```

5. If you want to archive the file server security files (NET$BIND.SYS and NET$BVAL.SYS found in SYS:SYSTEM), answer "Yes." Otherwise answer "No."

   The following prompt appears:

   ```
   Select specific directories to be backed up?
   (N = Back up all directories)
   ```

6. Answer "No."

The following prompt appears:

```
Select the backup mode for ALL directories from the
    following:
1)Back up ALL qualified files in each directory
2)Back up ONLY qualified files that have been
    modified since last backup.
```

7. To archive certain files from directory SANDY and all subdirectories regardless of whether or not they have been modified since the last backup, type "1" and press <Enter>.

   To archive only certain files from directory SANDY and all subdirectories that have been modified since the last backup, type "2" and press <Enter>.

   The following prompt appears:

   ```
   Do you want to:
   1)Select specific files
   2)Ignore specific files
   3)Back up all files
   ```

8. To archive only certain files (for example, *.DAT files or IPX*.* files), type "1" and press <Enter>.

   To archive all files (or all modified files if you chose "2" for the previous prompt) except certain files that you specify later, type "2" and press <Enter>.

   To archive all files (or all modified files if you chose "2" for the previous prompt), type "3" and press <Enter>. Then skip to Step 11.

   If you chose Option 1 or 2, the following prompt appears:

   ```
   Enter list of file specifications to be used for
       selecting files or <RETURN> if none.  Multiple
       lines may be entered.
   >
   ```

9. Specify the files or kinds of files you want to archive (or exclude if you chose Option 2). You can enter up to 50 file specifications. To enter more than one specification on a single line, separate the specifications with commas.

   After you have typed all the files you want to archive, press <Enter> twice.

   For example, to archive *.DAT files and IPX*.* files, type

       *.DAT <Enter>
       IPX*.* <Enter> <Enter>

   If you are not logged in as SUPERVISOR, go to Step 10.

   If you are logged in as SUPERVISOR or have equivalent rights and if you answered "Yes" in Step 5, the following prompt appears:

   ```
   SYS:SYSTEM
   If you are archiving to a floppy disk drive (or
      other removable media), insert a diskette.
   Press the space bar to continue.
   ```

10. If you are archiving to floppy diskettes, insert a diskette into drive A and press the space bar.

11. LARCHIVE now archives all specified files from directory SANDY and all subdirectories to the local drive you specified (either to floppy diskettes or to a local hard disk).

    When the specified files are archived, the following message appears:

    ```
    Archiving Session Completed.
    ```

The DOS prompt appears. If you specified a log report to be printed, it is printed at this time.

Example 3

Suppose you want to archive certain files from directories and subdirectories throughout the directory structure of server COUNT to a local disk drive. Complete the following steps.

1. Type

   LARCHIVE SYSTEM <Enter>

   The following prompt appears:

   ```
   You MUST be a supervisor in order to perform a
      COMPLETE system backup.  If you are not a
      supervisor, only directories to which you have
      rights may be backed up.
   Back up fixed volume SYS?  (Y/N)
   ```

2. To back up one or more files contained on this volume, answer "Yes." Otherwise answer "No." You are asked whether you want to back up other volumes on the file server. Answer "Yes" or "No" for each volume that appears in the prompt.

   After you specify the volumes from which you want to archive files, the following prompt appears:

   ```
   Enter the letter of the LOCAL disk drive on which to
      archive files:
   ```

3. Type the letter of the local disk drive you are archiving files to. For example, to archive files to floppy diskettes in drive A, type

   A <Enter>

   To archive files to drive C mapped to a local hard disk, type

   C <Enter>

The following prompt appears:

```
Do you want to print a log report of this session?
   (Y/N)
```

4. To print a log report immediately following your
   archiving session, answer "Yes." You are asked whether
   you want to print the log report on a local printer or a
   network printer, and how many copies you want to print.

   If you do not want to print a log report immediately
   following the archiving session, answer "No." (If you
   answer "No," you can print the log report later by using
   NPRINT to print the ARCHIVE.LOG file.)

   The following prompt appears:

```
Select specific directories to be backed up?
(N = Back up all directories)
```

5. Answer "Yes."

   If you are not logged in as SUPERVISOR, continue
   with Step 6.

   If you are logged in as SUPERVISOR or have
   equivalent rights, the following prompt appears:

```
SYS:SYSTEM
If you are archiving to a floppy disk drive (or
   other removable media), insert a diskette.
Press the space bar to continue.
```

6. If you are archiving to floppy diskettes, insert a diskette
   into drive A and press the space bar.

   A prompt similar to the following appears:

```
SYS/HOME
Back up?  (Y/N)
```

7. If you do not want to archive any files in this directory, answer "No." Another prompt appears asking the same question for a different directory.

   If you want to archive some or all of the files in this directory, answer "Yes." The following prompt appears:

   ```
   Select the back up mode for this directory from the
     following:
   1)Back up ALL qualified files in each directory
   2)Back up ONLY qualified files that have been
     modified since last backup
   3)Choose specific files to be backed up
   ```

8. To archive certain files from directory HOME regardless of whether or not they have been modified since the last backup, type "1" and press <Enter>.

   To archive only certain files from directory HOME that have been modified since the last backup, type "2" and press <Enter>.

   To choose files to archive one by one, type "3" and press <Enter>. The name of each file appears on your screen with the question "Back Up?" Answer "Yes" or "No" to each prompt. Then skip to Step 11.

   If you chose Option 1 or 2, the following prompt appears:

   ```
   Do you want to:
   1)Select specific files
   2)Ignore specific files
   3)Back up all files
   ```

9. To archive only certain files (for example, *.DAT or IPX*.* files), type "1" and press <Enter>.

   If you want to archive all files (or all modified files if you chose "2" for the previous prompt) except certain files that you specify later, type "2" and press <Enter>.

To archive all files (or all modified files if you chose "2"
for the previous prompt), type "3" and press <Enter>.
LARCHIVE archives all indicated files. Now skip to
Step 11.

If you chose Option 1 or 2, the following prompt
appears:

```
Enter list of file specifications to be used for
    selecting files or <RETURN> if none.  Multiple
    lines may be entered.
>
```

10. Specify the files or kinds of files you want to archive (or
exclude if you chose Option 2). You can enter up to 50
file specifications. To enter more than one specification
on a single line, separate the specifications with commas.

After you have typed all the files you want to archive,
press <Enter> twice.

For example, to archive *.DAT files and IPX*.* files,
type

```
*.DAT  <Enter>
IPX*.*  <Enter> <Enter>
```

LARCHIVE archives all specified files from directory
HOME to the local drive you specified (either to
diskettes or to a hard disk).

11. LARCHIVE repeats Steps 6 through 10 for each
directory and subdirectory on each volume that you
chose in Step 2. Continue to answer the prompts until
the following message appears:

```
Archiving Session Completed.
```

The DOS prompt appears. If you specified a log report to
be printed, it will be printed at this time.

Example 4

Suppose you want to archive certain files from all directories and all subdirectories on a specific volume (or volumes) on your file server to a local disk drive. Complete the following steps.

1. Type

    LARCHIVE SYSTEM <Enter>

    The following prompt appears:

    ```
    You MUST be a supervisor in order to perform a
        COMPLETE system backup.  If you are not a
        supervisor, only directories to which you have
        rights may be backed up.
    Back up fixed volume SYS?  (Y/N)
    ```

2. To back up specific files contained in each directory and subdirectory on this volume, answer "Yes." Otherwise answer "No." You are asked whether you want to back up other volumes on the file server. Answer "Yes" or "No" for each volume that appears in the prompt.

    After you specify the volumes you want to archive files from, the following prompt appears:

    ```
    Enter the letter of the LOCAL disk drive on which to
        archive files:
    ```

3. Type the letter of the local disk drive you are archiving files to. For example, to archive files to floppy diskettes inserted into drive A, type

    A <Enter>

    To archive files to drive C mapped to a local hard disk, type

    C <Enter>

The following prompt appears:

```
Do you want to print a log report of this session?
(Y/N)
```

4. To print a log report immediately following your archiving session, answer "Yes." You are asked whether you want to print the log report on a local printer or a network printer, and how many copies you want to print.

   If you do not want to print a log report immediately following the archiving session, answer "No." (If you answer "No," you can print the log report later by using NPRINT to print the ARCHIVE.LOG file.)

   The following prompt appears:

```
Select specific directories to be backed up?
(N = Back up all directories)
```

5. Answer "No."

   The following prompt appears:

```
Select the backup mode for ALL directories from the
   following:
1)Back up ALL qualified files in each directory
2)Back up ONLY qualified files that have been
   modified since last backup.
```

6. To archive certain files from these directories and subdirectories regardless of whether or not they have been modified since the last backup, type "1" and press <Enter>.

   To archive only certain files from these directories and subdirectories that have been modified since the last backup, type "2" and press <Enter>.

The following prompt appears:

```
Do you want to:
1)Select specific files
2)Ignore specific files
3)Back up all files
```

7. To archive only certain files (for example, *.DAT or IPX*.* files), type "1" and press <Enter>.

   To archive all files (or all modified files if you chose "2" for the previous prompt) except certain files that you specify later, type "2" and press <Enter>.

   To archive all files (or all modified files if you chose "2" for the previous prompt), type "3" and press <Enter>. Then skip to Step 10.

   If you chose Option 1 or 2, the following prompt appears:

```
Enter list of file specifications to be used for
    selecting files or <RETURN> if none.  Multiple
    lines may be entered.
>
```

8. Specify the files or kinds of files you want to archive (or exclude if you chose Option 2). You can enter up to 50 file specifications. To enter more than one specification on a single line, separate the specifications with commas.

   After you have typed all the files you want to archive, press <Enter> twice.

   For example, to archive *.DAT files and IPX*.* files, type

   *.DAT <Enter>
   IPX*.* <Enter> <Enter>

   If you are not logged in as SUPERVISOR, continue with Step 9.

If you are logged in as SUPERVISOR or have
equivalent rights, the following prompt appears:

```
SYS:SYSTEM
If you are archiving to a floppy disk drive (or
   other removable media), insert a diskette.
Press the space bar to continue.
```

9. If you are archiving to floppy diskettes, insert a diskette
    into drive A and press the space bar.

10. LARCHIVE archives all specified files from all specified
    directories and subdirectories to the local drive you
    specified (either to floppy diskettes or to a hard disk).

    LARCHIVE does not archive Macintosh files.
    Therefore, if the specified directory contains Macintosh
    files, the following message appears:

    ```
    xx Mac files were skipped.
    ```

    The following message then appears:

    ```
    Archiving Session Completed.
    ```

The DOS prompt appears. If you specified a log report to
be printed, it is printed at this time.

LCONSOLE

Use LCONSOLE to change the parameters of a remote
connection while the bridge is running. LCONSOLE allows
you to view the status of a connection, establish a
connection, terminate a connection, or reset a modem.

For more information on using LCONSOLE, see the *Using
ELS NetWare Level II* booklet.

LIST DIRectories

Use LISTDIR to view the subdirectories of a directory. You can include options in your LISTDIR command to view the maximum rights mask of each subdirectory, the creation date of each subdirectory, and 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 options listed below.

Command options

/Subdirectories

Include this option to view the subdirectories of a directory and all subsequent subdirectories.

/Rights

Include this option to view the maximum rights mask of all subdirectories in a directory.

/Date or /Time

Include either option to view the creation date of each subdirectory in a directory.

LISTDIR

/All

Include this option to view the maximum rights mask, the
creation date of all subdirectories, and all subsequent
subdirectories in a directory. This option combines the
functionality of the other three 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 you issue a LISTDIR command, you can 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 a list of the subdirectories in your default directory,
type

    LISTDIR   <Enter>

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

View subdirectories in any directory

To view subdirectories in a given directory, specify the directory path leading to the directory in your LISTDIR command.

Example

Suppose you want to view the subdirectories in the ACCPAY directory. Also suppose drive P is mapped as follows:

Drive P: = COUNT/ACCT:ACCPAY

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

LISTDIR P: <Enter>

or

LISTDIR COUNT/ACCT:ACCPAY <Enter>

View the complete directory structure

Include the /Subdirectories option in your LISTDIR command if you want to view the complete structure of a directory. To view subdirectories and all subsequent subdirectories in 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 in the LISTDIR command.

LISTDIR

View the maximum rights mask of subdirectories

Include the /Rights option in your LISTDIR command if
you want to view the maximum rights mask of subdirectories
in a directory. To view the maximum rights mask of
subdirectories in your default directory, type

>   LISTDIR /R <Enter>

To view the maximum rights mask of all subdirectories in
any directory, specify the directory path leading to that
directory in your LISTDIR command.

View the creation date of subdirectories

If you want to see when subdirectories in a directory were
created, include the /Date option in your LISTDIR
command. Type

>   LISTDIR /D <Enter>

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

Use the All option

Include the /All option to view the maximum 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 in your LISTDIR command.

The LOCK VAP program provides additional file server security by allowing a supervisor (or anyone who knows the console keyboard password) to lock the console keyboard. (The LOCK VAP program is available on *NetWire*.)

Command format

LOCK

Install LOCK VAP

To install the LOCK VAP program, complete the following steps.

1. Log in as SUPERVISOR.

2. Download the LOCK.VAP and SETKPASS.EXE files from *NetWire*.

3. Copy LOCK.VAP to the SYS:SYSTEM directory.

4. Copy SETKPASS.EXE to the SYS:PUBLIC directory.

5. Make certain all users are logged out of the file server. Then, at the file server, type

    DOWN <Enter>

6. Boot the file server. The following prompt appears:

    Value Added Processes have been defined. Do you
       wish to load them?

7. Type Y for "Yes" and press <Enter>. All VAPs
   (including the LOCK VAP) are loaded. A message
   similar to the following appears, indicating the name of
   each VAP and its sign-on message:

   Loading VAP LOCK.VAP:CONSOLE KEYBOARD LOCKING

   The LOCK VAP program is loaded. Before you can lock
   the console keyboard, you must initialize the program.

Initialize the LOCK VAP program

1. At the file server console, type

   LOCK <Enter>

   The following prompt appears:

   Enter SUPERVISOR password:

2. Type the supervisor password and press <Enter>. The
   following prompt appears:

   Enter new keyboard password:

3. Type a password for the console keyboard and press
   <Enter>. The following prompt appears:

   Retype new keyboard password:

4. Retype the new keyboard password and press <Enter>.

   A key icon appears below the cursor in the lower left corner
   of the screen. The key icon indicates that the LOCK VAP
   program is initialized and the console keyboard is locked.
   Once the keyboard is locked, no console commands can be
   entered. The file server responds only to the console
   keyboard password. Only the keyboard is locked;
   supervisors and users can still perform tasks from network
   workstations.

Lock the console keyboard

The file server continues to operate while the console
keyboard is locked. If you do not want information
displayed on the console, use OFF to turn off programs such
as MONITOR before locking the console keyboard.

To lock the console keyboard, complete the following steps.

1. At the file server, type

    LOCK <Enter>

    The following prompt appears:

    Enter keyboard password.

2. Type the keyboard password and press <Enter>. A key
   icon appears below the cursor in the lower left corner of
   the screen. The key icon indicates that the console
   keyboard is locked. Once the keyboard is locked, no
   console commands can be entered. The file server
   responds only to the console keyboard password.
   Only the keyboard is locked; the supervisor can still
   perform network tasks from a workstation, and users
   can still work from network workstations.

Note: The TRACK ON display overwrites the key icon. However,
any time a key is struck, the key icon reappears temporarily
to indicate that the keyboard is locked.

LOCK

Unlock the console keyboard

You do not need to enter a command to unlock the console keyboard. No prompt appears; the console keyboard accepts only the keyboard password.

Type the keyboard password and press <Enter>.

The key icon disappears. The cursor remains at the lower left corner of your screen, but you can now enter console commands.

Use LOGIN to log in to a particular file server and gain access to that server's resources. (Your access to a server's resources is always limited by your effective rights on that server.)

Command format

LOGIN [*server*/[*user option* ...]]]

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

Replace *user* with your username.

Replace *option* with one or more of the LOGIN options that you create. For a complete explanation of LOGIN options, see the IF...THEN commands in the *Installation for ELS NetWare Level II* manual.

Log in to your default file server

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

LOGIN < Enter >

You are prompted to enter your username and (if applicable) your password.

LOGIN

Log in to any file server

To log in to a file server other than your default file server, specify the file server name in the command.

Example

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

1. Type

   LOGIN COUNT/SANDY <Enter>

   The following prompt appears:

   Enter your password:

2. Type

   BEACH <Enter>

   You are logged in to server COUNT.

You can also include only the name of the file server in your LOGIN command:

   LOGIN COUNT/ <Enter>

You are prompted to enter your username and password.

If you do not specify a file server name or a username in your command, you are prompted to enter both. You are also prompted to enter a password if one is required.

Include a LOGIN command in your AUTOEXEC.BAT file

If you frequently log in to a file server, you may want to include a LOGIN command in your AUTOEXEC.BAT file. When you boot your workstation with the NetWare shell, you only need to type your password to log in to the server.

Example

Suppose you frequently log in to file server COUNT as user SANDY. Your AUTOEXEC.BAT file might look similar to the following:

```
IPX
NET3
F:
LOGIN COUNT/SANDY
```

IPX and NET3 invoke the IPX and NET3 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 checks if all passwords are valid. If a password is expired, LOGIN asks if you want to change it. If you change the password, LOGIN asks if you want to synchronize passwords (make all passwords the same). If you answer "Yes," LOGIN synchronizes all passwords for all file servers you attach to in your login script with the same username you used to log in.

If you log in to more than one file server using the same username, you can make all the passwords for these file servers the same by answering "Yes" at the prompt. If you attach to file servers in your login script using a different username, those passwords are not synchronized.

LOGIN

Log out with LOGIN

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

For example, suppose you are logged in to file server
COUNT and attached to servers MKTG and SALES. If you
type a LOGIN command to log in to server LEGAL, you
will both log in to server LEGAL *and* log out of servers
COUNT, MKTG, and SALES.

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

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 [*server*]

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

> ⚠ As you log out of a file server, all of your temporary drive mappings to that server disappear. Be sure that one of your remaining drive mappings is mapped to the PUBLIC directory of a file server you are still attached to. If it is not, you lose access to all the NetWare utilities (contained in the PUBLIC directory), and you must reboot.

Log out of all file servers

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

LOGOUT < Enter>

Log out of one file server

To log out of one file server you are attached to, specify the server name in your LOGOUT command. For example, suppose you are user DENNIS attached to servers COUNT, SALES, and MFG. To log out of server SALES only, type

LOGOUT SALES < Enter>

LRESTORE

Local Drive **RESTORE**

Use LRESTORE to restore to the network files that were archived with LARCHIVE.

Command format

LRESTORE

Additional information

You must run **LRESTORE** from a network drive mapped to the file server you want to restore files to.

To restore files to a directory, your effective rights in that directory must include Open, Write, Create, Delete, and Search.

If you have not already printed the log report, use NPRINT to print the ARCHIVE.LOG file, which was created by LARCHIVE and stored with the other archived files.

Restore files archived to a local disk drive

To restore network files that were archived with LARCHIVE, complete the following steps.

1. Type

    LRESTORE < Enter >

   The following prompt appears:

    Enter the letter of the LOCAL disk drive from which
    to restore files:

2. Type the appropriate letter. For example, to restore files that were archived to floppy diskettes inserted into disk drive A, specify drive A. To restore files from drive C mapped to a local hard disk, specify drive C.

The following prompt appears:

```
Do you wish to restore security information with the
   directories? (Y/N)
```

3. If the following conditions apply, answer "Yes."

- You are logged in as user SUPERVISOR.

- You archived file server security files NET$BIND.SYS and NET$BVAL.SYS.

- You want to restore these security files.

The following message appears:

```
WARNING:  To guarantee proper restoration of
directory rights, trustee rights, and file flags,
you should be logged in as a SUPERVISOR user.  This
is especially true if you are going to do a full
system restore.  If you are not logged in as a
SUPERVISOR, press the ^C at the next question to
exit.
```

If the three conditions above do not apply, answer "No."

Whether you answered "Yes" or "No," the following prompt appears:

```
Select specific directories to be considered for
   restoration? (Y/N)
(N = Consider all archived directories)
```

4. To restore files to all directories, answer "No." The "Specify files to restore to each selected directory?" prompt in Step 5 appears. (Skip to this prompt at the end of Step 5.)

To restore files only to certain directories, answer "Yes."

The following prompt appears:

```
Enter full names of directories to be restored (only
ONE per line).  To select a directory AND its
subdirectories, just give the name of the directory
(e.g., SYS:SALES/REPORTS).  To select ONLY the
subdirectories of a given directory, include a slash
('/') but no subdirectory names (e.g.,
SYS:SALES/REPORTS/).  To select ONLY a given
directory and ignore its subdirectories, precede the
directory's name with an equals sign ('=') (e.g.,
=SYS:SALES/REPORTS).
>
```

5. List the directories you want to restore to your network.
    After typing the last directory path, press <Enter>
    twice.

    For example, to restore SYS:SALES/REPORTS and
    SYS:SALES/REPORTS/WEST (one of many
    subdirectories), type the following:

    ```
    =SYS:SALES/REPORTS  <Enter>
    =SYS:SALES/REPORTS/WEST  <Enter>  <Enter>
    ```

    The following prompt appears:

    ```
    Specify files to restore to each selected directory?
        (Y/N)
    (N = Restore all selected directories)
    ```

6. To choose whether or not to restore each file one by
    one, answer "Yes."

    To restore all files to the directories you selected in
    Steps 4 and 5, answer "No."

    After you have chosen which files to restore, the
    following prompt appears:

    ```
    If you are restoring from a floppy disk drive (or
    other removable media), insert an archive diskette.
    Press the space bar to continue.
    ```

7. If you are restoring from floppy diskettes, insert a floppy diskette into drive A and press the space bar.

   If you answered "No" in Step 6, normally all files are restored to the appropriate directory. Skip to the first prompt in Step 11.

   Sometimes, however, the following prompt appears:

   ```
   File already exists.  Recreate? (Y/N)
   ```

   If there is any chance that the existing file has been corrupted, answer "Yes." Otherwise answer "No" since there is no reason to restore an existing file. Then skip to the first prompt in Step 11.

   If you answered "Yes" in Step 6, a prompt similar to the following appears:

   ```
   SYS:SALES/REPORTS
   (Files archived on Friday, Jan 8, 11:01 am)
   Restore? (Y/N)
   ```

8. If you do not want to restore any of the files contained in the directory that appears in the prompt, answer "No." LRESTORE does one of the following:

   ■ Repeats the prompt with another directory for your consideration.

   ■ Displays the "Restore from other disks?" prompt shown in Step 10. (Skip to this prompt at the end of Step 10.)

   If you want to restore one or more files contained in the directory that appears in the prompt, answer "Yes."

   The following prompt appears:

   ```
   Restore ALL files to this directory? (Y/N)
   ```

9. If you want to restore all files contained in the directory, answer "Yes." LRESTORE restores the files to the proper directory on your network and then does one of the following:

- Returns you to the "Restore?" prompt in Step 7 and ask if you want to restore files to another directory. (Return to this prompt at the end of Step 7.)

- Displays the "Restore from other disks?" prompt in Step 10. (Go to this prompt at the end of Step 10.)

To choose whether or not to restore files one by one, answer "No."

A prompt similar to the following appears:

```
SANDY.RPT  Restore? (Y/N)
```

10. To restore the file that appears in the prompt, answer "Yes." Normally, the file is restored immediately.

Sometimes, however, the following prompt appears:

```
File already exists.  Recreate? (Y/N)
```

If there is any chance that the existing file has been corrupted, answer "Yes." Otherwise answer "No" since there is no reason to restore an existing file.

If you do not want to restore the file that appears in the prompt, answer "No."

LRESTORE does one of three things:

- Repeats the "Restore?" prompt in Step 9 with a different file for your consideration. (Return to this prompt at the end of Step 9.)

- Returns you to the "Restore?" prompt in Step 7 and asks if you want to restore files to another directory. (Return to this prompt at the end of Step 7.)

- Displays the following prompt:

      No more archived files on this disk.
      Restore from other disks? (Y/N)

11. To restore archived files from other diskettes, answer "Yes." The following prompt appears:

       If you are restoring from a floppy disk drive (or
       other removable media), insert another diskette and
       press the space bar to continue.
       Or
       If you want to change drives, press the <ESC> key.
       Or
       If you want to end this restore session, press
       <Ctrl> <C>.

    Make the appropriate choice.

    If you are restoring from a floppy disk drive, return to Step 7.

    If you want to change drives, return to Step 2.

    If you don't want to restore any more archived files, answer "No." The following message appears:

       Restore Session Completed

The DOS prompt then appears.

MAKEUSER is useful if you have to create and delete users on a regular basis (such as setting up user accounts for new students each semester) or if you have many users to create.

```
┌─────────────────────────┐
│   Available Options     │
├─────────────────────────┤
│ Create New USR File     │
│ Edit USR File           │
│ Process USR file        │
└─────────────────────────┘
```

Create New USR File

Use this option to create a USR file (a text file with the extension .USR). This text file must contain the keywords needed to create or delete multiple users. You can specify trustee rights, assign users to groups, set an accounting balance, and specify login and password restrictions.

For instructions on creating a USR file, go to page 257.

Edit USR File

Use this option to edit a USR file before you process it. MAKEUSER does not create or change an account for a user already on the network.

For instructions on editing a USR file, go to page 276.

Process USR File

Use this option to process the USR file. MAKEUSER does not create or delete users until the USR file is processed.

For instructions on processing a USR file, go to page 273.

Create a USR file

To use MAKEUSER to create or delete users, you must first create a USR file. This file lists the users you want to create, along with the rights and restrictions you want those users to have. You enter the keywords needed to provide this information. An explanation of the keywords begins on page 259.

You use the MAKEUSER "Create New USR File" option to create USR files.

Note: You can also use any text editor to create USR files. To access the text editor, type the appropriate MAKEUSER keywords as explained beginning on page 259, and then follow the instructions in the text editor documentation for saving an ASCII/DOS file. Be sure the file has the .USR extension.

When you create a USR file with MAKEUSER, the file is placed in the current directory. To edit or reprocess a USR file, you must access the directory in which the file was created. You cannot access USR files that were created in another directory. For this reason, you may want to create a directory for all USR files.

For example, you might want to create a directory USERS with subdirectories STUDENTS and ASSISTANTS. The STUDENTS directory might have subdirectories such as FALL89 and WINTER90. Then, each time you used MAKEUSER to create or delete user accounts for students in a class in the fall semester of 1989, you would move to the USERS/STUDENTS/FALL89 directory before executing MAKEUSER.

MAKEUSER

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

1. Access the directory in which you want to create the USR file.

2. Type

   MAKEUSER <Enter>

3. Select "Create New USR File."

4. In the "Creating a new USR file" entry box, type the keywords needed to create or delete users. These keywords allow you to create and delete users as well as assign the password/login restrictions, trustee rights, home directories, and so forth. You need to carefully read the explanations of the keywords to understand how to use them.

   These files allow you to set up one set of password/login restrictions, rights, home directories, and so forth, for a number of different users.

5. After you enter the keywords you want, save the file by pressing <Escape>.

6. Select "Yes."

7. Type a filename in the "Enter the new USR file name" box and press <Enter>.

   You are returned to the "Available Options" menu.

The keywords used to create your USR file are explained alphabetically on the following pages.

MAKEUSER keywords

Several restrictions apply to entering keywords.

- The CREATE or DELETE keywords must be included; all other information is optional. For this reason, we suggest you read the explanations of the CREATE and DELETE keywords first.

- All other keywords that you want to apply to specific users must precede the CREATE or DELETE keywords for those users.

- The CLEAR/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. For example, if "#groups gl; g2;" is specified on a line before "#groups g3;", the user is added only to the group g3 when the file is processed. The user is not added to groups g1, g2, and g3.

#ACCOUNT EXPIRATION DateSpec

Use this keyword to specify when the new users' accounts expire. If it is not used, the accounts never expire.

This keyword is used only in conjunction with ACCOUNTING. You must specify this keyword before the CREATE keyword. You must also enter a full, formal date after the keyword. This keyword applies to all users until you enter a RESET or CLEAR keyword (see the explanation under "#CLEAR or #Reset"). See "Set an expiration date on a user's account" on page 553.

MAKEUSER

Example

To assign User1 and User2 an account expiration date of
July 24, 1989, use the following keywords.

```
#account_expiration July 24, 1989
#create user1^
#create user2^
```

#ACCOUNTING Balance, LowLimit

This keyword specifies the Account Balance and Low
Balance limit for the users you create.

You must specify this keyword before the CREATE
keyword. After the keyword, enter the Account Balance and
Low Balance limits. These limits must be numeric values.
The value of these units depends on what you specify as you
set up the accounting system on your file server. This
keyword applies only if the file server supports accounting.
If you are not familiar with accounting restrictions, see
"Accounting tasks" on page 518.

Both Balance and LowLimit must be specified, and Balance
cannot be less than LowLimit.

This keyword applies to all users until you enter a RESET
or CLEAR keyword (see the explanation under "#CLEAR
or #Reset").

Example

To assign User1 a balance of 1000 and a lowlimit of -200,
and User2 a balance of 500 and a low limit of 0, use the
following keywords.

```
#accounting 1000, -200
#create user1^
#clear
#accounting 500, 0
#create user2^
```

#CLEAR or #RESET

These keywords allow you to start a new set of keywords in the same USR file. It is as if you are starting a new file after each CLEAR or RESET keyword. All previous keywords encountered in the USR file have no effect on what follows the CLEAR keyword.

This keyword is used if you want to use unique keywords for each user or group of users.

Example

In this example, User1 and User2 are added to the group SALES. User3 is assigned time restrictions but is not added to the group SALES.

```
#groups Sales
#create User1^
#create User2^
#clear
#restricted_time Mon, 12:00p.m.,2:00 p.m.
#create User3^
```

#CONNECTIONS Number

This keyword specifies the maximum concurrent connections each new user can have. If the number is not specified, each user can have as many concurrent connections as the file server supports.

You must specify this keyword before the CREATE keyword. This keyword applies to all users until you enter a RESET or CLEAR keyword (see the explanation under "#CLEAR or #Reset"). After the keyword, enter the number of connections. You can specify from 1 to 100 connections.

Example

User1 and User2 are able to log in from only one
workstation at a time.

```
#connections 1
#create user1^
#create user2^
```

#CREATE option

Use this keyword to create users and specify information
about them.

Although you must include CREATE to create a new user,
all optional keywords that apply to that user must be entered
on a line that precedes CREATE. Do not confuse optional
keywords with the variables included in CREATE.

You must also be careful to enter the information according
to the format specified. An explanation of each variable
follows.

UserName. The account name of the user to be created.
The UserName must be provided; all other variables are
optional.

FullName. The full name of the user. The name cannot
contain commas.

Password. The password of the user to be created.

Group. The groups that the new user belongs to. Each
user is automatically assigned to the group
EVERYONE. You can add a user to more than one
group. You can assign users to more than one group at
a time.

Groups can also be assigned with the GROUP keyword.

TrusteeDirectory [Rights]. The list of directories a user has certain access rights in. The rights can be specified for each directory and must be preceded by a space. You can specify rights in more than one directory. You can assign more than one directory at a time.

If all rights are to be given to the user in a particular directory, specify the name of the directory followed by ALL (for example, SYS:HOME ALL). The default rights are ROS (Read, Open, Search).

The following restrictions apply to the CREATE keyword:

- You must separate all fields (UserName; FullName; Password; etc.) by a semicolon. If a field can contain more than one variable, separate the subfields (Group 1, Group 2) by a comma.

- To extend the information for each keyword to the next line, put "+" after a field or subfield (for example: "password;+" or "group1;+").

- Do not put the same username in one USR file more than once. If you do, an error is reported in the scanning process.

- If you do not want to specify all the variables listed above, insert a double semicolon (;;) to indicate that one field is missing, or insert a caret (^) to terminate a line at any point.

Example 1

You can create user NANCY; assign her the full name Nancy I. Smith; assign her a password, knockknock; make her member of two groups, CLASS1 and CLASS5; and assign her all trustee rights to directory SYS:READ. Type

```
#create nancy; Nancy I. Smith; knockknock; +
    CLASS1, CLASS5; SYS:READ ALL
```

Example 2

To create user JACK and assign him only the password "openup," type

#create jack;;openup;;

Example 3

To create user ROSALIE and not include any other variables, type

#create rosalie^

#DELETE UserName [;UserName]

This keyword deletes users and any information relative to the those users.

You can enter the DELETE keyword in the same file as the CREATE keyword. For example, in a teaching environment, you might want to delete the users for classes taught last semester as you create users for classes taught this semester. However, DELETE cannot be used with any of the same usernames that are in the CREATE list unless CLEAR or RESET separates the two instances of the same name.

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.

Example

Suppose you want to create users SUSAN, CHRIS, and KEN and assign them home directories. You also want to delete users JOYCE, MARK, and EV and remove their home directories.

```
#home_directory SYS:HOME
#create susan^
#create chris^
#create ken^
#purge_user_directory
#delete joyce; mark; ev
```

#GROUPS Group [;Group]

This keyword assigns users to 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 the CREATE keyword.

You must specify the GROUPS keyword on a line preceding the CREATE keyword.

Example

To assign LARRY to groups G1 and G2, enter the following keywords.

```
#groups g1;g2
#create larry^
```

#HOME_DIRECTORY DirectoryPath

This keyword can be used both in creating and in deleting a user. When this keyword is used before the CREATE keyword, MAKEUSER tries to create home directories under users' names in the specified directory path.

All rights are automatically assigned to the home directory. If this keyword is not used, a home directory is automatically created in the SYS volume.

When this keyword is used with DELETE, MAKEUSER automatically tries to delete the subdirectories under the user's name in the SYS volume.

To use this keyword in creating a user, type it before the CREATE command. This keyword applies to all users until you enter a RESET or CLEAR keyword (see the explanation under "#CLEAR or #Reset").

If this keyword was used when creating a user, it must also be specified when deleting a user. Type it before the DELETE command. If the home directory is not in the SYS volume, you must specify the directory path.

Path specifications should always have the format "vol:dir1\subdir\...."

You can specify only directories that are already created.

The format for this keyword is the same, whether used with CREATE or with DELETE.

Example 1

To create the home directory in the SYS:NEWUSERS directory for user ROBYN, you would type

#home_directory sys:newusers
#create robyn^

Example 2

To delete user ROBYN and her home directory, you would type

```
#home_directory sys:newusers
#purge_user_directory
#delete robyn^
```

#LOGIN_SCRIPT FileSpec

This keyword specifies the location of the file containing a login script to be copied and used as each new user's login script.

The file containing the login script must already exist. You must create the file in SYSCON or use a text editor to create a login script file and put it in a convenient directory. It is placed in each new user's mail directory.

You must specify this keyword before the CREATE keyword. This keyword applies to all users until you enter a RESET or CLEAR keyword (see the explanation under "#CLEAR or #Reset").

Example

To assign user DAN a login script found in the file EVERYONE.LOG in the SYS:PUBLIC directory, you would type the following keywords.

```
#login_script sys:public/everyone.log
#create dan^
```

MAKEUSER

#MAX_DISK_SPACE Number

This keyword specifies the maximum number of disk blocks (4KB in size) allocated for each new user. The default is an unlimited number of disk blocks. Use numeric values only. The specified value is always rounded up to a multiple of four, since disk space is allocated in 4KB units.

You must specify this keyword before the CREATE command. This keyword applies to all users until you enter a RESET or CLEAR keyword (see the explanation under "#CLEAR or # Reset"). You can use this keyword only if the disk limitation option was selected during installation.

Example

To assign user KELLY a maximum disk space of 4MB (4096KB), type the following keywords.

```
#max_disk_space 4096
#create kelly^
```

#PASSWORD_LENGTH Length

This keyword specifies the minimum length of the new users' passwords. The length must be between 1 and 20 characters. The default is five characters.

You must enter PASSWORD_REQUIRED before you enter PASSWORD_LENGTH. You must specify both keywords before the CREATE keyword. This keyword applies to all users until you enter a RESET or CLEAR keyword (see the explanation under "#CLEAR or #Reset").

Example

To require user JAN to have a password of at least seven characters, type the following keywords.

```
#password_required
#password_length 7
#create jan^
```

#PASSWORD_PERIOD Days

This keyword assigns the number of days between password expirations. If it is not used, the password never expires.

You must enter PASSWORD_REQUIRED before you enter PASSWORD_PERIOD. You can specify 1 to 365 days. You must specify this keyword before the CREATE command. This keyword applies to all users until you enter a RESET or CLEAR keyword (see the explanation under "#CLEAR or #Reset").

Example

To require user BILL to change his password every 30 days, type the following keywords.

```
#password_required
#password_period 30
#create bill^
```

#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.

MAKEUSER

You must enter PASSWORD REQUIRED before
PASSWORD_LENGTH, UNIQUE_PASSWORD, or
PASSWORD_PERIOD can be specified. You must specify
this keyword before the CREATE keyword. This keyword
applies to all users until you enter a RESET or CLEAR
keyword (see the explanation under "#CLEAR or #Reset").

Example

To require user KATE to have a password, type the
following keywords.

```
#password_required
#create kate^
```

#PURGE_USER_DIRECTORY

This keyword is used to delete any subdirectories owned by
the user when the user is deleted. It is also used in
conjunction with the HOME_DIRECTORY keyword to
delete the user's home directory.

You must enter this keyword before the DELETE keyword.
If you want to delete the user's home directory, you must
include HOME_DIRECTORY.

Example

To delete user KEN, his home directory in the SYS:HOME
directory, and any subdirectories he may have created, type
the following keywords.

```
#home_directory SYS:HOME
#purge_user_directory
#delete ken^
```

#REM or REM

To make comments about the information in your USR file, precede the comments with this keyword.

The REM keyword 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 the REM keyword.

```
#rem students in english 302 winter semester '89
#create student1^
#create student2^
#create student3^
```

#RESTRICTED_TIME Day, Start, End, [;Day, Start, End]

This keyword specifies what days during the week and what times during the day the new users cannot log in to the file server. If this keyword is not used, no restrictions apply.

The following restrictions apply to RESTRICTED_TIME.

- End time cannot be earlier than start time. (12:00 a.m. is acceptable after a p.m. start time.)

- Normal day-of-week and time-of-day formats are required.

- *Day* can have the value "everyday" to indicate every day of the week.

You must specify this keyword before the CREATE command. This keyword applies to all users until you enter a RESET or CLEAR keyword (see the explanation under "#CLEAR or #Reset").

MAKEUSER

Example

To prevent user SONJA from logging in on Monday from
8:00 a.m. to 2:00 p.m., type the following keywords.

```
#restricted_time mon, 8:00 am, 2:00 pm
#create sonja^
```

#STATIONS Network, Station [,Station] [;Network, Station[,Station]]

This keyword specifies the physical workstations from which
users can log in to the file server. If this keyword is not
used, users can to log in from any workstation.

To use the STATIONS keyword, you must supply the
network and station addresses. These should be recorded on
the Workstation Worksheet that you received with your
installation manual. The following restrictions apply:

- Addresses must be entered in hexadecimal.

- Network addresses cannot have more than 8 digits;
  station addresses cannot have more than 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).

You must specify this keyword before the CREATE
command. This keyword applies to all users until you enter
a RESET or CLEAR keyword (see the explanation under
"#CLEAR or #Reset").

Example

To allow user PETER to log in only from stations FE and
DD on Network 12345, type the following keywords.

```
#stations 12345, FE, DD
#create peter^
```

#UNIQUE_PASSWORD

When this keyword is specified, users cannot reuse the 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. You must specify this keyword before the CREATE keyword. This keyword applies to all users until you enter a RESET or CLEAR keyword (see the explanation under "#CLEAR or #Reset").

Example

To require user SUE to change to a unique password every 30 days, type the following keywords.

```
#password_required
#password_period 30
#unique_password
#create sue^
```

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. (See page 275 for complete instructions.)

MAKEUSER

MAKEUSER menu utility

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

1. Move to the directory that contains the USR file you want to process and access MAKEUSER by typing

   MAKEUSER < Enter>

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 on your screen:

   ```
   Keyword expected
   Specification exceeded the limit, the rest of the
       line ignored
   Username CHUCK already specified
   ```

   These errors are reported on the screen and must be corrected with a text editor or by using the MAKEUSER "Edit USR File" option before the file can be processed (see "Edit a USR file" on page 276).

   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. You should always check the report file to see if your USR file has been processed successfully. To do this,

4a. Exit MAKEUSER.

4b. Type the DOS TYPE command and the name of the USR file, with a .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, you can return to MAKEUSER and edit the USR file.

MAKEUSER command line utility

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

1. Change to the directory containing the USR file you want to process and then 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 1, Undefined keyword
    Warning:  Line 2, Group expected
    Please fix the error in the file and try it again.
    ```

    You must correct any errors using the Edit USR Files 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
    ```

MAKEUSER

2. To check the results, type

   TYPE *filename*.RPT <Enter>

   You see a message similar to the following:

   ```
   User USER1 created
   User USER2 not created
       Already exists
   ```

Edit a USR file

The MAKEUSER menu utility lets you edit a USR file.
However, MAKEUSER 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 steps below.

If you need to change the file after you have processed it,
you must reprocess the file after making your corrections.
If you need to make changes and don't want to reprocess the
whole USR file, you can access the appropriate option in
SYSCON and make the desired changes.

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

1. Move to the directory that contains the USR file you
   want to edit and access MAKEUSER by typing

   MAKEUSER <Enter>

2. Select "Edit USR File."

3. Type the name of the USR file in the "Enter USR File
   name" entry box and press <Enter>.

You can press <Insert> to see a list of USR files in
your current directory. Select the one you want to edit.

4. Make the appropriate changes to the file.

5. After entering the changes you want, press <Escape>.

   To save the changes, select "Yes" in the "Save Changes"
   confirmation box.

Delete a USR file

Move to the directory that contains the USR files you want
to delete.

To delete all USR files, type

   DEL *.USR <Enter>

To delete one specific file, type

   DEL *filename*.USR <Enter>

Create users

The following example shows how to create a USR file that
creates two users; assign each user a full name and
password; and create a home directory for each user in the
SYS:HOME directory (if you have a SYS:HOME directory).

1. To access MAKEUSER, type

   MAKEUSER <Enter>

2. Select "Create New USR File."

   The "Create New USR File" screen appears.

3. For this example, assume that you want to make a remark about your USR file. Since remarks must be entered first, type

   #REM MAKEUSER Creating Users Example <Enter>

4. Now enter the keywords you want to apply to the users you are creating. In this instance you want to create a home directory in the SYS:HOME directory. Type

   #HOME_DIRECTORY SYS:HOME <Enter>

   Enter as many keywords as you want at this point.

5. After you enter the keywords, you must create the users by entering the CREATE keyword, substituting the appropriate information for each variable. Use the following keyword format:

   #CREATE *UserName*; *FullName*; *Password*; *Group1*
       [,*Group2*]; *TrusteeDirectory* [*Rights*],
       [*TrusteeDirectory* [*Rights*]]

   For this example, assume that the first user is Kirk W. Jones, whose password is "letmein." Type

   #CREATE kirk; Kirk W. Jones; letmein;; <Enter>

   The last semicolon indicates that you are not assigning Kirk to groups or making trustee assignments.

   To create the second user, Jennifer Wilson, whose password is "hello," type

   #CREATE jennifer; Jennifer Wilson; hello;; <Enter>

The last semicolon indicates that you are not assigning Jennifer to groups or making trustee assignments.

Your USR file should look like this:

```
#REM MAKEUSER Creating Users Example
#HOME_DIRECTORY SYS:HOME
#CREATE kirk; Kirk W. Jones; letmein;;
#CREATE jennifer; Jennifer Wilson; hello;;
```

6. To save the USR file, press <Escape>.

7. Select "Yes" in the Save Changes confirmation box.

8. You must assign a name to the file you created. In the Enter the New USR file name entry box, type

   NEW <Enter>

You have created a new file, NEW.USR (MAKEUSER adds the extension automatically), which can now be processed to create two new users.

When a USR file is processed, it is checked for contradictory commands and syntax errors. If there are mistakes, messages appear on the screen indicating which lines contain errors and what the errors are. If any error messages occur, return to the "Available Options" menu and choose the "Edit USR File" option to correct the mistakes.

If there are no errors, the commands listed in the file are executed.

To process the USR file you just created, complete the following steps:

9. Select "Process USR File" in the "Available Options" menu.

The box that appears should contain the filename
NEW.USR. If it does not, press <Insert> to see a list
of available USR files.

10. Select NEW.USR.

If you receive error messages, check to make sure you
typed the keywords exactly as described in Steps 3
through 5 of the preceding section.

The file is processed, and User1 and User2 are created.
The results are directed to a file whose name is at the
bottom of the screen. In this case, the file is NEW.RPT.

11. To exit MAKEUSER, press <Escape> twice. Then
select "Yes" in the "Exit Makeuser" confirmation box.

12. To check the report file to see if the USR file has been
executed successfully, type

   TYPE NEW.RPT <Enter>

Do not assume that since the file is processed, all the
commands have been executed. Logic errors, such as
"Group 1 does not exist," are reported in the .RPT file.

Another way to verify that new users have been created
is to access the "User Information" option in SYSCON.

Delete users

To delete users with MAKEUSER, you must create a USR file and then process it. The USR file must contain the DELETE keyword. You can delete users in the same file that you create users by including the DELETE keyword in that file. However, in this task, you create a separate file named DELETE to delete users KIRK and JENNIFER. This task assumes you completed the previous example and have created these users.

1. Type

    MAKEUSER <Enter>

2. Select "Create New USR File" in the "Available Option" menu. The "Creating a new USR file" screen appears.

3. To delete users KIRK and JENNIFER, type

    #HOME_DIRECTORY SYS:HOME <Enter>
    #PURGE_USER_DIRECTORY <Enter>
    #DELETE kirk, jennifer <Enter>

    The DELETE keyword deletes users KIRK and JENNIFER. The PURGE_ USER_DIRECTORY keyword removes the home directory for each user. The HOME_DIRECTORY keyword specifies where the home directory is located.

4. To save the USR file, press <Escape>.

5. Select "Yes" in the "Save Changes" confirmation box. The "Enter the New USR file name" entry box appears.

6. To assign a name to the file you have created, type

    DELETE <Enter>

    You return to the "Available Options" menu.

You have created a new file, DELETE.USR
(MAKEUSER adds the extension automatically), which
can be processed to delete two new users.

7. To process the USR file, highlight the "Process USR
    File" option. The DELETE filename should appear in
    the box.

8. Choose the file by pressing < Enter >. (If you wanted to
    process a different file, you would press < Insert > to see
    a list of available USR files.) MAKEUSER scans and
    processes the file and then places the results in the
    DELETE.RPT file.

MAP

Use MAP to view your current drive mappings. Also use MAP to remap your network drives, or to add or delete drive mappings.

Command format

View current drive mapping

MAP [*drive*:]

Create or change default drive mappings

MAP *path*

Create or change network drive mappings

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

Change search drive mappings

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

Delete a drive mapping

MAP DEL *drive*:
MAP REM *drive*:

Additional information

Drive mappings are temporary. Unless you record them in your login script, drive mappings are deleted when you log out or turn off your workstation.

MAP

If you attempt to map a local drive to a network directory path, a prompt similar to the following appears on your workstation screen:

```
Drive B: currently maps to a local disk
Do you want to assign it as a network drive? (Y/N) Y
```

If you want to assign the drive letter to a network drive, answer "Yes."

You cannot delete your default drive mapping.

View your current drive mappings

To view your current drive 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]
```

To view the mapping of one specific drive (for example, drive F), specify the drive in the command as follows:

MAP F: <Enter>

You see information similar to the following:

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

Change network drive mappings

To change a network drive mapping, type the MAP command, the drive letter, the equal sign, and the new directory path. If you are changing your default drive, you do not need to include the drive letter.

Example 1

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

MAP HOME/KAREN <Enter>

Example 2

Suppose your default drive is mapped as follows:

Drive G: = COUNT/SYS:

You want to remap drive G as

Drive G: = COUNT/ACCT:ACCDATA

Type

MAP ACCT:ACCDATA <Enter>

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

MAP

Example 3

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 server, you must include the server name in your command:

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

If another drive, such as drive Z, were already mapped to COUNT/SYS:PUBLIC, you can get the the same result by typing

    MAP M:=Z: <Enter>

Example 4

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 any network drive (for example, drive P) to the same path as your default drive, use one of the following commands:

    MAP P:=G: <Enter>

or

    MAP P:= <Enter>

Change search drive mappings

You can remap a search drive by including either MAP or MAP INS in the command. For example, suppose you are user TERRY and your search drives appear as follows:

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

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

To remap search drive 3 in this way, type

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]
```

Delete drive mappings

To delete drive G, type

MAP DEL G: < Enter >

A message similar to the following appears on your screen, verifying that the drive has been deleted:

```
Definition for drive G: has been removed.
```

To delete search drive 3, type

MAP DEL S3: < Enter >

A message similar to the following appears on your screen, verifying that the search drive has been deleted:

```
Definition for drive W: has been removed.
Mapping for SEARCH3: has been removed.
```

MENU

Use MENU to access customized menus you create.

Command format

MENU *filename*

Access customized menus

To access a menu you have created, type

MENU *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 by typing

MENU *filename.ext* <Enter>

When you exit an application or a program you accessed through the menu, the menu you started from reappears.

To access an application or a 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.

For information on creating customized menus, refer to the Planning Menus module in the *Installation for ELS NetWare Level II* manual.

MONITOR

Use MONITOR to call up the Monitor Display, which keeps track of the activities of all workstations logged in or attached to the file server.

Command format

MONITOR [*station number*]

Replace *station number* with the number of a specific station you want to monitor.

Additional information

The Monitor Display is an information display that shows the activity of six workstations at a time. The NetWare operating system automatically updates the information in the Monitor Display.

If you are a newcomer to NetWare and you are trying to access a file that is locked, you can use the Monitor Display to see who is using the file.

If you are the network supervisor and you need to shut down the file server, you can check the Monitor Display to make sure all users have logged out.

If you are a programmer or if you understand NetWare programming, you can use the Monitor Display as a diagnostics tool.

Note: Whenever you are not using the Monitor Display, you should turn off the display using the OFF command. Monitor Display maintenance requires modest operating system overhead.

Call up the Monitor Display

To view the activities of network workstations on the file server, type

MONITOR <Enter>

You can enter MONITOR with or without specifying the number of any workstation you want to monitor.

The Monitor Display is divided into six blocks. Each block contains information about a particular workstation. Blocks numbered 1 through 6 display information about workstations 1 through 6, blocks 7 through 12 display information about workstations 7 through 12, and so on in six-station blocks.

To monitor workstation 23, at the file server type

MONITOR 23 <Enter>

Blocks 19 through 24 appear in the Monitor Display. If you specify MONITOR 16, blocks 13 through 18 appear.

MONITOR

Example

A sample Monitor Display is shown below. The display is separated into six boxes, each showing the activity of one workstation.

```
┌ ELS NetWare Level II V2.15   Utilization(%)-25      Disk I/O Pending -4 ┐
  Stn 1:Search Next  Stn 2: Read File  Stn 3: Get File Size

  File      Stat    File      Stat    File        Stat
  ?:MGS     2 PRPW  F:CHA     2 PRPW  O:INDEX     4 PRPW
  ?:MST     2 PRPW  W:KEN     2 PRPW  F:MINE      4 PRPW
  ?:MSC     2 PRPW  W:PCE     2 PRPW  F:MAW       4 PRPW
  ?:MSR     2 PRPW  Y:WP      2  RP   G:TOF       4 PRPW

  Stn 4:             Stn 5:            Stn 6:

  File      Stat    File      Stat    File        Stat




└                                                                        ┘
```

The information in the Monitor Display is explained on the following pages.

Operating system version

The NetWare operating system version number is shown in the upper-left corner of the Monitor Display.

Server utilization

The percentage of file server utilization is shown in the middle of the top line of the Monitor Display. This value, which is updated every second, reveals the amount of file server processor time used by network requests during the last second and thus indicates approximately how close the file server is to having a full load.

Cache buffers

The upper-right corner of the Monitor Display shows this message:

Disk I/O Pending

The value following this message is the number of cache buffers that have been changed in the file server's memory but have not yet been written to the disk. (The file server uses caching to improve performance.)

Station number

In the upper-left corner of each box is the abbreviation Stn (station) followed by the number of the workstation to which the displayed information applies.

Request area and request messages

Each workstation number shown in the Monitor Display is followed by a colon. The area immediately to the right of the colon is called the request area and displays messages indicating the most recent request the workstation has made of the file server.

For example, a "Read File" message indicates that the last request the file server received from the workstation was to read information from a file. An "End of Job" message indicates that the workstation has completed its work and all files have been released.

Following is a list of the messages that can appear in the request area:

Alloc Resource	Log Record
Begin Trans	Open File
Clear File	Pass File
Clear File Set	Read File
Clear Record Set	Rel Phy Rec
Close File	Rel Phy Rec Set
Clr Phy Rec	Rel Record Set
Clr Phy Rec Set	Rel Resource
Copy File	Release File
Create File	Release File Set
Dir Search	Release Record
End of Job	Rename File
End Trans	Search Next
Erase File	Semaphore
Floppy Config	Set File Atts
Get File Size	Start Search
Lock File	Sys Log
Lock Phy Rec Set	Unlock Record
Lock Record	Win Format
Log Out	Win Read
Log Pers File	Win Write
Log Phy Rec	Write File

Transactions

Directly below the request area is the transaction area, which shows the transaction status of a workstation that is sharing files with other workstations. When a workstation isn't engaged in a transaction, the transaction area is blank.

When a workstation makes a transaction request, the message "Begin Trans" appears in the request area. As soon as the transaction request is granted, the message "TRANSACTION" appears in the transaction area. The message remains until transaction processing is completed. (In many cases processing is nearly instantaneous; therefore, the message only flashes on the screen.)

A workstation requesting a transaction can be kept waiting for a file or a file record to be freed for use. In such a case, the message "WAITING" appears in the transaction area.

Displayed files and file status messages

Below the request and transaction areas is an area reserved for displaying the names of files in use. The headers File and Stat appear at the top of this area.

The names of the five most recently opened files are displayed under the File header (unless fewer than five files have been called for during the current session). Filenames are displayed in DOS format. The drive letter is displayed with a colon, followed by the filename and extension.

The status of each file is displayed under the Stat header. The file status is represented by various numbers and letters that appear in the columns.

The file status number displayed at the far left of the status field is the DOS task number. (Every file opened is assigned an accompanying DOS task number.) The file status letters represent the following:

P (in the first column of letters) indicates that other workstations cannot read the file.

R (in the second column of letters) indicates that the workstation has the file open for a read.

P (in the third column of letters) indicates that other workstations cannot write to the file.

W (in the fourth column of letters) indicates that the workstation has the file open and is writing to the file.

The file status can also be represented by one of the
following identifiers:

Pers indicates that a file is logged but not locked.

Lock indicates that a file is locked.

When a file server is running an SFT NetWare operating
system with TTS (Transaction Tracking System), these two
status letters can also appear:

T (in the first column of letters) indicates that a
transactional file is open.

H (in the second column of letters) indicates that a
transactional file is on hold until the transaction is
completed.

Update the Monitor Display manually

To update the Monitor Display manually, type

MONITOR <Enter>

To see information about a particular workstation, include
the workstation number in the command. The Monitor
Display is redrawn, and only current information is
displayed.

Example

Suppose a user tries to access an application program. The
message "Updating Files" appears on the workstation screen.
If the workstation sits for 20 minutes with no further
indication that the application is working and the Monitor
Display shows the "Write File" message in the request area
for the entire 20 minutes the application is supposed to be
running, the application has probably crashed.

To see if the application has crashed, update the Monitor
Display manually. Then if the "Write File" message or some
other message is again displayed in the request area, the
application program is still working. If no message appears
in the request area, the application has probably crashed.

MOUNT

Use MOUNT to add a removable volume to a file server.

Command format

MOUNT [PACK] [*removable volume number*]

Replace *removable volume number* with the number of volume you want to mount on your file server.

Additional information

Some disk subsystems have 8-inch floppy diskette drives. Other subsystems have drives for packs of floppy diskettes. These packs can be removed and replaced. Still other subsystems have removable hard disks. All floppy diskettes, diskette packs, and removable hard disks (storage media that can be removed and replaced) are removable volumes.

The keyword PACK is used when mounting diskette packs. Because each diskette contains one volume, each diskette pack contains several volumes. The MOUNT PACK form of the command allows you to mount all diskette pack volumes with one command entry.

After you have entered the MOUNT command, MOUNT checks the configuration and volume name of the new media. After a new volume is mounted successfully, the console displays a message indicating the volume is mounted.

Add a volume to a file server

To mount a volume (for example, volume 2) on your file server, type

MOUNT 2 <Enter>

Use NAME to display the name of the file server.

Command format

NAME

Display the name of the file server

To view the name of the file server, type

NAME < Enter>

When you enter this command, the console displays the name of the file server in the following format:

This is Server *server name*

NARCHIVE

Network **ARCHIVE**

Use NARCHIVE to archive DOS files to network directories.

Command format

NARCHIVE [*path* | SYSTEM]

Replace *path* with a directory path leading to and including the volume, directory, or subdirectory from which you want to archive a file.

Macintosh considerations

NARCHIVE does not back up

- Macintosh files;

- Any files that were created by a DOS workstation and then accessed by a Macintosh workstation. (When a Macintosh workstation accesses a file created by a DOS workstation, the file is given Macintosh file characteristics.)

You must use MACBACK to back up Macintosh files and files that have Macintosh characteristics.

If you want to back up both DOS and Macintosh files, we suggest you use the backup and restore utilities in the following order:

- Back up DOS files using NARCHIVE.

- Back up Macintosh files using MACBACK.

- Restore DOS files using NRESTORE.

- Restore Macintosh files using MACBACK.

Because you must use MACBACK to back up Macintosh
files and LARCHIVE or NARCHIVE to back up DOS files,
you may want to keep Macintosh and DOS files in separate
directories.

Before you execute the command

You must issue the NARCHIVE command from a network
drive mapped to the file server from which you want to
archive files.

To archive files from a given directory, your effective rights
in that directory must include Read, Open, Search, and
Modify.

To archive security files for your file server, you must be
logged in as SUPERVISOR or have equivalent rights. (The
server security files include NET$BIND.SYS and
NET$BVAL.SYS located in the SYS:SYSTEM directory.)
The security files contain lists of users, groups, passwords,
security equivalences, full names, and ID numbers.

The log report is a file called ARCHIVE.LOG created by
NARCHIVE and stored with the other archived files. It
includes the following information:

- The date and time of your archiving session

- The directory path of each directory from which you
  archived one or more files

- A list of all archived files

Which files do you want to back up? Choose an answer
from the list below and follow the specified example:

- Certain or all files from one particular directory and one
  or more (but not all) subdirectories. Refer to Example 1
  on page 302.

- Certain or all files from one particular directory and all
  subdirectories. Refer to Example 2 on page 307.

- Certain or all files from various directories and subdirectories throughout the directory structure of the file server. Refer to Example 3 on page 311.

- Certain files from all directories and all subdirectories on a specific volume. Refer to Example 4 on page 315.

Archive DOS files to network directories

To archive files, type

NARCHIVE *path* <Enter>

Example 1

Suppose you want to archive certain files from directory SANDY. Or suppose you want to archive files from directory SANDY and you want to archive files from one or more (but not all) subdirectories of SANDY. Complete the following steps.

1. Type one of the following commands:

   NARCHIVE SYS:HOME/SANDY <Enter>

   or

   NARCHIVE F: <Enter>

   Or, if drive F is your default drive, type

   NARCHIVE <Enter>

   The following prompt appears:

   ```
   Enter names (separated by commas) of directories to
   which files should be archived (destination
   directories).  You must specify a complete directory
   name including the volume.
   >
   ```

2. Type each directory path and press <Enter>. For example, to archive files to COUNT/VOL1:ARCHIVE, type

   VOL1:ARCHIVE <Enter>

   After the last directory path you type, press <Enter> twice.

   The following prompt appears:

   ```
   Do you want to print a log report of this session?
   (Y/N)
   ```

3. To print a log report immediately following the archiving session, answer "Yes." You are asked to indicate whether you want to print the log report on a local printer or a network printer, and how many copies you want to print.

   If you do not want to print a log report immediately following the archiving session, answer "No." (If you answer "No," you can print the log report later by using NPRINT to print the ARCHIVE.LOG file.)

   The following prompt appears:

   ```
   Do you want to save directory rights and trustee
   lists? (Y/N)
   ```

4. To archive the maximum rights mask and the trustee list for each directory from which you archive files, answer "Yes." Otherwise answer "No."

   If you are not logged in as SUPERVISOR, the "Select specific directories to be backed up?" prompt in Step 5 appears. (Skip to this prompt at the end of Step 5.)

   If you are logged in as SUPERVISOR or have equivalent rights, the following prompt appears:

   ```
   Do you want to archive the system's user and group
   definitions? (Y/N)
   ```

5. If you want to archive the file server security files (NET$BIND.SYS and NET$BVAL.SYS found in SYS:SYSTEM), answer "Yes." Otherwise answer "No."

   The following prompt appears:

   ```
   Select specific directories to be backed up?
   (N = Back up all directories)
   ```

6. Answer "Yes."

   If you are not logged in as SUPERVISOR, go to Step 7.

   If you are logged in as SUPERVISOR or have equivalent rights and if you answered "Yes" in Step 5 (indicating that you want to archive system security files), the following message appears:

   ```
   SYS:SYSTEM

   ***Directory VOL1:ARCHIVE assigned for archiving
      files, ***
   ***Do NOT create or expand files on volume VOL1 ***

   Archiving: **
   ```

   This message informs you that NARCHIVE is automatically archiving the server security files to the VOL1:ARCHIVE directory. (VOL1:ARCHIVE is just an example directory. You may have specified any directory in Step 2 to which to archive files.)

7. The following prompt appears:

   ```
   SYS/HOME/SANDY
   Back up?  (Y/N)
   ```

   Answer "Yes."

The following prompt appears:

```
Select the back up mode for this directory from the
    following:
1)Back up ALL qualified files in each directory
2)Back up ONLY qualified files that have been
    modified since last backup
3)Choose specific files to be backed up
```

8. To archive certain files from directory SANDY
    regardless of whether or not they have been modified
    since the last backup, type "1" and press <Enter>.

    To archive only certain files from directory SANDY that
    have been modified since the last backup, type "2" and
    press <Enter>.

    To choose files to archive one by one, type "3" and press
    <Enter>. The name of each file appears with the
    question "Back Up?" Answer "Yes" or "No" to each
    prompt. Then skip to Step 11.

    If you chose Option 1 or 2, the following prompt
    appears:

```
Do you want to:
1)Select specific files
2)Ignore specific files
3)Back up all files
```

9. To archive only certain files (for example, *.DAT or
    IPX*.* files), type "1" and press <Enter>.

    To archive all files (or all modified files if you chose "2"
    for the previous prompt) except certain files that you
    specify hereafter, type "2" and press <Enter>.

    To archive all files (or all modified files if you chose "2"
    for the previous prompt), type "3" and press <Enter>.
    NARCHIVE archives all indicated files. Now skip to
    Step 11.

If you chose Option 1 or 2, the following prompt appears:

```
Enter list of file specifications to be used for
selecting files or <RETURN> if none.  Multiple lines
may be entered.
>
```

10. Specify the files or kinds of files you want to archive (or exclude if you chose Option 2). You can enter up to 50 file specifications. To enter more than one specification on a single line, separate the specifications with commas.

After you have typed all the files you want to archive, press <Enter> twice.

For example, to archive *.DAT and IPX*.* files, type

*.DAT   <Enter>
IPX*.*   <Enter> <Enter>

NARCHIVE archives all specified files from directory SANDY to the directory or directories that you specified in Step 2.

11. NARCHIVE repeats Steps 6 through 10 for each subdirectory of SANDY. Continue to answer the prompts until the following message appears:

```
Archiving Session Completed.
```

The DOS prompt appears. If you specified a log report to be printed, it is printed at this time.

Example 2

Suppose you want to archive certain files from directory
SANDY and certain files from all subdirectories of directory
SANDY. To do so, complete the following steps.

1. Type one of the following commands:

    NARCHIVE SYS:HOME/SANDY <Enter>

    or

    NARCHIVE F: <Enter>

    Or, if drive F is your default drive, type

    NARCHIVE <Enter>

    The following prompt appears:

    ```
    Enter names (separated by commas) of directories to
    which files should be archived (destination
    directories).  You must specify a complete directory
    name including the volume.
    >
    ```

2. Type each directory path and press <Enter>. For
    example, to archive files to COUNT/VOL1:ARCHIVE,
    type

    VOL1:ARCHIVE <Enter>

    After the last directory path you type, press <Enter>
    twice.

    The following prompt appears:

    ```
    Do you want to print a log report of this session?
        (Y/N)
    ```

3. To print a log report immediately following the archiving
    session, answer "Yes." You are asked to indicate
    whether you want to print the log report on a local
    printer or a network printer, and how many copies you
    want to print.

If you do not want to print a log report immediately
following the archiving session, answer "No." (If you
answer "No," you can print the log report later by using
NPRINT to print the ARCHIVE.LOG file.)

The following prompt appears:

```
Do you want to save directory rights and trustee
    lists? (Y/N)
```

4. To archive the maximum rights mask and the trustee list
for each directory from which you archive files, answer
"Yes." Otherwise answer "No."

If you are not logged in as SUPERVISOR, the "Select
specific directories to be backed up?" prompt in Step 5
appears. (Skip to this prompt at the end of Step 5.)

If you are logged in as SUPERVISOR or have
equivalent rights, the following prompt appears:

```
Do you want to archive the system's user and group
    definitions? (Y/N)
```

5. To archive the file server security files (NET$BIND.SYS
and NET$BVAL.SYS found in SYS:SYSTEM), answer
"Yes." Otherwise answer "No."

The following prompt appears:

```
Select specific directories to be backed up?
(N = Back up all directories)
```

6. Answer "No."

The following prompt appears:

```
Select the backup mode for ALL directories from the
    following:
1)Back up ALL qualified files in each directory
2)Back up ONLY qualified files that have been
    modified since last backup.
```

7. To archive certain files from directory SANDY and all subdirectories regardless of whether or not they have been modified since the last backup, type "1" and press <Enter>.

   To archive only certain files from directory SANDY and all subdirectories that have been modified since the last backup, type "2" and press <Enter>.

   The following prompt appears:

   ```
   Do you want to:
   1)Select specific files
   2)Ignore specific files
   3)Back up all files
   ```

8. To archive only certain files (for example, *.DAT files or IPX*.* files), type "1" and press <Enter>.

   To archive all files (or all modified files if you chose "2" for the previous prompt) except certain files that you specify later, type "2" and press <Enter>.

   To archive all files (or all modified files if you chose "2" for the previous prompt), type "3" and press <Enter>. Now skip to Step 10.

   If you chose Option 1 or 2, the following prompt appears:

   ```
   Enter list of file specifications to be used for
   selecting files or <RETURN> if none.  Multiple lines
   may be entered.
   >
   ```

9. Specify the files or kinds of files you want to archive (or exclude if you chose Option 2). You can enter up to 50 file specifications. To enter more than one specification on a single line, separate the specifications with commas.

   After you have typed all the files you want to archive, press <Enter> twice.

For example, to archive *.DAT and IPX*.* files, type

```
*.DAT  <Enter>
IPX*.*  <Enter>  <Enter>
```

If you are not logged in as SUPERVISOR, skip to Step 10.

If you are logged in as SUPERVISOR or have equivalent rights and if you answered "Yes" in Step 5, the following prompt appears:

```
SYS:SYSTEM

***Directory VOL1:ARCHIVE assigned for archiving
    files, ***
***Do NOT create or expand files on volume VOL1 ***

Archiving: **
```

This message informs you that NARCHIVE is automatically archiving the file server security files to the VOL1:ARCHIVE directory. (VOL1:ARCHIVE is just an example directory. You may have specified any directory in Step 2 to which to archive files.)

10. NARCHIVE archives all specified files from directory SANDY and all subdirectories to the directory or directories you indicated in Step 2.

When the specified files are archived, the following message appears:

```
Archiving Session Completed.
```

The DOS prompt appears. If you specified a log report to be printed, it is printed at this time.

Example 3

Suppose you want to archive certain files from various directories and subdirectories throughout the directory structure of server COUNT to a network drive. To do so, complete the following steps.

1. Type

   NARCHIVE SYSTEM < Enter >

   The following prompt appears:

   ```
   You MUST be a supervisor in order to perform a
   COMPLETE system backup.  If you are not a
   supervisor, only directories to which you have
   rights may be backed up.
   Back up fixed volume SYS?  (Y/N)
   ```

2. To back up one or more files contained on this volume, answer "Yes." Otherwise answer "No." You are asked to indicate whether you want to back up files on other volumes. Answer "Yes" or "No" for each volume that appears in the prompt.

   After you specify the volumes you want to archive files from, the following prompt appears:

   ```
   Enter names (separated by commas) of directories to
   which files should be archived (destination
   directories).
   You must specify a complete directory name including
   the volume.
   >
   ```

3. Type each directory path and press <Enter>. For example, to archive files to COUNT/VOL1:ARCHIVE, type

   VOL1:ARCHIVE < Enter >

   After the last directory path you type, press <Enter> twice.

The following prompt appears:

```
Do you want to print a log report of this session?
(Y/N)
```

4. To print a log report immediately following the archiving session, answer "Yes." Indicate whether you want to print the log report on a local printer or a network printer, and how many copies you want to print.

If you do not want to print a log report immediately following the archiving session, answer "No." (If you answer "No," you can print the log report later by using NPRINT to print the ARCHIVE.LOG file.)

The following prompt appears:

```
Select specific directories to be backed up?
(N = Back up all directories)
```

5. Answer "Yes."

If you are not logged in as SUPERVISOR, go to Step 6. If you are logged in as SUPERVISOR or have equivalent rights, the following prompt appears:

```
SYS:SYSTEM

***Directory VOL1:ARCHIVE assigned for archiving
    files, ***
***Do NOT create or expand files on volume VOL1 ***

Archiving: **
```

This message informs you that NARCHIVE is automatically archiving the server security files to the VOL1:ARCHIVE directory. (VOL1:ARCHIVE is just an example directory. You may have specified any directory in Step 3 to which to archive files.)

6. A prompt similar to the following appears:

```
SYS/HOME
Back up?  (Y/N)
```

If you do not want to archive any files in this directory, answer "No." Another prompt appears asking the same question for a different directory.

If you want to archive some or all of the files in this directory, answer "Yes." The following prompt appears:

```
Select the back up mode for this directory from the
   following:
1)Back up ALL qualified files in each directory
2)Back up ONLY qualified files that have been
   modified since last backup
3)Choose specific files to be backed up
```

7.   To archive certain files from directory HOME regardless of whether or not they have been modified since the last backup, type "1" and press <Enter>.

To archive only certain files from directory HOME that have been modified since the last backup, type "2" and press <Enter>.

To choose files to archive one by one, type "3" and press <Enter>. The name of each file appears with the question "Back Up?" Answer "Yes" or "No" to each. Then skip to Step 9.

If you chose Option 1 or 2, the following prompt appears:

```
Do you want to:
1)Select specific files
2)Ignore specific files
3)Back up all files
```

8.   To archive only certain files (for example, *.DAT or IPX*.* files), type "1" and press <Enter>.

To archive all files (or all modified files if you chose "2" for the previous prompt) except certain files that you specify later, type "2" and press <Enter>.

To archive all files (or all modified files if you chose "2" for the previous prompt), type "3" and press <Enter>. NARCHIVE archives all indicated files. Now skip to Step 9.

If you chose Option 1 or 2, the following prompt appears:

```
Enter list of file specifications to be used for
selecting files or <RETURN> if none.  Multiple lines
may be entered.
>
```

Specify the files or kinds of files you want to archive (or exclude if you chose Option 2). You can enter up to 50 file specifications. To enter more than one specification on a single line, separate the specifications with commas.

After you have typed all the files you want to archive, press <Enter> twice.

For example, to archive *.DAT and IPX*.* files, type

    *.DAT   <Enter>
    IPX*.*   <Enter> <Enter>

NARCHIVE archives all specified files from directory HOME to the directory or directories specified in Step 3.

9. NARCHIVE repeats Steps 5 through 9 for each directory and subdirectory on each volume that you chose in Step 2. Continue to answer the prompts until the following message appears:

```
Archiving Session Completed.
```

The DOS prompt appears. If you specified a log report to be printed, it is printed at this time.

Example 4

To archive certain files from all directories and all subdirectories on a specific volume (or volumes) on the file server to a network drive, complete the following steps:

1. Type the following command:

    NARCHIVE SYSTEM < Enter >

    The following prompt appears:

    ```
    You MUST be a supervisor in order to perform a
    COMPLETE system backup.  If you are not a
    supervisor, only directories to which you have
    rights may be backed up.
    Back up fixed volume SYS?  (Y/N)
    ```

2. To back up specific files contained in each directory and subdirectory on this volume, answer "Yes." Otherwise answer "No." You are asked to indicate whether you want to back up files from other volumes on the file server. Answer "Yes" or "No" for each volume that appears in the prompt.

    After you specify the volumes from which you want to archive files, the following prompt appears:

    ```
    Enter names (separated by commas) of directories to
    which files should be archived (destination
    directories).  You must specify a complete directory
    name including the volume.
    >
    ```

3. Type each directory path and press <Enter>. For example, to archive files to COUNT/VOL1:ARCHIVE, type

    VOL1:ARCHIVE <Enter>

    After the last directory you type, press <Enter> twice. The following prompt appears:

    ```
    Do you want to print a log report of this session?
       (Y/N)
    ```

4. To print a log report immediately following the archiving session, answer "Yes." You are asked to indicate whether you want to print the log report on a local printer or a network printer, and how many copies you want to print.

   If you do not want to print a log report immediately following the archiving session, answer "No." (If you answer "No," you can print the log report later by using NPRINT to print the ARCHIVE.LOG file.)

   The following prompt appears:

   ```
   Select specific directories to be backed up?
   (N = Back up all directories)
   ```

5. Answer "No."

   The following prompt appears:

   ```
   Select the backup mode for ALL directories from the
      following:
   1)Back up ALL qualified files in each directory
   2)Back up ONLY qualified files that have been
      modified since last backup.
   ```

6. To archive certain files from these directories and subdirectories regardless of whether or not they have been modified since the last backup, type "1" and press <Enter>.

   To archive only certain files from these directories and subdirectories that have been modified since the last backup, type "2" and press <Enter>.

   The following prompt appears:

   ```
   Do you want to:
   1)Select specific files
   2)Ignore specific files
   3)Back up all files
   ```

7. If you want to archive only certain files (for example, *.DAT or IPX*.* files), type "1" and press <Enter>.

To archive all files (or all modified files if you chose "2" for the previous prompt) except those you will specify, type "2" and press <Enter>.

To archive all files (or all modified files if you chose "2" for the previous prompt), type "3" and press <Enter>. Now skip to Step 9.

If you choose Option 1 or 2, this prompt appears:

```
Enter list of file specifications to be used for
selecting files or <RETURN> if none.  Multiple lines
may be entered.
>
```

8. Specify the files or kinds of files you want to archive (or exclude if you chose Option 2). You can enter up to 50 file specifications. To enter more than one specification on a single line, separate the specifications with commas.

After you have typed all the files you want to archive, press <Enter> twice.

For example, to archive *.DAT and IPX*.* files, type

```
*.DAT  <Enter>
IPX*.*  <Enter> <Enter>
```

If you are not logged in as SUPERVISOR, go to Step 9.

If you are logged in as SUPERVISOR or have equivalent
rights, the following message appears:

```
SYS:SYSTEM

***Directory VOL1:ARCHIVE assigned for archiving
   files, ***
***Do NOT create or expand files on volume VOL1***

Archiving: **
```

This message informs you that NARCHIVE is archiving
the server security files to the VOL1:ARCHIVE
directory. (VOL1:ARCHIVE is just an example
directory. You may have specified any directory in Step
3 to which to archive files.)

9. NARCHIVE archives all specified files from all
   specified directories and subdirectories to the directory
   or directories that you indicated in Step 3.

   NARCHIVE does not archive Macintosh files.
   Therefore, if the specified directory contains Macintosh
   files, the following message appears:

   ```
   xx Mac files were skipped.
   ```

   The following message then appears:

   ```
   Archiving Session Completed.
   ```

The DOS prompt appears. If you specified a log report to
be printed, it is printed at this time.

Use NCOPY to copy one or more files from one network directory to another. You can also use NCOPY to copy files to and from local drives.

Command format

NCOPY *filespec* [TO] [*path*] [*filename*] [/Verify]

Replace *filespec* with a directory path leading to and including the file you want to copy.

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

If you want to rename the file you are copying, replace *filename* with the new name of the file.

Use the /Verify option if you want NCOPY to compare the original file with the newly created file to be sure they are identical. The default is /Verify disabled.

Additional information

If you need to copy files to and from directories and no drives are mapped to those directories, specify the complete path in your NCOPY command.

New files retain the date and time of original files. However, the date and time the new files are created and accessed changes.

NCOPY

NCOPY has been modified so that it copies both the data and resource forks of Macintosh files. You can now copy files originally created on either a DOS workstation or a Macintosh workstation.

Because you must use MACBACK to back up Macintosh files and LARCHIVE and NARCHIVE to back up DOS files, you may want to keep DOS and Macintosh files in separate directories.

You can use wildcard characters (* and ?) in your NCOPY command to specify certain files.

Copy files from one network directory to another

To copy files from one network directory to another, type

NCOPY *filespec* TO *path filename* <Enter>

TO is optional. Use it if you find it helpful.

Example 1

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 G: <Enter>

or

NCOPY ACC.DAT TO SALES/SYS:SALEPROG <Enter>

Example 2

Suppose you want to copy a file called ACC.DAT from the SALESPROG 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

To copy the ACC.DAT file to your default directory, type

NCOPY G:ACC.DAT <Enter>

or

NCOPY SALES/SYS:SALEPROG/ACC.DAT <Enter>

If SALES is your default server, SALES/ is optional in the second command.

Example 3

Suppose drives F and G are mapped as follows:

Drive F: = COUNT/SYS:PUBLIC
Drive G: = COUNT/ACCT:PROGRAMS

Also suppose you want to copy the ACC.DAT file from the PUBLIC directory to the PROGRAMS directory. Type

NCOPY F:ACC.DAT G: <Enter>

or

NCOPY SYS:PUBLIC/ACC.DAT TO ACCT:PROGRAMS
     <Enter>

Example 4

Suppose drives F and G are mapped as follows:

Drive F: = COUNT/SYS:PUBLIC
Drive G: = SALES/SYS:PROGRAMS

Also suppose you want to copy the FINDIT.EXE file from the PUBLIC directory on file server COUNT to the PROGRAMS directory on server SALES. Type

NCOPY F:FINDIT.EXE TO G: <Enter>

or

NCOPY COUNT/SYS:PUBLIC/FINDIT.EXE TO
    SALES/SYS:PROGRAMS <Enter>

Example 5

Suppose drives F and G are mapped as follows:

Drive F: = COUNT/SYS:PUBLIC
Drive G: = COUNT/ACCT:PROGRAMS

If you want to copy the ACC.DAT file from the PUBLIC directory to the PROGRAMS directory and change the file name to DATA, type

NCOPY F:ACC.DAT G:DATA <Enter>

or

NCOPY SYS:PUBLIC/ACC.DAT TO
    ACCT:PROGRAMS/DATA <Enter>

Example 6

Include the /V option as the last item in your NCOPY command. The following is an example:

NCOPY F:ACC.DAT TO G: /V <Enter>

This command copies the ACC.DAT file from drive F to drive G and then compares the two files to ensure that they are identical.

Example 7

Include wildcard characters in your command to copy several related files in one NCOPY command. For example, 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>

or

NCOPY SYS:PUBLIC/*.EXE TO ACCT:PROGRAMS
     <Enter>

To copy all files in the PUBLIC directory to the PROGRAMS directory, replace *.EXE with *.* in the commands above.

You can use the wildcard characters * or ? separately or in several combinations to indicate exactly the set of files you want to copy.

NDIR

Network **DIR**ectory

Use NDIR to view information about files and subdirectories in a directory.

Command format

NDIR [*path*] | [*filename*]

NDIR *path* | *filespec option* [ ]

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

Replace *filename* with the name of the file you want to view. (Or use wildcard characters to indicate the set of files you want to view.)

Replace *filespec* with a path leading to and including the name of the file or set of files you want to view. The vertical bar (|) indicates that you must specify a *path* or a *filespec*, but not both.

Replace *option* with one or more of the options listed beginning on page 326.

Use the first command format if you do not want to use options in your NDIR command. Use the second format if you do want to use options in your NDIR command.

Additional information

NDIR has been modified to recognize Macintosh files. NDIR identifies a Macintosh file by placing an asterisk next to the filename.

In addition, several new options have been added to NDIR.
One new option allows you to view only Macintosh files.
Other new options allow you to change the way information
is displayed on the screen and to view when files were last
archived.

Use NDIR to view the following information about the files
in a given directory:

- Filenames

- Sizes of the files in bytes

- Dates and times the files were last updated

- Dates the files were last accessed

- Files that have or have not been archived

- Dates the files were last archived

- Dates the files were created

- File attributes assigned to the files

- Owners of the files (The owner is the creator of the file
  or the last person to update the file.)

- Files that were created by a Macintosh

Use NDIR to view the following information about the
subdirectories in a given directory:

- Subdirectory names

- Dates the subdirectories were created

- Maximum rights masks

- Your effective rights in the subdirectories

- Owners (creators) of the subdirectories

NDIR

Command options

There are five types of command options: basic file information, file attributes, sort file information, view information, and archiving information.

Basic file information options

Use one or more of the following options to see basic information about files in a given directory.

FILENAME [NOT]=*file*

Include this option to view all the files in a given directory related in some way by filename or to view all the files except those related in some way by filename. You can use wildcard characters to specify related files. Replace *file* with the name of the file you want to specify.

OWNER [NOT]=*name*

Include this option to view all the files in a directory that were created by the same user or to view all files except those created by the same user. Replace *name* with the name of the file you want to specify.

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 same date, or to view all files except those last accessed on, before, or after the same date. Replace *mm-dd-yy* with the appropriate date.

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 same date, or to view all files except those last accessed on, before, or after the same date. Replace *mm-dd-yy* with the appropriate 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 same date, or to view all files except those created on, before, or after the same date. Replace *mm-dd-yy* with the appropriate date.

SIZE [NOT] GReater than | = | LEss than *n*

Include this option to view all files in a directory with byte sizes greater than, equal to, or less than the same value, or to view all files except those with byte sizes greater than, equal to, or less than the same value. Replace *n* with the number of bytes. (You can use K for kilobytes or M for megabytes.)

File attributes options

Use one or more of the following options to see information about files in a directory with file attributes set.

[NOT] SYstem

Include this option to view all files in a directory with the System file attribute or to view all files except those with the System file attribute.

[NOT] Hidden

Include this option to view all files in a directory with the Hidden file attribute or to view all files except those with the Hidden file attribute.

[NOT] Modified

Include this option to view all files in a directory with the Modified file attribute or to view all files except those with the Modified file attribute.

[NOT] ExecuteOnly

> Include this option to view all files in a directory with the
> Execute-Only file attribute or to view all files except those
> with the Execute-Only file attribute.

[NOT] SHAreable

> Include this option to view all files in a directory with the
> Shareable file attribute or to view all files except those with
> the Shareable file attribute.

[NOT] ReadOnly

> Include this option to view all files in a directory with the
> Read-Only file attribute or to view all files except those with
> the Read-Only file attribute.

[NOT] ReadWrite

> Include this option to view all files in a directory with the
> Read-Write file attribute or to view all files except those
> with the Read-Write file attribute.

[NOT] Indexed

> Include this option to view all files in a directory with the
> Indexed file attribute or to view all files except those with
> the Indexed file attribute.

[NOT] Transactional

> Include this option to view all files in a directory with the
> Transactional file attribute or to view all files except those
> with the Transactional file attribute. (SFT NetWare only.)

Sort file information options

Use one or more of the following options to see information about files in a certain category or order.

[REVERSE] SORT FILENAME

Include this option to display the files within a given directory in alphabetical order or to display all files in reverse alphabetical order.

[REVERSE] SORT OWNER

Include this option to display all files in a directory by owner name in alphabetical order or to display files by owner name in reverse alphabetical order. (Owner name indicates the user who created the file.)

[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 to display the files in reverse order from the latest date to the earliest.

[REVERSE] SORT UPDATE

Include this option to display all files in a directory according to last update from the earliest date to the latest or to display the files in reverse order 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 to display the files in reverse order from the latest date to the earliest.

[REVERSE] SORT SIZE

Include this option to display all files in a directory according
to size from the smallest to the largest or to display the files
in reverse order from the largest to the smallest.

View information options

Use one or more of the following options to view files or
subdirectories in a given directory.

FilesOnly

Include this option to view only the files in a given directory.

DirectoriesOnly

Include this option to view only the subdirectories in a given
directory.

MAC

Include this option to view only Macintosh files in a given
search area and to view all Macintosh subdirectories. All
Macintosh files or subdirectories will be listed with their
long name instead of the eight-character DOS name.

SUBdirectories

Include this option to view all subdirectories and subsequent
subdirectories in a directory.

BRief

Include this option to view only the size and last update of
each file in a given directory.

Archiving information options

Use one or more of the following options to view information about archiving files.

BACKUP

Include this option to view all files in a new display format rather than NDIR's default display format. The display includes the last modified date and the last archived date. By comparing these dates, you can see if a file has been archived since it has been modified.

WIDE

Include this option with archiving options if you want to use NDIR's default display format rather than the BACKUP format. (The archiving options, such as [NOT] ARCHIVED, CHANGED, and TOUCHED, are displayed in the BACKUP format automatically.)

[NOT] ARCHIVED

Include this option to view all files archived or all files not archived. The files are displayed in the BACKUP display format, which lists the last modified and last archived dates.

Archived Date BEFore | = | AFTer *mm-dd-yy*

Include this option to view all files archived before, on, or after a date. Replace *mm-dd-yy* with the appropriate date. The files are displayed in the BACKUP display format.

CHANGED

Include this option to view files updated since the last archive or files that have never been archived. This option checks the archive date and time. The files are displayed in the BACKUP display format.

[NOT] Archived Bit

Include this option to view all files that have the DOS archive bit set or to view all files that do not have the DOS archive bit set. The files are displayed in the BACKUP display format.

TOUCHED

Include this option to view files modified since the last archive. This option checks both the archive date and time and the DOS archive bit. The files are displayed in the BACKUP display format.

Help

Include this option to view an on-line help screen showing the command format and options for NDIR.

View all files and subdirectories

To view all files and subdirectories in your default directory, type

NDIR < Enter >

To view all files and subdirectories in any directory, type

NDIR *path* < Enter >

Example

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>

or

NDIR COUNT/SYS:PROGRAMS <Enter>

View a file in a directory

To view a file in a directory, type

NDIR *path/filename* <Enter>

Example

Suppose drive G is mapped as follows:

Drive G: = COUNT/SYS:PROGRAMS

To view information about a file called FINDIT.EXE
located in the PROGRAMS directory, type

NDIR G:FINDIT.EXE <Enter>

or

NDIR COUNT/SYS:PROGRAMS/FINDIT.EXE <Enter>

View related files in a directory

Sometimes, instead of viewing information about all the files in a given directory, you may want to view information about files that are related in some way. Files may have the same owner name, last-accessed date, last update, creation date, size, or file attributes. You can also use wildcard characters (* and ?) to specify related files.

You can display a list of related files in a directory in alphabetical or reverse alphabetical order, or in ascending or descending order according to access date, update date, creation date, or size.

You can view only the files in a directory or only in the subdirectories. You can view not only the subdirectories in a directory, but also in all subsequent subdirectories.

Use NDIR options to specify exactly the set of files you want to view in a directory.

When you use one or more NDIR options in the command, you must specify the path leading to the directory in the command, even if the directory is your default directory.

For the following examples, assume you want to view information about files in directory ACCPAY, and drive F is mapped as follows:

Drive F: = COUNT/ACCT:ACCPAY

Example 1

To see all the files owned (created) by user MARTY, type

NDIR F: OWNER=MARTY <Enter>

or

NDIR COUNT/ACCT:ACCPAY OWNER=MARTY <Enter>

NDIR invokes the NDIR command; F: and
COUNT/ACCT:ACCPAY specify the directory;
OWNER = MARTY directs the NDIR to show only those
files owned by user MARTY.

Example 2

To see all the files except those owned by user DEBI, type

NDIR F: OWNER NOT = DEBI < Enter >

Example 3

To see all the files created before 4-20-89, type

NDIR F: CREATE BEF 4-20-89 < Enter >

Example 4

To see all the files created on or after 4-20-89, type

NDIR F: NOT CREATE BEF 4-20-89 < Enter >

Example 5

To see all files with byte sizes greater than 2,000 bytes, type

NDIR F: SIZE GR 2000 < Enter >

Example 6

To see all files with byte sizes less than or equal to 2,000
bytes, type

NDIR F: SIZE NOT GR 2000 < Enter >

NDIR

Example 7

To see all files with the file attribute Read-Write, type

NDIR F: RW <Enter>

Example 8

To see all files that do not include the file attribute Read-Write, type

NDIR F: NOT RW <Enter>

Example 9

To see the files displayed from smallest to largest, type

NDIR F: SORT SIZE <Enter>

Example 10

To see the files displayed from largest to smallest, type

NDIR F: REVERSE SORT SIZE <Enter>

Example 11

To see only files (and not subdirectories), type

NDIR F: FO <Enter>

Example 12

To see only subdirectories, type

NDIR F: DO <Enter>

Use two or more options in the same NDIR command

Use two or more options in the same NDIR command to specify exactly which files you want to view or how you want them listed.

Example 1

To see all files on drive F created before 4-20-89 and to display them in order from smallest to largest, type

NDIR F: CREATE BEF 4-20-89 SORT SIZE <Enter>

Example 2

Suppose you want the preceding command to apply only to files with .EXE extensions. Type

NDIR F:*.EXE CREATE BEF 4-20-89 SORT SIZE <Enter>

View Macintosh files

You can use any NDIR options to see which files are Macintosh files.

Example 1

Suppose drive G is mapped to the SYS:MACSTUFF directory, and you want to view all files and subdirectories in the MACSTUFF directory. Type

NDIR G: <Enter>

or

NDIR SERVER/SYS:MACSTUFF <Enter>

NDIR

You see a screen similar to the following:

```
SERVER/SYS:MACSTUFF
File Name   Size    Last Modified    Accessed   Created    Flags        Owner
---------   -----   -------------    --------   --------   ----------   ------
ARTICLE     13316   3-20-89 3:05p    3-20-89    3-20-89    [W-M--S--]   DEANN
ATT            51   2-09-89 2:35p    2-09-89    2-09-89    [W-M-----]   MERIANNE
C           34816   1-13-89 9:27p    1-13-89    1-06-89    [W-M-----]   DEANN
COOR      *  6266   3-06-89 2:19p    3-06-89    2-14-89    [W-M-----]   DEANN
LOG       * 47081   4-06-89 5:00p    4-06-89    1-12-89    [W-M-----]   MERIANNE
```

The asterisks indicate the Macintosh files.

Example 2

To view only the Macintosh files in this directory, type

NDIR G: MAC < Enter >

or

NDIR SERVER/SYS:MACSTUFF MAC < Enter >

You see a screen similar to the following:

```
SERVER/SYS:MACSTUFF
File Name   Size    Last Modified    Accessed   Created    Flags        Owner
---------   -----   -------------    --------   --------   ----------   ------
COOR      *  6266   3-06-89 2:19p    3-06-89    2-14-89    [W-M-----]   DEANN
LOG       * 47081   4-06-89 5:00p    4-06-89    1-12-89    [W-M-----]   MERIANNE
```

View the NDIR help screen

To see the on-line help screen showing the NDIR command format and options, type

NDIR HELP < Enter >

The NDIR command format appears on your screen.

NPRINT

Use NPRINT to send files to a network printer where they are entered in a print queue and then printed.

Command format

NPRINT *filespec* [*option...*]

Replace *filespec* in the command format with a path leading to and including the name of the file you want to print.

Replace *option* with one or more of the following:

Command options

Server=*server*

Include this option to indicate to which file server the data should be sent for printing. Replace *server* with the name of the file server.

Job=*job*

Include this option to specify the name of the print job configuration to be used. Replace *job* with the name of the print job. (Users and supervisors can define print jobs using the PRINTCON menu utility.)

Printer=*n*

Include this option to indicate to which printer the job should be sent for printing. Replace *n* with the number (0, 1, 2, 3, or 4) of the printer. The default is P=0.

Queue=*queue*

> Include this option to indicate to which queue the print job should be sent. Replace *queue* with the name of the queue (for example, PRINTQ_0).

Form=*form* **or** *n*

> Include this option to specify the kind of form you want to print the job on. Replace *form* with the name of the form, or *n* with the number of the form. (Supervisors can define forms using PRINTDEF.)

Copies=*n*

> Include this option to indicate how many copies of the job you want to print. Replace *n* with a number. You can specify up to 256 copies.

Tabs=*n*

> Include this option only if your application does not have a print formatter (most applications do). This option replaces all tab characters in your print job with the number of spaces *n* (0 to 18) you specify.

NoTabs

> Include this option if your application does not have a print formatter (most applications do). This option ensures that all tabs in your print job arrive at the printer unchanged.

NAMe=*name*

> Include this option to specify the username you want to appear on the upper half of your banner page. Replace *name* with a username (for example, TONY).

Banner=*banner*

Include this option to specify the banner word you want to
appear on the lower half of your banner page. Replace
banner with any word or phrase up to twelve spaces long.
Use an underline character to represent a space between
words (for example, IN_THE_BLACK). The default is the
name of the file you are printing.

NoBanner

Include this option to specify that no banner page be
printed.

FormFeed

Include this option to enable the form feed after your print
job has been printed. The default is form feed enabled.

NoFormFeed

Include this option to disable form feed at the printer.

Delete

Include this option to automatically erase the file after you
print it.

Additional information

Each NPRINT command can be up to 128 characters long.
The files you send to the network printer must be DOS text
files or files that have already been formatted by an
application for your specific printer.

NPRINT

Print a file from outside an application

To print a file from outside an application, type the command with the appropriate options.

Example 1

Suppose that you want to print a file called TONY.RPT located in the TONY directory on file server COUNT. Suppose also that drive F is mapped to the TONY directory as follows:

   Drive F: = COUNT/SYS:HOME/TONY

If drive F is your default drive, type

   NPRINT TONY.RPT < Enter >

If drive F is not your default drive, type

   NPRINT F:TONY.RPT < Enter >

Since you did not specify in the command where or how you want the file printed, NPRINT follows certain default settings.

If a default job configuration and a default form have been defined on your network (with the PRINTCON or PRINTDEF menu utilities), NPRINT follows these defaults. If these defaults have not been defined on your file server, NPRINT follows its own defaults.

Example 2

Use NPRINT options to customize your NPRINT command. For example, suppose you want to print a file called TONY.RPT located in the TONY directory on file server COUNT. Drive F is mapped to the TONY directory as follows:

Drive F: = COUNT/SYS:HOME/TONY

You also want to do the following:
- Print the file on printer 2 connected to file server SALES.
- Print four copies.
- Print the word CONFIDENTIAL on the bottom half of the banner page.

If drive F is your default drive, type

NPRINT TONY.RPT S=SALES P=2 C=4
    B=CONFIDENTIAL NB   <Enter>

If drive F is not your default drive, type

NPRINT F:TONY.RPT S=SALES P=2 C=4
    B=CONFIDENTIAL NB   <Enter>

In these commands, the order of the options is not important. C=4, P=2, and S=SALES indicate that you want to print four copies of the file on Printer 2 connected to file server SALES. B=CONFIDENTIAL indicates that you want the word CONFIDENTIAL to appear on the bottom half of the banner page that precedes the first copy of the file. NB specifies that you do not want a banner page printed before the next three copies.

NRESTORE

Network RESTORE

Use NRESTORE to restore archived files to a network
drive.

Command format

NRESTORE

Before you execute the command

You must run NRESTORE from a network drive mapped to
the file server to which you want to restore files.

To restore files to a given directory, your effective rights in
that directory must include Open, Write, Create, Delete, and
Search.

If you have not already printed the log report, use NPRINT
to print the ARCHIVE.LOG file created by NARCHIVE
and stored with the other archived files.

Restore files to a network drive

To restore archived files to a network drive, complete the
following steps.

1. Type

    NRESTORE <Enter>

    The following prompt appears:

        Do you wish to restore security information with the
            directories? (Y/N)

2. If the following conditions apply, answer "Yes."

   ▪ You are logged in as user SUPERVISOR.

   ▪ You archived file server security files NET$BIND.SYS and NET$BVAL.SYS.

   ▪ You want to restore these security files.

   The following prompt appears:

   ```
   WARNING:  To guarantee proper restoration of
   directory rights, trustee lists, and file flags, you
   should be logged in as a SUPERVISOR user.  This is
   especially true if you are going to do a full system
   restore.  If you are not logged in as a SUPERVISOR,
   press the ^C at the next question to exit.
   ```

   If the three conditions above do not apply, answer "No."

   Whether you answered "Yes" or "No," the following prompt appears:

   ```
   Select specific directories to be considered for
     restoration? (Y/N)
   (N = Consider all archived directories)
   ```

3. To restore files to all directories, answer "No." The "Specify files to restore to each selected directory?" prompt appears. Skip to the end of Step 4.

   To restore files only to certain directories, answer "Yes." The following prompt appears:

   ```
   Enter full names of directories to be restored (only
   ONE per line).  To select a directory AND its
   subdirectories, just give the name of the directory
   (e.g., SYS:SALES/REPORTS).  To select ONLY the
   subdirectories of a given directory, include a slash
   ('/') but no subdirectory names (e.g.,
   SYS:SALES/REPORTS/).  To select ONLY a given
   directory and ignore its subdirectories, precede the
   directory's name with an equals sign ('=') (e.g.,
   =SYS:SALES/REPORTS).
   >
   ```

4. List the directories you want to restore.

After typing the last directory path, press <Enter>
twice.

For example, to restore SYS:SALES/REPORTS and
SYS:SALES/REPORTS/WEST, type

```
=SYS:SALES/REPORTS  <Enter>
=SYS:SALES/REPORTS/WEST  <Enter> <Enter>
```

The following prompt appears:

```
Specify files to restore to each selected directory?
   (Y/N)
(N = Restore all selected directories)
```

5. To choose whether or not to restore each file one by
one, answer "Yes."

To restore all files to the directories you specified in
Steps 3 and 4, answer "No."

The following prompt appears:

```
Enter names (separated by commas) of all directories
to restore files from (all source directories).
>
```

6. Type the names of the network directories you want to
restore archived files from. After the last directory you
specify, press <Enter> twice.

For example, if you archived files to the network
directories VOL2:ARCHIVE/ONE and
VOL2:ARCHIVE/TWO, type

```
VOL2:ARCHIVE/ONE  <Enter>
VOL2:ARCHIVE/TWO  <Enter> <Enter>
```

If you answered "No" in Step 5, normally all files are restored to the appropriate directory. The "Restore from other directories?" prompt in Step 9 appears. (Skip to this prompt at the end of Step 9.)

Sometimes, however, the following prompt appears:

```
File already exists.  Recreate? (Y/N)
```

If there is any chance that the file already existing on the network has been corrupted, answer "Yes." Otherwise answer "No" since there is no need to restore an existing file. The "Restore from other directories?" prompt in Step 9 appears. (Skip to this prompt at the end of Step 9.)

If you answered "Yes" in Step 5, a prompt similar to the following appears:

```
SYS:SALES/REPORTS
(Files archived on Friday, Jan 8, 11:01 am)
Restore? (Y/N)
```

7. If you answer "No," NRESTORE does one of the following:

   ■ Repeats the prompt with another directory for your consideration.

   ■ Displays the "Restore from other directories?" prompt that appears in Step 9. (Skip to this prompt at the end of Step 9.)

   If you answer "Yes," the following prompt appears:

```
Restore ALL files to this directory? (Y/N)
```

8. If you answer "Yes," NRESTORE restores the files to the proper directory on your network and then does one of the following:

   ■ Returns you to the "Restore?" prompt in Step 6 and asks if you want to restore files to another directory. (Return to this prompt at the end of Step 6.)

   ■ Displays the "Restore from other directories?" prompt that appears in Step 9. (Skip to this prompt at the end of Step 9.)

   If you answer "No," a prompt similar to the following appears:

   ```
   SANDY.RPT   Restore? (Y/N)
   ```

9. If you answer "Yes," the file is normally restored immediately.

   Sometimes, however, the following prompt appears:

   ```
   File already exists.  Recreate? (Y/N)
   ```

   If there is any chance that the file already on the network is corrupted, answer "Yes." Otherwise answer "No" since there is no need to restore an existing file.

   If you answer "No," NRESTORE does one of three things:

   ■ Repeats the "Restore?" prompt in Step 8 with a different file for your consideration. (Return to this prompt at the end of Step 8.)

   ■ Returns you to the "Restore?" prompt in Step 6 and asks if you want to restore files to another directory. (Return to this prompt at the end of Step 6.)

   ■ Displays the following prompt:

   ```
   No more archived files in SYS:SALES/RECORDS.
   Restore from other directories?  (Y/N)
   ```

10. If you answer "Yes," NARCHIVE returns you to the
prompt at the end of Step 5.

If you answer "No," the following message appears:

    Restore Session Completed

The DOS prompt reappears.

NSNIPES

Command
Line Utility F>

Network SNIPES

SNIPES is a network game you can play by yourself or with
other users.

Command format

NSNIPES [*option*]

NCSNIPES [*option*]

Use the first command format if you have a monochrome
monitor; use the second command format if you have a color
monitor.

Replace *option* with a number between 1 and 10 to specify
the skill level of the game. As the skill level number
increases (from 1 to 10), the number of snipes that can be
manufactured and the speed at which they are produced
increase, making the game more difficult. Skill level 4 is a
good place to start.

Additional information

The playing field is a maze. The object is to shoot and
destroy the snipes and the factories that make the snipes
before the snipes shoot five of your players. When you play
against others, the object is not only to destroy the snipes
and factories, but the other players as well.

To move through the maze, use the arrow keys (up, down,
left, right) on your keyboard. To move diagonally, press two
arrow keys at once. To move faster, press the spacebar
while pressing any of the arrow keys.

To fire, press the A, W, S, or D key. Press the A key to fire
left, D to fire right, W to fire up, and S to fire down. (You
can also press X to fire down.) To fire diagonally, press two
keys at once.

You must have the following effective rights to play SNIPES
in a given directory: Read, Write, Open, Create, and Delete.

Each game is limited to five players.

Play SNIPES by yourself

To play SNIPES by yourself at skill level 4, enter either of
the following commands, depending on whether you have a
monochrome monitor or a color monitor:

    NSNIPES 4 <Enter>

or

    NCSNIPES 4 <Enter>

After the maze appears, press <Enter> to begin. To play a
more difficult game, include a number between 5 and 10 in
your command. Include a number between 1 and 3 for a
less difficult game.

You can stop the game at any time by pressing <Ctrl>
<Break> simultaneously.

Play SNIPES with other users

If two or more users want to play SNIPES in the same
maze, they must map their default drives to the same
directory on the same file server. Have one user enter one
of the following commands, depending on whether that user
has a monochrome or a color monitor:

NSNIPES 4 <Enter>

or

NCSNIPES 4 <Enter>

Each remaining user should then enter one of the following
commands, depending on whether the user has a
monochrome monitor or a color monitor:

NSNIPES <Enter>

or

NCSNIPES <Enter>

After each player has typed NSNIPES or NCSNIPES, the
first player presses <Enter> to start the game.

Note: If you play SNIPES with five players, the game automatically
begins when the fifth player enters an NSNIPES or an
NCSNIPES command.

To exit the game at any time, press <Ctrl> <Break>
simultaneously.

NVER

Network VERsion

Use NVER to view 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 on your screen:

```
NetBIOS: V1.0

IPX Version: 2.15
SPX Version: 2.15

LAN Driver:  NetWare RX-Net V1.00
IRQ = 2, I/O Base = 2E0h, RAM Buffer at D000:0

Shell: V2.15 Rev. B
DOS:  MSDOS V3.30 on IBM_PC

FileServer:  SIR
     Novell    SFT NetWare 286 TTS V2.15 Rev. A    5/4/89
```

If you are attached to more than one file server, information for each server is listed.

OFF

Use OFF to clear information from the file server console.

Command format

OFF

Clear information from the file server console

To clear the console, type

OFF <Enter>

Note: Maintaining the Monitor Display requires modest operating system overhead; therefore, whenever you are not using the Monitor Display, use the OFF command to turn it off. (See MONITOR.)

PAUDIT

Print AUDIT Trail

Use PAUDIT to view the system accounting records. PAUDIT is run from the SYS:SYSTEM directory, so you must have supervisor rights in that directory. Also, the accounting feature 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 functions. 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. For an explanation of accounting services, see "Accounting tasks" on page 518.

PAUDIT

View system accounting records

To view system accounting records, complete the following steps.

1. Change to the SYS:SYSTEM directory.

2. Type

    PAUDIT <Enter>

You see a listing of all accounting records.

Redirect the output of PAUDIT to a file

PAUDIT's output usually fills more than one screen length on the computer. However, you can make the output more accessible by redirecting it to a file. This file can be printed.

To redirect the output, type

    PAUDIT > *filename* <Enter>

To print a hard copy, type

    NPRINT *filename* <Enter>

You may want to delete or copy the NET$ACCT.DAT file after you have redirected the information to a file. The system generates a new NET$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 file in that form rather than periodically erasing the file and starting over.

PCONSOLE is used to control network printing and to view information about network printing.

Available Options
Change Current File Server
Print Queue Information
Print Server Information

Change Current File Server

Use this option to attach to or log out of additional file servers, or to change your username on a file server.

The specific tasks are listed beginning on page 358.

Print Queue Information

Supervisors can use this option to create, rename, or delete print queues; to assign queue users and operators; and to add or delete print servers.

You can use this option to print files, to modify the way they are printed, and to view information about the print queue.

The specific tasks are listed beginning on page 360.

Print Server Information

Supervisors can use this option to add, delete, or rename print servers. Users can use this option to list the print servers and to view a print server's full name or object ID.

The specific tasks are listed beginning on page 384.

Change Current File Server tasks

List the file servers you are attached to

Enter PCONSOLE and select "Change Current File Server" from the "Available Options" menu.

A list of the file servers you are attached to is displayed, along with the username you specified when you attached. You can attach only to file servers that are running NetWare v2.1 or above.

Attach to an additional file server

If you attach to an additional file server, you can print files located on that file server, and you can examine its print queues and print servers.

1. Enter PCONSOLE and select "Change Current File Server" from the "Available Options" menu. A list of the file servers you are attached to is displayed.

2. To see a list of the file servers you are not attached to, press <Insert>. The "Other File Servers" list is displayed.

3. Select the file server you want to attach to. The "User Name" entry box is displayed.

4. Type in your username; then press < Enter >. If the username you enter has a password, the "Password" entry box is displayed.

5. Type in the password; then press < Enter >. The file server you attached to and your username are added to the "File Server/User Name" list.

Log out of additional file servers

You cannot log out of your current default server or your primary file server (the file server you logged in to) in PCONSOLE. To log out of other file servers, complete the following steps.

1. Enter PCONSOLE and select "Change Current File Server" from the "Available Options" menu.

2. Select the file server from the "File Server/User Name" list that you want to log out of and press < Delete >. Use the Mark key to select multiple servers. The "Logout From Server" (or "Logout From All Marked Servers") confirmation box is displayed.

3. Select "Yes" to log out of the file server(s).

PCONSOLE

Change to a different username on the current file server

To access information on another file server, you can enter a username other than your own if you know the other user's password. However, you cannot change your username on the default or primary file server.

1. Enter PCONSOLE and select "Change Current File Server" from the "Available Options" menu. A list of the file servers you are attached to is displayed.
2. Highlight the file server on which you want to specify a different username; then press the Modify key (<F3> on most machines). The "New User Name" entry box is displayed.

3. Type in the new username and press <Enter>. If the username you just typed has a password, the "Password" entry box is displayed.

4. Type in the password; then press <Enter>. The new username appears next to the specified file server in the "File Server/User Name" list.

Print Queue Information tasks

Print Queue Information tasks (cont.)

PCONSOLE

Create print queues

When a file server first comes up, the system creates a print queue for each attached printer. For a printer to service more than one queue, you must create additional queues.

To create a queue, you must complete the following tasks:

- Create the queue
  (in PCONSOLE)

- Attach the queue to a printer
  (at the file server or with your AUTOEXEC.SYS file)

- Create a spooler for the new queue
  (at the file server or with your AUTOEXEC.SYS file)

Create a print queue

1. Enter PCONSOLE and select "Print Queue Information" from the "Available Options" menu.

   The system-created print queues are listed in the "Print Queues" list.

2. To create a new queue, press <Insert>. The "New Print Queue Name" entry box is displayed.

3. Type the name of the new queue and press <Enter>. The new queue is listed in the "Print Queues" list.

Attach the queue to a printer and assign a spooler to the queue

You cannot complete these tasks in PCONSOLE. Instead, you must enter the mappings for these tasks at the file server or in the AUTOEXEC.SYS file.

If you complete this task at the file server, the mappings are not saved when you bring down the file server. However, this option is valuable if you need to create a print queue when you don't want to bring down the file server.

To save the mappings permanently, you must enter them in the AUTOEXEC.SYS file as explained under "Create or modify an AUTOEXEC.SYS file" on page 540.

Use the following command formats to attach the queue to a printer and assign a spooler to the queue:

P[RINTER] *nn* ADD *queue name*

S[POOL] *nn* [TO] *queue name*

To make sure that the queue has been mapped to the printer, enter PCONSOLE and select "Currently Attached Servers" in the "Print Queue Information" menu. If no server appears in the "Currently Attached Servers" box, then the queue has not been properly mapped to the printer.

For more information on spooler mappings, see the Network Printing module in the *Installation for ELS NetWare Level II* manual.

Example

Suppose you want to create a queue called NEWQUEUE that will be serviced at a high priority and you want to limit the users who can place jobs in the queue. Also suppose that you want to attach NEWQUEUE to PRINTER 0 (printer numbers are assigned during installation) and assign SPOOLER 0 to NEWQUEUE.

To create NEWQUEUE, complete the following steps.

1. Enter PCONSOLE and select "Print Queue Information" from the "Available Options" menu.

   The system-created print queues are listed in the "Print Queues" list.

2. Press <Insert>. The "New Print Queue Name" entry box is displayed.

3. Type

   NEWQUEUE <Enter>

   NEWQUEUE is listed in the "Print Queues" list.

4. To attach NEWQUEUE to PRINTER 0 and assign
   SPOOLER 0 to NEWQUEUE, you would type the
   following at the file server console (temporary) or in the
   AUTOEXEC.SYS file (permanent).

   P 0 ADD NEWQUEUE <Enter>
   S 0 TO NEWQUEUE <Enter>

   To make sure that NEWQUEUE has been properly
   mapped to the printer, enter PCONSOLE and select
   "Currently Attached Servers" from the "Print Queue
   Information" menu. If no server appears in the
   "Currently Attached Servers" box, then NEWQUEUE
   has not been properly mapped to the printer.

Rename print queues

You may want to rename the system-created print queues to
more easily recognizable names.

If you rename a queue, you must either map the newly
named queue to a printer and create a corresponding
spooler or modify the name of the print queue in any
mappings you have saved in the AUTOEXEC.SYS file.

As a supervisor, you can rename a print queue by
completing the following steps.

1. Enter PCONSOLE and select "Print Queue Information"
   from the "Available Options" menu. The "Print Queues"
   list is displayed.

2. Highlight the queue whose name you want to change and press the Modify key (<F3> on most machines).

3. In the "Rename Print Queue To" entry box, use the Backspace key to delete the old name. Rename the queue by typing the new name and pressing <Enter>.

Delete print queues

Supervisors can delete a print queue by completing the following steps.

Note: When you delete a queue, you should also edit any print job configurations that use that queue.

1. Enter PCONSOLE and select "Print Queue Information" from the "Available Options" menu. The "Print Queues" list is displayed.

2. Highlight the queue you want to delete and press <Delete>. In the "Delete Print Queue" confirmation box, select "Yes" to delete the queue.

PCONSOLE

Assign queue users

When you create a queue using PCONSOLE, you must also
specify which users can send print jobs to the queue. The
group EVERYONE is automatically assigned as a queue
user.

As a supervisor, you can assign queue users by completing
the following steps.

1. Enter PCONSOLE and select "Print Queue Information"
   from the "Available Options" menu. The "Print Queues"
   list is displayed.

2. Select the queue you want to assign queue users to. The
   "Print Queue Information" menu is displayed.

3. Select "Queue Users" to display the "Queue Users" list.

4. Press <Insert> to access a list of users and groups.

5. Select the users or groups you want to assign as queue
   users, or use the Mark key (<F5> on most machines)
   to select multiple users.

6. Press <Escape> to return to the "Print Queue
   Information" menu. The users you selected are now
   queue users.

Assign queue operators

When you create a queue using PCONSOLE, you must also specify which users can control the queue. The user SUPERVISOR is automatically assigned as a queue operator.

Users designated as print queue operators can edit any other user's print queue entry information, delete any entry from the queue (even if it is in the process of being printed), and modify the queue status by changing the operator flags. Queue operators can also change the order in which print jobs will be serviced. Tasks that can be performed by queue operators are explained on the following pages.

As a supervisor, you can assign queue operators by completing the following steps.

1. Enter PCONSOLE and select "Print Queue Information" from the "Available Options" menu. The "Print Queues" list is displayed.

2. Select the queue you want to assign queue operators to. The "Print Queue Information" menu is displayed.

3. Select "Queue Operators." The "Queue Operator" list appears.

4. Press <Insert> to display the "Queue Operator Candidates" list.

5. Select the users or groups you want to designate as queue operators. Use the Mark key (<F5> on most machines) to select multiple users or groups.

6. Press <Escape> to return to the "Print Queue Information" menu. The users you selected are assigned as queue operators.

PCONSOLE

Add print servers

A print server takes the print jobs from the queue and sends them to the printer. The print server process is currently part of the file server. However, NetWare v2.1 and above can support third-party VAPs (Value-Added Processes) or remote workstation print servers.

The information in this and the following section applies only to file servers. For information regarding how to use third-party print server software with PCONSOLE, see the documentation of the specific print server. If you are not using additional print servers, you can disregard "Print Server Information" in the PCONSOLE "Available Options" menu. As a supervisor, you can add print servers by completing the following steps.

1. Enter PCONSOLE and select "Print Queue Information" from the "Available Options" menu. A list of the defined print queues is displayed.

2. Select a queue from the "Print Queues" list. The "Print Queue Information" menu is displayed.

3. Select "Queue Servers." This option lists the print servers that are allowed to service a queue.

4. Press <Insert> to add a print queue name. The "Queue Server Candidates" entry box is displayed. Other print servers that are allowed to service a queue are listed.

5. Select the queue server name you want. The name is added to the list of print queue servers.

Note: If you select "Print Server Information" in the "Available Options" menu, you can add, delete, or rename print servers. (See page 384.)

Delete print servers

As a supervisor, you can delete print servers by completing the following steps.

1. Enter PCONSOLE and select "Print Queue Information" from the "Available Options" menu. A list of the defined print queues is displayed.

2. Select a queue from the "Print Queues" list. The "Print Queue Information" menu is displayed.

3. Select "Queue Servers." This option lists the print servers that are allowed to service a queue.

4. Press <Delete> to delete a print queue name. The "Delete Queue Server" confirmation box is displayed.

5. Select "Yes" to delete the print queue name.

Note: If you select "Print Server Information" in the "Available Options" menu, you can add, delete, or rename print servers. (See page 384.)

PCONSOLE

List the print queues

Before a file is printed, it is sent to a print queue to wait for an available printer. A supervisor can define multiple print queues for each printer; in other words, a printer can print jobs sent from more than one queue. You must choose the print queue to which the file is sent. See page 417 for more information about mapping queues to printers.

To list the print queues on a file server, complete the following steps.

1. Enter PCONSOLE.

2. Select "Print Queue Information" from the "Available Options" menu. A list of the defined print queues is displayed.

List the jobs in a queue

To see which jobs are waiting in a particular queue to be printed, complete the following steps.

1. Enter PCONSOLE. Select "Print Queue Information" from the "Available Options" menu. A list of the defined print queues is displayed.

2. Select the print queue whose print jobs you want to view. The "Print Queue Information" list is displayed.

3. Select "Current Print Job Entries." A list of jobs waiting to be printed is displayed.

Print a file

To print a file, you must choose the queue to which the file will be sent. Then you must choose the file you want to print. Finally, you must define the way the job will be printed by choosing either a print job configuration that you have set up in PRINTCON or the "PConsole Defaults," a system-created default print job configuration.

To make changes in the print job configuration you specify, see "Set print job parameters" on page 373.

Note: Print queue operators cannot add a print job to a queue unless they are also defined as queue users.

To send a file to a print queue, complete the following steps.

1. Enter PCONSOLE. Select "Print Queue Information" from the "Available Options" menu. A list of the defined print queues is displayed.

2. Select the print queue to which you want the print job sent. The "Print Queue Information" list is displayed.

3. Select "Current Print Job Entries." The contents of the queue are displayed.

4. Press <Insert> to add a print job entry. The "Select Directory to Print From" entry box is displayed, showing your current directory path.

   To print a file contained in your current directory, press <Enter> and skip to "Choose the file" on page 373.

   If you want to print from another directory, use the Backspace key to erase the current directory path. Then type the new directory path in the entry box. Skip to "Choose the file" on page 373.

PCONSOLE

> If you do not know the directory path, complete the
> sections below as needed. For example, if you know the
> name of the file server and volume, type them in and
> skip to "Choose directories" below.

Choose the file server

If you need to choose the file server or local drive that
contains the directory from which you want to print,
complete these steps.

5. Use the Backspace key to delete the contents of the
"Select Directory to Print From" box.

6. Press <Insert> to display a list of the available file
servers and local drives.

7. Select the file server or local drive that contains the file
you want to print. The file server or local drive is added
to the directory path in the "Select Directory to Print
From" entry box, and the "Volumes" list is displayed.

Choose the volume

8. Select the volume or local directory that contains the file
you want to print. The volume is added to the "Select
Directory to Print From" box, and the "Network
Directories" list appears.

Choose directories

To choose the directory or subdirectory to print from,
complete these steps.

9. Select a directory. The directory is added to the "Select
Directory" box.

10. Repeat Step 9 as many times as necessary to complete
the directory path. Then press <Escape>.

Choose the file

Choose the file you want to print by completing these steps.

11. Press <Enter>. The "Available Files" list is displayed.

12. Select the file you want to print. The "Print Job Configurations" list is displayed.

Set print job parameters

Once you specify the correct directory path and choose the file you want to print, you must tell the printer how to print that job. After you specify a print job configuration, the job is sent to the specified queue.

Some of the values defined in PRINTCON are also used in PCONSOLE. They include "Number of copies," "File contents," "Tab size," "Suppress form feed," "Form," "Print banner," "Banner name," and "Banner file."

However, some of the printing parameters in PCONSOLE vary from those in PRINTCON. In addition, other parameters can also be defined using PCONSOLE. They include "Description," "User hold," "Operator hold," "Service sequence," "Job entry date," "Defer printing," "Target server," "Target date," and "Target time." For an explanation of the parameters you can change or set, see "Print job parameter definitions" on page 374.

To specify parameters or modify those you have already set, complete the following steps.

1. Access PCONSOLE's "Print Job Configurations" list. (See "Print a file" on page 371 if you need help.) If you defined print job configurations in PRINTCON, they are listed here. If not, only PCONSOLE defaults are listed.

2. Select the print definition you want to use. The "New Print Job to be Submitted" form is displayed.

3. Specify the parameters you want, or modify existing parameters. You can modify any field in the "New Print Job to be Submitted" list that you can highlight with the selection bar. Use the arrow keys or the Enter key to move to the field you want to modify.

   Some fields have menus from which you can choose print job configuration parameters. For example, when you are choosing the form name, just press <Enter>; a menu appears. The menu lists the form names you can choose from (these forms were set up by your supervisor in PRINTDEF).

4. After you have modified the print definition, press <Escape> until the "Save Changes" confirmation box appears.

5. Select "Yes" to save the changes you have made. The new print job is added to the print queue and printed according to the configuration you specified.

Print job parameter definitions

Users can change or set the following parameters.

Description

You can enter a description of the file you are printing for identification purposes. The default is the filename.

User Hold

You can put your job on hold. If you do, the file is not printed until you remove the hold. The "User Hold" flag can be changed by either the owner of the print job (the person who submitted it) or a print queue operator. Type Y for "Yes" to place a hold on the job; type N for "No" to remove the "User Hold" flag.

Operator Hold

> The "Operator Hold" flag can be changed only by a print queue operator. If the "Operator Hold" flag is set to "Yes," the job is not printed until the operator resets the flag to "No."

Service Sequence

> If you are a print queue operator, you can change the "Service Sequence" flag. The service sequence is the position of the print job in the print queue. Print queue operators can place a high priority job in the first position in the queue and rearrange the order of print jobs.

Number of copies

> You can choose the number of copies you want printed.

File contents

> You can choose either "Text" or "Byte Stream." Choose "Text" when you want all special formatting characters and codes, such as tabs, to be interpreted and printed. Choose "Byte Stream" if you are printing a file created with an application, and you want the application to handle the formatting commands used to print the document.

Tab size

> If you chose "Text" (from the "File contents field"), use the "Tab size" field to specify the number of spaces you would like the tabs in your file set to.

Suppress form feed

If you want the printer to advance to the top of the next
page after your print job, choose "No." If you don't want the
printer to advance to the top of the next page, choose "Yes."
Some applications have a form feed at the end of the file, so
adding another causes an extra blank page to be fed through.

Defer printing

If you want the job to be printed as soon as possible, choose
"No." If you want to print the job at a later time or date,
choose "Yes." If you choose "Yes," you can then enter a
target date and time for printing. (See "Target date" and
"Target time" on the next page.)

Target server

You can specify which print servers will print jobs in the
queue. Specify "(Any Server)" if it doesn't matter which
print server prints the job.

Form

You can choose the form number or name of the form on
which you want the job printed. (Forms are defined by the
network supervisor in PRINTDEF.)

Print banner

If you want a banner printed before the file, choose "Yes."
If not, choose "No."

Banner name

If you choose to print a banner, you can enter any text you
want in the "Banner name" box. It is printed in the first
large print area of the banner. Your username is the
default.

Banner file

> If you choose to print a banner, enter any text you want in the "Banner file" box. It is printed in the second large print area of the banner. Your filename is the default.

Target date

> Enter the date you want your job printed on. (You can set this option only if you chose "Yes" for "Defer printing.")

Target time

> Set the time at which you want your job printed. (You can set this option only if you chose "Yes" for "Defer printing.")

> The job entry date and time, print job number, file size, and client name cannot be changed.

Change print job parameters

> You can change the parameters of your print job while it is in a print queue. Print queue operators can change anyone's print job parameters. Print job parameters are explained under "Print job parameter definitions" on page 374.

> To change print job parameters, complete the following steps.

> 1. Enter PCONSOLE and select "Print Queue Information" from the "Available Options" menu. A list of the defined print queues is displayed.

> 2. Select the print queue whose entries you want to view. The "Print Queue Information" list is displayed.

> 3. Select "Current Print Job Entries." The print job entries are displayed.

4. Select the print job entry you want to modify. The "Print Queue Entry Information" form is displayed.

5. Set print job parameters using the arrow keys or the Enter key to highlight entries. Type in new information or choose options where menus are provided.

6. Press <Escape> once to exit the field; then press <Escape> again to exit the form and display the "Save Changes" confirmation box.

7. Select "Yes" to save your changes.

Delete a print job

You can cancel a print job by deleting it from the print queue (even after the job has started printing). You can delete an entry only if you are the owner of the job or a print queue operator.

To delete a print job, complete the following steps.

1. Enter PCONSOLE and select "Print Queue Information" from the "Available Options" menu. A list of the defined print queues is displayed.

2. Select the print queue whose entries you want to view. The "Print Queue Information" list is displayed.

3. Select "Current Print Job Entries." The print job entries are displayed.

4. Highlight the print job entry you want to delete and press <Delete>. The "Delete Queue Entry" confirmation box is displayed.

5. Select "Yes" to delete the print queue entry.

Change the order of print jobs

To change the order of print jobs, the queue operator must change the "Service Sequence" number. (See "Service Sequence" on page 375.)

1. Enter PCONSOLE and select "Print Queue Information" from the "Available Options" menu. A list of the defined print queues is displayed.

2. Select the print queue containing the file whose order you want to change. The "Print Queue Information" list is displayed.

3. Select "Current Print Job Entries." The contents of the queue are displayed.

4. Select the print job entry you want to move. The "Print Queue Entry Information" list is displayed.

5. Move the cursor to the "Service Sequence" parameter. Type "1" to move the entry to the top of the queue, or type the number of the position you want to place the print job entry in. Press <Enter>. Then press <Escape>. The queue contents are displayed. The print job entry is in the position you specified.

PCONSOLE

Place a hold on a print job

Print queue operators can put an "Operator Hold" flag on a file. The file is not printed until the operator removes the flag. Similarly, users can place a "User Hold" flag on a file, and the file is not printed until the user or print queue operator removes the flag.

1. Enter PCONSOLE and select "Print Queue Information" from the "Available Options" menu. A list of the defined print queues is displayed.

2. Select the print queue in which the print job entry is located to display the "Print Queue Information" list.

3. Select "Current Print Job Entries." The contents of the queue are displayed.

4. Select the print job entry whose printing you want to put on hold. The "Print Queue Entry Information" list appears.

5. Use the direction arrows to move to either the "Operator Hold" or "User Hold" field. Type Y (for "Yes") and press <Enter>.

6. Press <Escape>. The "Save Changes" confirmation box is displayed, unless the job is already in the queue. When the job is already in the queue, any changes you make are implemented instantly. (You are not asked to confirm the changes.)

7. Select "Yes" to save your changes. The status field now displays "Held."

View print queue status

You can view the number of entries in a queue and view the number of print servers attached to the queue. If you are a print queue operator, you can also change the operator flags.

1. Enter PCONSOLE and select "Print Queue Information" from the "Available Options" menu.

2. Select the print queue whose status you want to view. The "Print Queue Information" list is displayed.

3. Select "Current Queue Status" to view the number of entries in the queue, the number of servers attached to the queue, and the operator flag information.

The operator flags are explained below.

Operator flags

Users can place entries in queue

If the queue operator sets this flag to "No," users are not allowed to submit jobs to the queue.

Servers can service entries in queue

If the queue operator sets this flag to "No," the print server is not allowed to service jobs in the queue.

New servers can attach to queue

If the queue operator sets this flag to "No," the print server is not allowed to attach to the queue.

Use the Arrow keys to move to the flag you want to change. Type Y for "Yes" or N for "No"; then press <Enter>. Press <Escape> to exit and save the changes.

PCONSOLE

View currently attached servers

Only print servers that are attached to a queue can service that queue. (For an explanation of print servers, see "Add print servers" on page 384.) To see which servers are currently attached to a queue, complete the following steps.

1. Enter PCONSOLE. Select "Print Queue Information" from the "Available Options" menu. A list of the defined print queues is displayed.

2. Select the print queue whose attached print servers you want to view. The "Print Queue Information" list appears.

3. Select "Currently Attached Servers." The "Currently Attached Servers" list appears.

View print queue ID

A print queue's object ID is an identification number assigned to the queue to distinguish it from all other objects (print servers, file servers, other print queues, etc.).

1. Enter PCONSOLE and select "Print Queue Information" from the "Available Options" menu. A list of the defined print queues appears.

2. Select the print queue whose ID number you want to view. The "Print Queue Information" list appears.

3. Select "Print Queue ID" to view the "Print Queue ID" inset.

View the print queue servers

The print queue servers that are allowed to service a selected queue are listed in the "Print Queue Servers" inset. Not all these servers can service the queue, however. A server cannot service a queue that is not attached to it. (For information about attaching a queue to a print server, see page 417.)

To see the queue to which a print server is attached, complete the following steps.

1. Enter PCONSOLE and select "Print Queue Information" from the "Available Options" menu. A list of the defined print queues is displayed.

2. Select the print queue whose print servers you want to view. The "Print Queue Information" list is displayed.

3. Select "Queue Servers." The "Print Queue Servers" inset is displayed.

List queue users

If you need to know which users have rights to a particular queue, complete the following steps.

1. Enter PCONSOLE and select "Print Queue Information" from the "Available Options" menu. A list of the defined print queues is displayed.

2. Select the print queue whose queue users you want to view. The "Print Queue Information" list appears.

3. Select "Queue Users." The "Queue Users" inset appears.

PCONSOLE

Print Server Information tasks

Add print servers

A print server takes the print jobs from the queue and sends them to the printer. The print server process is currently part of the file server. However, NetWare v2.1 and above can support third-party VAPs (Value-Added Processes) or remote workstation print servers.

Note: The information in the following sections applies only to file servers. For information on using third-party print server software with PCONSOLE, see the documentation for the print server. If you are not using additional print servers, you can disregard "Print Server Information" in the PCONSOLE "Available Options" menu.

As a supervisor you can add a print server by completing the following steps.

1. Enter PCONSOLE and select "Print Server Information" from the "Available Options" menu. The "Print Server Names" menu is displayed.

2. Press <Insert>. The "New Print Server Name" entry
    box is displayed.

3. Type in the print server name you want and press
    <Enter>. The new name is added to the menu.

Delete print servers

As a supervisor you can delete a print server by completing
the following steps.

1. Enter PCONSOLE and select "Print Server Information"
    from the "Available Options" menu. The "Print Server
    Names" menu is displayed.

2. Highlight the print server name you want to delete and
    press <Delete>. The "Delete Print Server"
    confirmation box is displayed.

3. Select "Yes" to delete the print server name.

Rename print servers

As a supervisor you can rename a print server by completing
the following steps.

1. Enter PCONSOLE and select "Print Server Information"
    from the "Available Options" menu. The "Print Server
    Names" menu is displayed.

2. Press the Modify key (<F3> on most machines) to
    rename the print server. The "Rename Print Server To"
    entry box is displayed.

3. Type in the name you want and press <Enter>.

PCONSOLE

List print servers

Enter PCONSOLE and select "Print Server Information" from the "Available Options" menu. The "Print Server Names" list is displayed.

View the print server's full name

1. Enter PCONSOLE and select "Print Server Information" from the "Available Options" menu. The "Print Server Names" list appears.

2. Select the print server whose full name you want to view. The "Print Server Information" list appears.

3. Select "Full Name."

View the print server's object ID

The print server's object ID is an identification number assigned to that print server to distinguish it from all other objects (file servers, printers, print queues, etc.).

1. Enter PCONSOLE and select "Print Server Information" from the "Available Options" menu. The "Print Server Names" list appears.

2. Select the print server whose object ID you want to view. The "Print Server Information" list appears.

3. Select "Print Server ID."

PRINT job CONfiguration

Use PRINTCON to control the way a job is printed.

```
┌─────────────────────────────────────────────────┐
│                Available Options                │
├─────────────────────────────────────────────────┤
│ Edit Print Job Configurations                   │
│ Select Default Print Job Configuration          │
│ Supervisor - Copy Print Job Configurations      │
└─────────────────────────────────────────────────┘
```

Edit Print Job Configurations

Select Default Print Job Configuration

Supervisor – Copy Print Job Configurations

Create print job configurations

As a network supervisor, you can create print job configurations for all users, using the functions, modes, and forms defined in PRINTDEF. If you do not want to create print job configurations, you can use the system default setting in PCONSOLE.

As a network user, you can set up your own print job configurations. Instead of manually entering all the print job specifications each time you print, you can choose a print job configuration. The printer returns to its default settings after the print job is completed.

The first print job configuration you create becomes your default. As soon as you define other configurations, you can select which will be your default. To create a print job configuration, complete the following steps.

1. Enter PRINTCON and select "Edit Print Job Configurations" from the "Available Options" menu. The "Edit Print Job Configurations" list appears.

2. Press <Insert> to view the "Enter New Name" entry box.

3. Type the name (up to 31 characters) of the print job configuration you want to create and press <Enter>. The "Edit Print Job Configuration" form is displayed.

4. Select the print job configuration item you want to modify. Then make the change by typing in a new value or by choosing an item from the menu provided. The parameters are explained beginning on page 389. Press <Enter> to save your change.

5. Once you set up the job configuration, press <Escape>. The "Save Changes" confirmation box appears.

6. Select "Yes" to save the specified parameters.

Parameters

Number of copies

You can enter a number from 1 to 65,000.

Suppress form feed

If you want the printer to advance to the top of the next page after your print job, choose "No." If not, choose "Yes." Some applications have a form feed at the end of the file, so adding a form feed causes a blank page to be fed through.

File contents

You have two choices: "Text" and "Byte Stream." Choose "Text" when you want all special formatting characters, such as tabs, to be interpreted and formatted by the print server. (Choose "Text" to print ASCII text.) Choose "Byte Stream" if you are printing from within an application and you want the application to handle the formatting commands.

Tab size

Type a number from 1 to 18 (the default is 8). All tabs in the document you print are set to the size specified here. If "File contents" is set to "Byte Stream," this field is blank.

Form name

Press <Enter> to view a menu of forms you can choose from. The network supervisor defines forms in the PRINTDEF database and describes the type of paper your document is printed on. If no forms have been defined in PRINTDEF, you cannot change the form name.

PRINTCON

Print banner

> Answer "Yes" or "No." If you choose "Yes" (the default setting), a banner identifying the file is printed before the file is printed. A banner is a printed sheet with the name of the print file and the person submitting the job request.

Banner name

> If you choose to print a banner, you decide whether to give the banner a name. You can use the default banner name, which is the username you logged in with, or you can type in any text, up to 12 characters long.

Banner file

> You can enter a banner filename (up to 12 characters long) in this space. If you leave the space blank, the name of the file you are printing is printed in the banner.

Local printer

> This setting is used only with CAPTURE. You can enter the local parallel printer port (LPT1, LPT2, or LPT3) that the captured file will be recorded from.

Auto endcap

> This setting is used only with CAPTURE. If you choose "Yes," the file you are capturing is printed whenever you exit a program or when the program closes the print device. If you choose "No," the file is printed only after you run ENDCAP (unless you specify a printer timeout).

Enable timeout

This setting is used only with CAPTURE. If you choose "Yes," the data you have captured is sent to the print queue after the number of seconds you define as the "Timeout count" has elapsed. If you choose "No," the captured data is sent to the queue according to the "Auto endcap" setting.

If you set "Auto endcap" to "No" (default), the captured data is printed only after ENDCAP is used. If you set "Auto endcap" to "Yes," the captured data is printed whenever you exit a program, according to the settings you have specified for the "Auto endcap" field.

Timeout count

This is the number of seconds the shell waits before queuing the saved file. Enter a number from 1 to 1,000 (the default is 5). You need to specify a timeout count only if you have not used ENDCAP.

File server

Press <Enter> to see a list of the file servers you can use. Select the file server you want to print from. If no forms have been defined for the server you choose, you must choose another server.

Print queue

Press <Enter> to see a list of the print queues you can use. Select the print queue on the file server the print job should be sent to.

Device

Press <Enter> to display a list of the printers and plotters you can use. Select the device you want to print on. (The device you choose must be mapped to the queue you chose.)

PRINTCON

Mode

Press <Enter> to display a list of the modes for the chosen print device. A mode is a special type of printing, such as 15 characters per inch (compressed mode). Select the mode you want to use.

Delete a print job configuration

You can also use PRINTCON to delete a job configuration. You cannot delete the default print job configuration, however. (See "Select the default print job configuration" on page 394.)

To delete a print job configuration, complete the following steps.

1. Enter PRINTCON and select "Edit Print Job Configurations" from the "Available Options" menu. The "Edit Print Job Configurations" list appears.

2. Highlight the print job configuration you want to delete and press <Delete>.

   You cannot delete the default job configuration. If you have defined only one job configuration, it is your default and cannot be deleted.

3. In the "Delete Current Print Job Configuration" confirmation box, select "Yes."

   You return to the "Edit Print Job Configurations" list. The print job configuration you selected is deleted.

Rename a print job configuration

To modify the name of a print job configuration, complete the following steps.

1. Enter PRINTCON and select "Edit Print Job Configurations" from the "Available Options" menu. The "Edit Print Job Configurations" list appears.

2. Highlight the print job configuration you want to rename and press the Modify key (<F3 on most machines). The "Change name to" entry box is displayed.

3. Use the Backspace key to delete the print job configuration name. Type a new name and press <Enter>.

Edit a print job configuration

1. Enter PRINTCON and select "Edit Print Job Configurations" from the "Available Options" menu.

2. Select the print job configuration you want to edit. The "Edit Print Job Configuration" table is displayed.

3. You can now edit the print job configuration by specifying new parameters. Use the arrow keys to move to the field you want to change.

   Some fields allow you to enter only "Yes" or "No." Other fields have menus from which you can choose parameters (such as "Form name" and "File server").

   When you put the cursor in a field where a menu is available and press <Enter>, the menu appears. Select the menu item you want. When a menu exists, you must choose options from that menu.

Some fields allow you to enter variable information
(such as "number of copies," "banner name," and
"banner file"). You can enter or change information
in a field as soon as it is highlighted. Press
<Enter> or an arrow key to move to a new field.

The print job configuration parameters are explained
beginning on page 389.

4. Press <Escape> to save the changes you made. The
    "Save Changes" confirmation box is displayed.

5. Select "Yes" to save the changes.

Select the default print job configuration

The default print job configuration you choose determines
the default settings for files you print with PCONSOLE,
NPRINT, and CAPTURE/ENDCAP. If you print a file
with NPRINT or CAPTURE and you do not specify any
flags, the file is printed according to your default print job
configuration in PRINTCON. However, any flags you enter
at the command line override the defaults.

To specify a default setting, complete the following steps.

1. Enter PRINTCON and select "Select Default Print Job
    Configuration" from the "Available Options" menu. The
    "Select Default Print Job Configuration" list appears.

2. Select the print job configuration that you want to be the
    default. In the right column of the "Edit Print Job
    Configurations" list "(default)" appears, indicating your
    new default print job configuration.

Copy print job configurations from one user to another

Each user has a print job configuration file that stores any print job configurations created by or for that user. This file, PRINTCON.DAT, is stored in the user's mail directory.

As supervisor, you can copy print job configurations from one network user to another. You cannot copy a single job configuration at a time. You must copy the whole file. When you copy one user's print job configuration file to another user, the copied file overwrites the target user's existing file. Since users can create their own print job configurations, you should check with users before copying another user's file over their existing files.

To copy a print job configuration, complete the following steps.

1. Enter PRINTCON and select "Supervisor – CopyPrint Job Configurations" from the "Available Options" menu.

2. In the "Source User" entry box, type the name of the user whose file you want to copy and press <Enter>.

3. In the "Target User" entry box, type the name of the user whose print job configuration file you want to replace and press <Enter>. The file is copied.

4. Press <Escape> to exit PRINTCON. The second user can now use all the first user's job configurations.

PRINTer DEFinition

PRINTDEF is used by supervisors to define modes of
operation for network printers, plotters, and other devices.
Supervisors can also define the forms (types of paper) that
the printer uses. Users use PRINTDEF to view device
functions, modes, and forms that the supervisor sets up.

```
PrintDef Options

Print Devices
Forms
```

Print Devices

Forms

Copy print device definitions provided with NetWare

If you want to use any of the 30 NetWare print device definitions, you need to copy them from the SYS:PUBLIC directory to the PRINTDEF database for your server.

Print device definitions are files that have a .PDF extension. The files are listed on page 399.

To copy any of the NetWare definitions, log in as SUPERVISOR and complete the following steps.

1.   Enter PRINTDEF and select "Print Devices" from the "PrintDef Options" menu. The "Print Device Options" menu appears.

2.   Select "Import Print Device." The "Source Directory" entry box displays your current directory.

3.   If you are not in the SYS:PUBLIC directory, use the Backspace key to erase the current directory name. Then type SYS:PUBLIC and press <Enter>.

4.   In the "Available .PDFs" list, select the .PDF file you want to add to your database.

   If you try to copy a file that has the same name as an existing print device definition, the "New Device Name" entry box appears, prompting you to rename the new print device definition. Type a name and press <Enter>.

The new print device definition is added to the PRINTDEF database. You are returned to the "Print Device Options" menu.

5. To save the database with the new print device definition, press <Escape> twice.

6. In the "Exit PrintDef" confirmation box, select "Yes." Then select "Save Data Base, then EXIT."

NetWare print device definitions

Printer Name	Filename
Apple Imagewriter II	APPIMAGE.PDF
Apple Laserwriter I/Plus	APPLASER.PDF
Citizen 120-D	CIT120D.PDF
Citizen 20	CIT20.PDF
Citizen 224	CIT224.PDF
CItoh 310/315	CITOH310.PDF
CItoh 600	CITOH600.PDF
Diablo 630	DIAB630.PDF
Epson EX-800	EPEX800.PDF
Epson FX80/FX100	EPEX80.PDF
Epson FX86e/FX286e	EPEX86.PDF
Epson LD-2500	EPLD2500.PDF
Epson LQ-800/LQ-1000	EPLQ800.PDF
Epson LX-80	EPLX80.PDF
Epson LX-800	EPLX800.PDF
Hewlett-Packard LaserJet I/II	HPLASER.PDF
IBM ProPrinter 4201	IBM4201.PDF
IBM ProPrinter II/XL	IBMPRO2.PDF
NEC Spinwriter 2050/3050	NEC2050.PDF
NEC Spinwriter 8810/8830	NEC8810.PDF
NEC Pinwriter P-6	NECP6.PDF
Okidata Microline 192/193	OKI192.PDF
Okidata 290	OKI290.PDF
Okidata 390	OKI390.PDF
Okidata Laserline 6	OKILASER.PDF
Panasonic 1080/1080i	PAN1080.PDF
Panasonic 1091/1091i	PAN1091.PDF
Star NX-1000	STAR1000.PDF
Star Gemini 10X	STAR10X.PDF
Toshiba P321	TOSHP321.PDF

PRINTDEF

Copy print device definitions from one file server to another

If you want to use another file server's printer, you must first copy (export) the print device definition from the original server's NET$PRN.DAT file into a .PDF (Print Definition) file. You can then add (import) the .PDF file to your server's NET$PRN.DAT file. You can copy only one device definition at a time.

You must have supervisor privileges on both file servers.

Export device definitions

To export (copy) a device definition into a .PDF (Print Definition) file, complete the following steps.

1. Enter PRINTDEF and select "Print Devices" from the "PrintDef Options" menu.

   The "Print Device Options" menu appears.

2. Select "Export Print Device." The "Defined Print Devices" list is displayed.

3. Select the device definition you want to copy to another file server. Your current directory is listed in the "Destination Directory" entry box.

4. You can export a file to your current directory, to another directory on the current file server, or to a directory on another file server. Complete one of the sections below.

Export to current directory

4a. Press <Enter>.

4b. Skip to Step 5.

Export to another directory

The supervisor of the file server containing the print device definition can export the file to any directory in which he or she has Write and Create rights. We suggest putting the file in the SYS:PUBLIC directory of the current file server. If the file is in the SYS:PUBLIC directory, then the supervisor of another file server can log in as GUEST and have sufficient rights to import the file.

4a. Use the Backspace key to erase the current directory.

4b. Press <Insert> to see a list of volumes on the current file server.

4c. Select the volume you want.

4d. Repeat the last two steps for selecting the appropriate directory and subdirectory.

4e. When you have selected the complete directory path, press <Escape> and then <Enter>.

4f. Skip to Step 5.

Export to another file server

If you want to export the file to another file server, you must have Write and Create rights on the other file server.

4a. Use the Backspace key to erase the complete directory path.

4b. Then press <Insert> twice to see a list of attached file servers.

4c. Select the file server you want to export the file to.

4d. If you are not already attached to the destination file server, a box appears asking for your login name and password. Type your username and press <Enter>. Then type your password and press <Enter>.

4e. A box appears listing the volumes of the destination file server. Select the one you want.

4f. Select the appropriate directory and subdirectory by pressing <Insert> to see a list of available directories.

4g. When you have selected the complete directory path, press <Escape> and then <Enter>.

The "Export File Name" entry box is displayed.

5. Type a name for the file and press <Enter>.

The name can be up to eight characters long, but cannot include an extension. You will probably want to use the name of the print device so the file is easily recognizable (for example, HP_LASER).

The file is created with a .PDF extension and placed in the specified directory.

6. Press <Escape> to return to the "Print Device Options" menu.

Import print device definitions

Now you must import (add) the .PDF (Print Definition) file you just created to the NET$PRN.DAT file on the desired file server.

1. Enter PRINTDEF and select "Print Devices" from the "PrintDef Options" menu.

The "Print Device Options" menu is displayed.

2. Select "Import Print Device."

The "Source Directory" entry box displays your current directory. If the .PDF file you want to import is not in your current directory, you need to change directories as explained in Step 3. (You should have already exported the .PDF file to this directory, as explained in the previous section.)

If the file has been placed in the SYS:PUBLIC directory, then user GUEST has sufficient rights (Read, Open, and Search) in that directory unless these rights were specifically removed by the supervisor.

3. To indicate where the .PDF file is located, complete one of the following sections.

Import from the current directory

3a. If the .PDF file is located in your current directory, press <Enter>.

3b. Skip to Step 4.

Import from another directory

If the .PDF file is located in another directory on your current file server, complete the following steps.

3a. Use the Backspace key to erase the current directory.

3b. Press <Insert> to see a list of available directories.

3c. Select the name of the directory you want to copy the .PDF (Print Definition) file from.

3d. Skip to Step 4.

Import from an attached file server

If the .PDF file is located on another file server, complete the following steps.

3a. Use the Backspace key to erase the complete directory path.

3b. Press <Insert> to see a list of attached file servers.

3c. Select the file server you want to import the file from.

If the .PDF file is located on a file server you are not currently attached to, press <Insert> twice. In the "Other File Servers" list, select the server you want to attach to. A box appears asking for your login name and password. Enter your login name and password.

3d. A box appears listing the volumes of the source file server. Select the one you want.

3e. In the list of available directories, select the appropriate directory.

3f. When you have selected the complete directory path, press <Escape> and then <Enter>.

4. In the "Available .PDFs" list, select the .PDF file you want to add to your database. If the supervisor of another file server exported the file, you need to get the filename from that supervisor.

If you try to import a file that has the same name as an existing print device definition, the "New Device Name" entry box appears, asking you to rename the new print device definition. Type the name and press <Enter>.

The new print device definition is added to the print definition database. You are returned to "Print Device Options."

5. To save the database with the new print device definition, press <Escape> twice.

6. In the "Exit PrintDef" confirmation box, select "Yes." Then select "Save Data Base, then EXIT."

The flow chart in the figure below illustrates the steps for copying a print device definition. The example shows how to copy the HP LaserJet print device definition from file server PRUFROCK to file server COMM.

First, export the HPLASER.PDF file from the PRINTDEF database on PRUFROCK to the SYS:PUBLIC directory on PRUFROCK.

Then, import the HPLASER.PDF file from the SYS:PUBLIC directory on PRUFROCK to the PRINTDEF database on COMM.
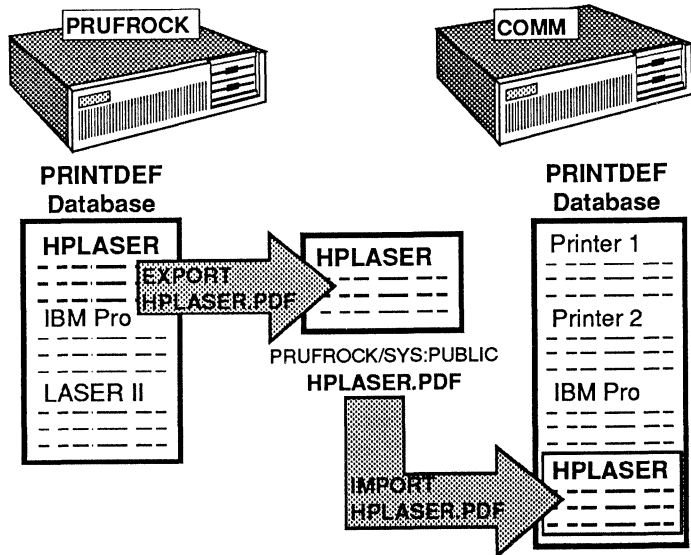
Copying Print Device Definitions

PRINTDEF

Define print device functions

If your print devices (printers, plotters, etc.) are not included among the definitions provided with NetWare (see page 399), you need to define your own print device functions and print device modes for each device you are using.

Print functions (also referred to as escape sequences) give instructions to the printer. You will use these functions to define print device modes (see page 408). To define a printer's functions, you enter escape sequences or printer commands into the PRINTDEF database.

Define a printer's functions

1. Enter PRINTDEF and select "Print Devices" from the "PrintDef Options" menu. The "Print Device Options" menu appears.

2. Select "Edit Print Devices." The "Defined Print Devices" list is displayed.

3. Press <Insert> to add a new print device.

4. In the "New Device Name" entry box, type the name of the print device and press <Enter>. The name should be recognizable to users (for example, a brand name such as IBM ProPrinter), and it cannot be more than 32 characters in length.

   The name of the print device you just typed is highlighted.

5. Press <Enter> to display the "Edit Device Options" menu.

6. Select "Device Functions." The "Device Functions" list is displayed. (The name of your print device replaces *device*.)

7. Enter the escape sequences or printer commands for the specified printer as explained in the next section. Usually the printer documentation has a section on printer commands. Consult that documentation.

Enter a device function

1. Press <Insert> to add a new print device.

2. In the "Function Definition Form" entry box, type a name to identify the printer command and press <Enter>.

   For example, if you were defining the HP LaserJet and you wanted to include the print function for resetting the printer, you would type

   > Reset <Enter>

   The "Escape Sequence" option is highlighted.

3. Type the actual escape sequence supplied by the device documentation and press <Enter>.

   For example, to enter the HP LaserJet print function for reset, type

   > <ESC>e <Enter>

   When you enter the escape sequences, you must type each character, including the angle brackets < >.

4. Press <Escape> and then <Enter> to save and insert the new escape sequence into the "Functions" list.

When you are entering the print functions, be sure to include the reset escape sequence.

---

5. Repeat Steps 1 through 4 for each function or escape sequence you want to enter.

6. Select the device function you want to edit. Use the Backspace key to erase the current information and type in the new name or escape sequence. Press <Escape> and then <Enter> to save the modified function.

7. After you have entered all the device functions, press <Escape> to return to the "Edit Device Options" menu.

Define print device modes

Once you have defined the functions for a print device, you can combine these functions into modes. A mode is a sequence of print functions that tells the printer how to print a particular job.

For example, you could create a Final Print Out mode for the HP LaserJet that would include the functions for 10 cpi, emphasized printing, and near-letter quality printing. (See the figure below.)
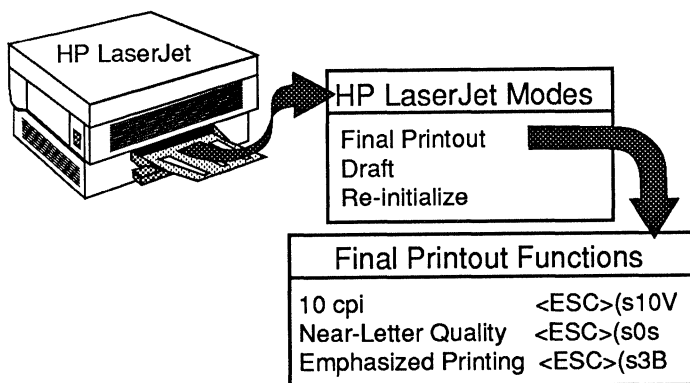
Defining Print Device Modes

As a supervisor, you must determine what your printing needs are and then define the modes by completing the following steps.

1. In the "Edit Device Options" menu, select "Device Modes." The "(Re-initialize)" mode appears in the "Your Printer Modes" entry box. (*Your Printer* is replaced with the name of the printer you have selected.)

2. To set up the Re-initialize mode, press <Enter>. The "(Re-initialize) Functions" list is displayed.

3. Press <Insert> to see a list of all defined functions for one print device. Most print devices have a single escape sequence for reset. Select the function or escape sequence for resetting the printer.

   For example, if you were defining the Re-initialize mode for the HP LaserJet, you would select the following escape sequence.

   Reset   <ESC>e

   If your printer does not have a single reset function, then you need to enter all your printer's "Cancel" functions into the Re-initialize mode. Select multiple functions with the Mark key (<F5> on most machines).

Create additional print device modes

After you have entered the Re-initialize mode functions, you can create additional modes depending on your printing needs. To create additional print device modes, complete the following steps.

1. In the "*Your Printer* Modes" list (*Your Printer* is replaced by whatever printer you are defining, for example, HP LaserJet Modes), press <Insert>.

2. In the "*New Mode Name*" entry box, type the name of the mode you want to create (for example, Final Printout) and press <Enter>.

   The "*New Mode Name* Functions" list is displayed. (*New Mode Name* is replaced by the name of the mode you are defining, for example, Final Printout Mode.)

3. Enter the functions for that particular mode.

   The order of the functions in the functions list may be important to the printer. Normally, any function you add is placed at the end of the list.

   However, you can insert a new function anywhere in the "New Mode Name Functions" list by highlighting the function preceding the line where you want the new function added and pressing the Mark key (<F5 on most machines). You can now insert new functions by completing Steps 4 and 5.

4. Press <Insert> to see the list of all defined functions for that print device.

5. Use the Mark key (<F5 on most machines) to highlight the functions you want to include in the new mode. Then press <Enter>.

   The functions you choose appear in the "New Mode Name Functions" list.

For example, to create a Final Printout mode for the
HP LaserJet and include 10 cpi, emphasized printing,
and near-letter quality printing, mark each of these
options and then press <Enter>.

When you finish entering the functions list, press
<Escape> to return to the "Modes" list.

6. To delete a function from the "Modes" list, highlight that
   function and press <Delete>.

7. Repeat Steps 1 through 5 for each mode or combination
   of functions you want to create.

   When you are finished entering modes for one print
   device, press <Escape> to return to the "Defined Print
   Devices" list.

8. To exit PRINTDEF after defining all print modes, press
   <Escape> until you come to the "Available Topics"
   menu. Select "Exit Options." Then select "Save Data
   Base, then EXIT."

List the print devices on your network

1. Enter PRINTDEF.

2. Select "Print Devices" from the "PrintDef Options"
   menu. A list of the defined print devices is displayed. If
   the list is empty, none have been defined.

View device functions

A function is an escape sequence (a string of control code characters) that controls a printing characteristic. For example, <ESC>?'! might control condensed print width.

To view the functions and escape sequences for a defined print device, complete the following steps.

1. Enter PRINTDEF and select "Print Devices" from the "PrintDef Options" menu. The "Print Device Options" menu appears.

2. Select the print device whose device functions you want to view. The "Edit Device Options" menu appears.

3. Select "Device Functions." The functions and corresponding escape sequences that have been defined for the selected print device are displayed.

   If the escape sequence for a function is too long to be displayed in the "Printer Functions" list (longer than 32 characters), select that escape sequence and press <Enter>. The escape sequence is displayed in the "Escape Sequence or Function" inset.

You can also view functions and escape sequences individually by following these steps:

1. Enter PRINTDEF and select "Print Devices" from the "PrintDef Options" menu.

   The "Print Device Options" menu appears.

2. Select the print device that contains the functions you want to view. The "Edit Device Options" menu appears.

3. Select "Device Modes." A list of the modes that have been defined for the selected print device appears.

4. Select the mode whose functions you want to view. The mode's functions are listed.

5. Select a function whose escape sequence you want to view. The function's escape sequence is displayed.

View device modes

If one or more print devices have been defined, you can view their associated device modes by completing the following steps.

1. Enter PRINTDEF and select "Print Devices" from the "PrintDef Options" menu.

   The "Print Device Options" menu appears.

2. Select the print device whose defined modes you want to view. The "Edit Device Options" menu appears.

3. Select "Device Modes." The modes that have been defined for the selected print device are displayed.

Define print forms

Print forms are the type of paper you print on. The print forms you define are used as you set up print job configurations. For example, you might want some jobs to be printed on letter size sheets of paper and others on green bar continuous feed paper.

The file server recognizes forms by name and number. When you send a print request that requires a specific form, the file server does not print the job until that form is mounted in the printer.

As a supervisor, you can define print forms by completing the following steps.

1. Enter PRINTDEF and select "Forms" from the "PrintDef Options" menu. A list of the forms that have been defined for printing is displayed.

2. Press <Insert>.

3. In the "Forms Definition Form" entry box, type the name of the new form you want to define and press <Enter>. The first character of the form name must be alphabetic, and the form name cannot exceed 12 characters. Use an underscore (_) instead of a space between words in a form name. Examples of form names include White_8x11, Continuous, Checks, Green_Bar.

4. Type the number you want to assign to the form and press <Enter>. You may want to assign the most commonly used form as form 0, since 0 is the default form. Form numbers must fall between 0 and 255.

5. Type the length of the form in lines per page and press <Enter>. The number must fall between 1 and 255. For example, if your printer is set at six lines per inch, then a sheet that measures 8-1/2 by 11 inches would be 66 lines long.

6. Type the width of the form in characters per line and press <Enter>. The number must fall between 1 and 999. For example, if your printer is set at 10 characters per inch, then a sheet that measures 8-1/2 by 11 inches has 85 characters per line.

7. To save changes, press <Escape>. Select "Yes" in the "Save Changes" confirmation box. The new form is listed in the "Forms" list.

8. Repeat Steps 2 through 7 for each form you want to define.

9. If you need to edit a form, highlight that form in the
    "Forms" list and press the Modify key (<F3 on most
    machines). Follow Steps 2 through 7 to make any
    necessary changes.

10. To delete a form from the "Forms" list, highlight that
    form and press <Delete>. Press <Enter> to confirm
    your decision to delete the form.

11. To exit PRINTDEF after you finish defining forms,
    press <Escape> twice and then <Enter> to access the
    "Exit Options" menu. Select "Save Data Base, then
    EXIT."

View a list of forms

Enter PRINTDEF and select "Forms" from the "PrintDef
Options" menu. A list of the forms that have been defined
for printing is displayed.

View form definitions

1. Enter PRINTDEF and select "Forms" from the
    "PrintDef Options" menu. A list of the forms that have
    been defined for printing is displayed.

2. Select the form whose definition you want to view.
    The "Forms Definition Form" is displayed. It
    contains the form's name, the number assigned to it,
    and the form's length and width. Forms can be
    referred to by their number or name; however, it is
    usually easier to remember a form by a descriptive
    name than by an arbitrary number.

Use PRINTER to control print jobs at the file server.

Command format

Add an existing queue to a printer

After you have created a queue, use PRINTER to add the queue to a printer.

Command format

P[RINTER] *nn* ADD [QUEUE] *name* [[AT] [PRIORITY] *nn*]

Replace *nn* with the printer number and a priority level. Replace *name* with the name of the queue.

Before you can add the queue to the printer, you must create the queue using QUEUE (see page 437).

If you want the new queue mapped permanently, you must include this command in your AUTOEXEC.SYS file. Refer to the File Server Tasks in SYSCON for more information.

Example

If you want the ACCOUNTS queue to be serviced by printer 2 at priority level 1, type

    P 2 ADD ACCOUNTS AT PRIORITY 1   <Enter>

PRINTER

Reroute an existing queue from one printer to another

Use PRINTER when you want to switch a queue from one printer to another.

Command format

P[RINTER] *nn* = [QUEUE] *name* [[AT] [PRIORITY] *nn*]

Example

If you want to reroute the ACCOUNTS queue from printer 2 to printer 3 at priority level 1, type

P 3 = ACCOUNTS AT PRIORITY 1 <Enter>

Change the paper (form) in a printer

You can use PRINTER to tell the file server that you have changed the type of paper (form) in the printer.

Command format

P[RINTER] *nn* FORM *xx*

Replace *nn* with the number of the printer and *xx* with the number of the new form type.

Additional information

When the file server encounters a job that requires a different form, it sends a message to the file server console indicating that the form in the printer needs to be changed.

For example, if the printer is set for printing continuous feed forms and you send a job to the printer that must be printed on a letterhead form, a message appears on the console indicating that the paper in the printer must be changed.

To tell the file server that you have changed the paper form in a printer, type the PRINTER command at the file server.

The network supervisor should use PRINTDEF to define form numbers.

Example

If you have changed the form type in printer 1 to form 30, you would type the following at the file server:

    P 1 FORM 30 <Enter>

A message on the file server console notifies you of any future job that needs a different form type.

After you have changed the form type, you can list the printers (see page 423) to double-check the change. A status line similar to the following for printer 1 appears:

    Printer 01: Running On-Line Form 30 mounted
          Servicing 1 Queues

To change the form number back to 0, enter the PRINTER change form command again, substituting form type 0 for form type 30. If you list the printers again, the status line for printer 1 reflects the change:

    Printer 01: Running On-Line Form 0 mounted
          Servicing 1 Queues

PRINTER

Remove a queue from a printer temporarily

Use PRINTER to temporarily remove a queue from the set
of queues being serviced by a particular printer.

Command format

P[RINTER] *nn* DEL[ETE] [QUEUE] *name*

Replace *nn* with the printer number and *name* with the
name of the queue.

Additional information

If a queue is being serviced by a printer that goes down, this
command removes the queue from the disabled printer so
you can then add the queue to a working printer.

This command does not destroy the queue; it only disables
the printing of jobs in the queue. Users can still send jobs
to the queue, and all jobs already in the queue are saved.
Jobs in the queue cannot be printed, however, until the
queue is enabled using QUEUE, or the file server is
rebooted.

To permanently delete the queue from the set being serviced
by a printer, the supervisor must remove the corresponding
PRINTER command from the AUTOEXEC.SYS file by
using supervisor editing options in SYSCON.

Example

To delete the GAMES queue from printer 1, type

    P 1 DEL GAMES   <Enter>

To add the queue to a printer so that jobs in that queue can
be printed, see "Add an existing queue to a printer" on page
417.

Advance the printer paper one sheet

Use PRINTER to advance the paper (form) in a printer by one page. This command is also used in positioning continuous-feed forms (see page 424).

Command format

P[RINTER] *nn* FORM FEED

P[RINTER] *nn* FF

Replace *nn* with the number of the printer you are using.

Additional information

If you do not specify a printer number, you receive an error message, and you have to re-enter the command. (The printer number must be between zero and four since file servers can have up to five printers attached.)

You can advance the paper even if a printer is halted with the PRINTER stop command (see page 428). This feature allows you to stop a printer, reposition the form, and then restart the printer.

If the printer is off-line when you attempt to advance the paper, an error message is displayed at the console, indicating that the PRINTER command could not be executed.

Example

To advance the paper in printer 1, type

P 1 FORM FEED <Enter>

PRINTER

List a printer's queues

Use PRINTER to list all of the queues serviced by a printer. The list also includes the priority level of each queue.

Command format

P[RINTER] *nn* [Q[UEUE[S]]]

Replace *nn* with the number of the printer whose queues you are listing.

Example

To list all the queues serviced by printer 2, type

```
P 2 QUEUES  <Enter>
```

Information similar to the following appears on the console:

```
Printer 2:  Running  On-Line  Form 0 mounted
       Servicing 3 Queues

Servicing ACCOUNTS at priority  1

Servicing PAYROLL at priority  1

Servicing PRINTQ_0 at priority  2
```

This example screen indicates that printer 2 is servicing three queues: ACCOUNTS, PAYROLL, and PRINTQ_0. This screen also shows that the ACCOUNTS and PAYROLL queues are at a higher priority level than the PRINTQ_0 queue. This means any jobs sent to the ACCOUNTS or PAYROLL queues are printed before any jobs in the PRINTQ_0 queue.

List all printers attached to a file server

Use PRINTER to list all printers attached to the file server. Information for each printer is also listed, including the status of each printer (on-line or off-line), the form number mounted in each printer, and the number of queues serviced by each printer.

Command format

P[RINTER[S]]

Example

If you are logged in to server MARKETING, you can list all printers attached to that server by typing

    P <Enter>

Information similar to the following appears on the console:

```
MARKETING is configured for 3 printers:

    Printer 0:  Running On-Line   Form 0 mounted
        Servicing 2 Queues
    Printer 1:  Running Off-Line  Form 0 mounted
        Servicing 1 Queues
    Printer 2:  Running On-Line   Form 0 mounted
        Servicing 3 Queues
```

PRINTER

Mark position on the page where printing starts

Use **PRINTER** to align continuous-feed, preprinted forms in a network printer. Use the command in this section along with "Advance the printer paper one sheet" on page 421 to perform this task.

Command format

P[RINTER] *nn* MARK

Replace *nn* with the printer number.

Additional information

When you enter this command, the printer prints a horizontal line of asterisks, marking the position on the page where the printing starts. Use this line to adjust the position of your form as necessary.

If you do not specify a printer number, you receive an error message, and you must re-enter the command. (The printer number must be a number between zero and four since file servers have up to five printers attached.)

Example

To adjust the paper in printer 1, type

P 1 MARK < Enter >

The printer prints a row of asterisks on the first form, showing the print position. Adjust the first form in the printer so that information prints exactly where you want it.

After you have found the correct form position, use "Advance the printer paper one sheet" (described on page 421) to automatically set the next form to the correct position.

PRINTER functions even if you have stopped the printer with a PRINTER command. If your printer has difficulty keeping a form in line, stop the printing (see page 428), realign the form using the PRINTER mark command, and then restart the printer (see page 427). You may also need to rewind the printer using the PRINTER interrupt and reprint command (see below) to reprint problem pages.

If you are using the marking feature to position forms before you start printing them, you do not need to stop, rewind, or start the printer.

If the printer is off-line when you attempt to adjust the paper, an error message is displayed on the console, indicating that the PRINTER command could not be executed.

Interrupt a print job and reprint pages

Use PRINTER to interrupt a job that is being printed, back up a specified number of pages in the printing file, and restart the printer.

Command format

P[RINT] *nn* REWIND [*xx*] [PAGES]

Replace *nn* with the printer number and *xx* with the number of pages to be backed up.

Additional information

The interrupt and reprint feature is particularly useful when something has gone wrong in the printing process (for example, when a bad printer ribbon produces an illegible printout) and you need to reprint all or part of the document being printed. As soon as the printer's buffer has emptied,

the printer pauses, rewinds, and starts printing at the page indicated by the command.

If the file is not an ASCII file or if you enter a number that exceeds the number of page breaks the file server has tracked (currently 10 pages maximum), the job is reprinted from the beginning.

Example

Suppose printer 1 has printed nine pages of a particular file, and you notice that the printing is not very clear on pages 6 through 9. Stop printing (see page 428); then fix the problem that has caused the faulty printing. To rewind the printer to reprint the problem pages, type

P 1 REWIND 4 PAGES   <Enter>

Next, restart printing (see page 427). The printer rewinds four pages and starts printing on page 6.

Note: If the printer is stopped with PRINTER, it must be restarted with PRINTER (as in the example above). If you enter the interrupt and reprint command without entering the PRINTER stop and start commands, the printer pauses briefly to back up, then automatically begins reprinting the number of pages you specify.

If you specify 0 as the number of pages, printing restarts at the top of the current page.

If you do not specify the number of pages, printing starts from the beginning of the job.

If you specify a number of pages greater than 9 or if the printing file contains no form feeds, printing is resumed from the beginning of the file.

Restart a printer

Use **PRINTER** to restart a printer that has been stopped with the **PRINTER** stop command.

Command format

P[RINTER] *nn* **START**

Replace *nn* with the number of the stopped printer. The printer number must be between zero and four since file servers have up to five printers attached.

Additional information

When a file server is first booted, all printers are started automatically; therefore, it is necessary to use the start command only after using the **PRINTER** stop command.

Some console commands, such as the **PRINTER** interrupt and reprint command, the **PRINTER** mark command, and the **QUEUE** delete command, stop the printer automatically while the command is being executed, and then restart the printer automatically. You do not have to enter the **PRINTER** stop and start commands with other commands that interrupt printing. However, the start command must be entered to resume printing if you have used the stop command in combination with any other command.

Example

To start printer 1 that has been stopped with **PRINTER**, type

    P 1 START < Enter >

If you do not specify a printer number, an error message appears on the screen, and you must enter the command again.

PRINTER

When the PRINTER stop command is the only command issued after the stop command, printing is resumed at the exact place where the printer was halted. If the printer was stopped in the middle of a word, it resumes printing with the next character in that word.

When the start command is entered after a command other than a stop command (PRINTER interrupt and reprint, PRINTER mark, QUEUE delete job, or QUEUE delete all jobs), printing is resumed as you specified in these other commands.

Stop a printer

Use PRINTER to temporarily stop a printer.

Command format

P[RINTER] *nn* STOP

Replace *nn* with the number of the printer that you want to stop.

Additional information

The stop command is useful when you want to change a ribbon, reprint pages of the file currently printing, realign continuous feed forms, or complete any other tasks that require you to stop the printer.

Example

To stop printer 3, type

P 3 STOP <Enter>

The printer stops when the printer buffer empties.

To check the status of the printer to see whether it has been stopped, use the PRINTER list command (see page 423).

To restart a printer stopped with the PRINTER stop command, you must use the PRINTER start command.

PSTAT

Printer **STAT**us

Use PSTAT to view information about printers connected to your file servers.

Command format

PSTAT [*option* ...]

Replace *option* in the command format with one or both of the options listed below.

Command options

Server=*server*

Include this option if you want to view information about printers attached to a file server other than your default server. Replace *server* with the name of the file server.

Printer=*number*

Include this option if you want to view information about a particular printer. Replace *number* with the number of the printer.

Additional information

If you take a printer off-line and then quickly enter a PSTAT command, the message that appears on your screen will indicate that the printer is still on-line. When someone on the network sends a file to that printer, the file server will register that the printer is off-line. Then when you enter a PSTAT command, the message will indicate that the printer is off-line.

View information about
printers connected to your default file server

Use PSTAT to view information about all printers connected to your file server. To view information about one printer connected to your file server, use the Printer=*number* option.

Example 1

To view information about all the printers attached to your default file server, type

PSTAT <Enter>

You see information similar to the following on your screen:

```
Server COUNT : Network Printer Information
Printer    Ready      Status     Form: number, name
-------    --------   --------   ----------------------
0          On-line    Active     1, reports
1          Off-line   Stopped    0, unknown name
2          On-line    Stopped    1, reports
```

The "Status" column shows if the printer has been activated or deactivated at the file server console.

PSTAT

Example 2

To view information about printer 1 connected to your
default file server, type

PSTAT P=1 <Enter>

You see information similar to the following on your screen:

```
Server COUNT : Network Printer Information
Printer     ReadyStatusForm: number, name
-------     ----------------------------------------
      1     On-lineActive1, reports
```

The "Status" column shows if the printer has been activated
or deactivated at the file server console.

View information about printers connected to any file server

To view information about printers connected to any file
server, use the Server=*server* option. Replace *server* with the
name of the file server whose printers you want to view.
Include the Printer option if you want to view information
about a particular printer connected to the file server.
Replace *number* with the number of the printer.

If you are not attached to the file server you specify in the
PSTAT command, PSTAT automatically and transparently
attaches you to that file server as GUEST. If GUEST has a
password on that file server, PSTAT prompts you for a
username and a password before allowing you to continue.

Example 1

To view information about all printers connected to file
server RESEARCH, type

PSTAT S = RESEARCH   < Enter >

You see information similar to the following on your screen:

```
Server RESEARCH : Network Printer Information
Printer    ReadyStatusForm: number, name
-------    -------------------------------
      0    On-lineActive1, reports
      1    Off-lineStopped0, unknown name
      2    On-lineStopped1, reports
```

The "Status" column shows if the printer has been activated
or deactivated at the file server console.

Example 2

To view information about Printer 1 connected to file server
RESEARCH, type

PSTAT S = RESEARCH P = 1 < Enter >

You see information similar to the following on your screen:

```
Server RESEARCH : Network Printer Information
Printer    ReadyStatusForm: number, name
---------  ----------------------------------------
      1    On-lineActive1, reports
```

The "Status" column shows if the printer has been activated
or deactivated at the file server console.

PURGE

Use PURGE to permanently delete all previously erased
files.

Command format

PURGE

Additional information

A file server has a limited number of available directory
entries. Each directory, file, or trustee list occupies one
directory entry. When you erase a file using the DOS
ERASE or DELETE command, you make that file
inaccessible, but you do not remove the attachment between
the file and the directory entry. The erased file still occupies
one directory entry. The only way to free that directory
entry is to enter a PURGE command.

Permanently delete erased files

When you enter a PURGE command after erasing files
using the DOS ERASE command, the DOS DEL command,
or the NetWare FILER utility, you permanently delete those
files.

The PURGE command affects only files that have been
erased from your workstation.

Example

To permanently delete all files you have previously erased
from your workstation, type

PURGE <Enter>

You see the following message:

```
All your recoverable erased files have been purged from
        the network.
```

QUEUE

Use QUEUE to control print queues and manipulate print jobs in the queue.

Command format

Create a new print queue   437

> Q[UEUE] *name* CREATE

List all print queues   438

> Q[UEUE]

List print jobs in a queue   439

> Q[UEUE] *name*

Change the priority of a print job   440

> Q[UEUE] *name* C[HANGE] [JOB] *nn* [TO]
> [PRIORITY] *xx*

Delete one print job in a queue   441

> Q[UEUE] *name* D[EL[ETE]] [JOB] *xx*

Delete all print jobs in a queue   442

> Q[UEUE] *name* D[EL[ETE]] [JOB] *

Destroy a print queue   443

> Q[UEUE] *name* DESTROY

Create a new print queue

Use the QUEUE command to create a new queue.

Command format

Q[UEUE] *name* CREATE

Enter the command at the console, replacing *name* with the name of the new queue.

Additional information

When you create a new queue, default rights are automatically assigned. The group EVERYONE is given rights to use the queue, the supervisor is given operator rights to the queue, and the file server is given rights to service the queue.

Example

To create a queue named PROJECTS, type

Q PROJECTS CREATE < Enter >

The PROJECTS queue is created, and default rights are assigned.

To use the new queue, you must create a spooler mapping to it. To create a new spooler mapping, see SPOOL (page 513).

You must also add the queue to one or more printers before you can use the queue. To add the queue to a printer, see "Add an existing queue to a printer" (page 417).

QUEUE

List all print queues

Use QUEUE to list all queues serviced by a file server.

Command format

Q[UEUE]

Example

To view all the queues serviced by file server
CORPORATE, type

Q <Enter>

Information similar to the following appears on the file
server console:

```
CORPORATE Print Queues:

ACCOUNTS   7 queue jobs      serviced by 1 printers
ACCTFORMS  2 queue jobs      serviced by 1 printers
CHECKS     0 queue jobs      serviced by 2 printers
MARKETING  1 queue jobs      serviced by 2 printers
RECEIVING  5 queue jobs      serviced by 1 printers
SHIPPING   3 queue jobs      serviced by 1 printers
```

All of the queues serviced by the file server are listed. Also
listed are the number of jobs in each queue and the number
of printers servicing each queue. In this example, the
ACCOUNTS queue has seven print jobs, and the queue is
serviced by one printer.

List print jobs in a queue

Use QUEUE to view a list of all print jobs in a queue.

Command format

Q[UEUE] *name*

Replace *name* with the name of the queue whose print jobs you want to view.

Example

To list all the jobs in the ACCOUNTS queue, type

Q ACCOUNTS <Enter>

Information similar to the following appears on the console:

```
Jobs currently in Print Queue ACCOUNTS:

Priority User    File        Job    Copies
------------------------------------------------
   *1     MARK    WORDPERFECT   4       1
    2     ANNA    ATC           5       1
    3     GAMAL   WORDPERFECT   6       2
    4     GINA    WORDPERFECT   7       1
```

The asterisk (*) on the screen indicates the file that is currently printing. The job number shows how many print jobs the printer has handled. The screen also indicates the printing order of the jobs and the number of copies to be printed.

QUEUE

Change the priority of a print job

Use QUEUE to change the order in which jobs are printed.

Command format

Q[UEUE] *name* C[HANGE] [JOB] *nn* [TO] [PRIORITY] *xx*

Replace *name* with the queue name.

Replace *nn* with the job number.

Replace *xx* with the new position number.

You must leave a space between each variable.

Additional information

When you change the printing position of a job, the jobs will be printed in the new order you specify. You can move any print job to a new print position within the queue.

To see the current order of jobs in the queue, list the queue contents (see page 439).

Example

Suppose you want the last job (job 10) in queue LETTER to print before any other jobs. Type

    Q LETTER C JOB 10 TO 1 <Enter>

Job 10 moves to the first position and is printed before the other jobs.

If you specify a position number that is greater than the total number of jobs in the queue, the specified job is moved to the end of the queue.

Delete one print job in a queue

Use QUEUE to remove a print job from a queue.

Command format

Q[UEUE] *name* D[EL[ETE]] [JOB] *xx*

Replace *name* with the queue name.

Replace *xx* with the number of the job you want to delete.

Additional information

To find the number of a job, list the contents of the queue (see page 439).

Whenever you delete a print job from a queue, the remaining jobs advance automatically, creating a new queue listing. If you delete the job that is currently printing, printing stops as soon as the printer buffer has emptied, and the next job starts printing.

Example

To delete job 15 in the LETTERS queue, type

    Q LETTERS DEL JOB 15   <Enter>

Job 15 is deleted from the queue.

QUEUE

Delete all print jobs in a queue

Use QUEUE to remove all print jobs from a queue.

Command format

Q[UEUE] *name* D[EL[ETE]] [JOB] *

Enter this command at the console, replacing *name* with the name of the queue. You must include the asterisk at the end of the command. The asterisk indicates that all jobs in the queue should be deleted.

All jobs in the queue are deleted when you use this command. To delete individual jobs, see page 441.

If a printer malfunctions and you do not want to lose all the jobs in that printer's queues, do not use this command. Instead, use the PRINTER command to transfer the queue to a different printer (see page 418).

Additional information

After you have entered the command to delete all the jobs in a queue, you can again send jobs to the queue. Deleting jobs from a queue does not stop the printer from servicing the queue. Unless you have also entered a command to stop the printer, any new jobs added to the queue will be printed.

Example

To delete all the print jobs in the PROJECTS queue, type

Q PROJECTS DEL * <Enter>

All the jobs in the PROJECTS queue are deleted.

To make sure all the jobs have been deleted, list the queue contents (see page 439).

Destroy a print queue

Use QUEUE to destroy a queue and remove it from the
printers that were servicing it. You cannot recover the
queue or any jobs that were in it.

Command format

Q[UEUE] *name* DESTROY

Replace *name* with the name of the queue you want to
destroy.

Additional information

If you want to destroy all jobs in a queue without destroying
the queue itself, use the command to delete all the jobs in a
queue (see page 442). If you only want to disable the
connection between a queue and a particular printer without
destroying the queue, use the command to delete a queue
from the printer (see page 420).

Example

To destroy the GAMES queue, type

Q GAMES DESTROY <Enter>

The GAMES queue and all jobs listed in it are permanently
destroyed.

REMOVE

Use REMOVE to delete either a user or a group from the
trustee list of a directory.

Command format

REMOVE [USER] *user* | [GROUP] *group* [[FROM] *path*]

Replace *user* with the name of the user you want to remove
from the trustee list of a given directory.

Replace *group* with the name of the group you want to
remove from the trustee list of a given directory.

Replace *path* with a directory path leading to and including
the volume, directory, or subdirectory you want to remove a
user or group from.

Additional information

You can also use SYSCON or MAKEUSER to remove
trustees.

To view the trustee list of a directory, use TLIST.

You can remove only one user or one group from the
trustee list of one directory with each REMOVE command.

When you use GRANT to assign even one trustee right to a
user or a group, the user or the group is enrolled
automatically on that directory's trustee list and given the
specified right.

If you use REVOKE to revoke all trustee rights from a user
or a group, the user or the group remains enrolled as a
trustee of that directory. Use REMOVE to delete the user
or the group.

Remove a user from the trustee list of a directory

You must be attached to a file server before you can remove a user from the trustee list of a directory on that file server. You must also have the Parental effective right in that directory.

Example 1

To remove user DAVID from the trustee list of your default directory, type

REMOVE USER DAVID   <Enter>

or

REMOVE DAVID   <Enter>

Example 2

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>

or

REMOVE USER SIMONE FROM COUNT/SYS:PROGRAMS
    <Enter>

REMOVE

Remove a group from the trustee list of a directory

You must be attached to a file server before you can remove
a group from the trustee list of a directory on that file
server. You must also have the Parental effective right in
that directory.

Example 1

To remove group STAFF from the trustee list of your
default directory, type

REMOVE GROUP STAFF < Enter >

or

REMOVE STAFF < Enter >

Example 2

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

To remove group STAFF from the trustee list of the
PROGRAMS directory, type

REMOVE GROUP STAFF FROM G: < Enter >

or

REMOVE GROUP STAFF FROM COUNT/SYS:PROGRAMS
< Enter >

REName DIRectory

Use RENDIR to rename a directory.

Command format

RENDIR *path* [TO] *directory*

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

Replace *directory* 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.

Rename your default 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 to rename subdirectories in that directory.

RENDIR

Example

Suppose you want to rename your default directory to
PROGRAMS. You must use a period (.) to represent your
default directory. Type

RENDIR . PROGRAMS <Enter>

A message on your screen informs you that your default
directory has been renamed PROGRAMS.

Rename any 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 a directory to rename subdirectories
in that directory.

Example

Suppose you want to change the name of the ACCT
directory to PROGRAMS. Also suppose drive G is mapped
to ACCT on file server RECORDS as follows:

Drive G: = RECORDS/SYS:ACCT

To rename the directory, type

RENDIR G: PROGRAMS <Enter>

or

RENDIR RECORDS/SYS:ACCT PROGRAMS <Enter>

You can also use the character combination :/ to represent
your default file server and volume (RECORDS/SYS):

RENDIR :/ACCT PROGRAMS <Enter>

REVOKE

Use REVOKE to revoke trustee rights from either a user or a group in a directory.

Command format

REVOKE *option* ... [FOR *path*] FROM
    [USER] *user* | [GROUP] *group*

Replace *path* with any directory path leading to the volume, directory, or subdirectory where you want to revoke rights.

Replace *user* with the name of the user whose rights you want to revoke.

Replace *group* with the name of the group whose rights you want to revoke.

Replace *option* with one or more of the options listed below.

Command options

Read

Use this option to revoke the Read right.

Write

Use this option to revoke the Write right.

Open

Use this option to revoke the Open right.

Create

Use this option to revoke the Create right.

REVOKE

Delete

Use this option to revoke the Delete right.

Parental

Use this option to revoke the Parental right.

Search

Use this option to revoke the Search right.

Modify

Use this option to revoke the Modify right.

ALL

Use this option to revoke all trustee rights.

Additional information

You can also use SYSCON to revoke trustee rights.

You can revoke trustee rights from only one user or one group with each REVOKE command. (For a complete explanation of trustee rights, see the Network Security module in the *Installation for ELS NetWare Level II* manual.)

When you use GRANT to assign even one trustee right to a user or a group, the user or the group is enrolled automatically on that directory's trustee list and given the specified right.

While REVOKE revokes all trustee rights from a user or group, the user or the group remains a trustee of the directory until you use REMOVE to remove the user or the group.

Revoke user rights

You must be attached to a file server before you can revoke trustee rights in a directory on that file server. You must also have the Parental effective right in the directory.

Example 1

To revoke Parental and Modify rights from user REIKO in your default directory, type

REVOKE P M FROM REIKO <Enter>

To revoke all trustee rights from user REIKO, type

REVOKE ALL FROM REIKO <Enter>

Example 2

Suppose you want to revoke Parental and Modify rights from user IAN in the DATA directory, which is not your default directory. Suppose drive G is mapped to DATA as follows:

Drive G: = RECORDS/SYS:DATA

To revoke these rights from user IAN, type

REVOKE P M FOR G: FROM IAN <Enter>

or

REVOKE P M FOR RECORDS/SYS:DATA FROM IAN
    <Enter>

REVOKE

Revoke group rights

You must be attached to a file server before you can revoke trustee rights in a directory on that file server. You must also have the Parental effective right in a directory to revoke trustee rights from other users or groups in that directory.

Example 1

To revoke Parental and Modify rights from group STAFF in your default directory, type

REVOKE P M FROM STAFF < Enter >

To revoke all trustee rights from group STAFF in your default directory, type

REVOKE ALL FROM STAFF < Enter >

Example 2

Suppose you want to revoke Parental 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

To revoke Parental and Modify rights from group STAFF, type

REVOKE P M FOR G: FROM GROUP STAFF < Enter >

or

REVOKE P M RECORDS/SYS:DATA FROM STAFF
    < Enter >

RIGHTS

Use RIGHTS to view your effective rights in a given directory.

Command format

RIGHTS [*path*]

Replace *path* with any directory path leading to the volume, directory, or subdirectory where you want to view your effective rights.

Additional information

The trustee and directory rights have been changed in ELS NetWare v2.15. You can use the Create right to create files and directories, the Delete right to delete files and directories, and the Modify right to change file and directory attributes. You do not need the Parental right to create or delete directories. (For more information on rights, see the Network Security module in *Installation for ELS NetWare Level II* manual.)

View your effective rights in your default directory

Effective rights consist of the rights that appear in the maximum rights mask for a given directory <u>and</u> a user's trustee rights in that directory.

Example

To view your rights in your default directory, type

RIGHTS < Enter >

If your effective rights include all rights, the following
information appears on your screen:

```
SERVER1\SYS:PUBLIC\UTIL
Your effective rights are [RWOCDPSM]
You may Read from Files.(R)
You may Write to Files.(W)
You may Open existing Files.(O)
You may Create new Files.(C)
You may Make new Subdirectories.(C)
You may Delete existing Files.(D)
You may Erase existing Subdirectories.(D)
You may Change Users' Directory Rights.(P)
You may Search the Directory.(S)
You may Modify File Status Flags.(M)

You have ALL RIGHTS to this directory area.
```

View your effective rights in any directory

Effective rights consist of the rights that appear in the
maximum rights mask for a given directory and a user's
trustee rights in that directory.

Example

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

To view your effective rights in the PROJECTS directory,
type

RIGHTS G: <Enter>

or

RIGHTS RECORDS/SYS:PROJECTS <Enter>

You see information similar to the following on your screen:

```
RECORDS/SYS:PROJECTS
Your Effective Rights are [RWOC  SM]
You may Read from files.(R)
You may Write to files.(W)
You may Open existing files.(O)
You may Create new files.(C)
You may Make new Subdirectories.(C)
You may Search the Directory.(S)
You may Modify File Status Flags.(M)

In this directory, your effective rights include Read,
Write, Open, Create, Search, and Modify.
```

SALVAGE

Use SALVAGE to recover files that have been erased. SALVAGE restores files to their original directories.

Command format

SALVAGE [*path*]

Replace *path* with a directory path that indicates the volume from which the file was deleted. You can also replace *path* with a drive letter that is mapped to that directory path. You do not need to specify the exact directory from which the file you want to salvage was erased. You must, however, specify the appropriate volume.

Additional information

SALVAGE recovers the last file erased from your default volume at your workstation. If several files were erased with one ERASE or DELETE command just before you entered your SALVAGE command, all those files are recovered.

If you accidentally erase a file, note the following.

- Do not log out of your file server. Once you log out, you cannot recover the erased file.

- Do not create or erase any more files on the volume from which your file was erased. SALVAGE cannot recover a file once another file has been created or deleted on the same volume.

- Do not issue a PURGE command. A PURGE command will permanently delete all previously erased files.

- Activity at other workstations on the network will not affect the file you erased.

- Type the SALVAGE command at the same workstation from which the file was erased.

- When you use SALVAGE, you do not have to specify the exact directory from which the file was erased. You must, however, specify the appropriate volume. SALVAGE returns the recovered file to its original directory.

Salvage a file

The following examples show how to salvage files that have been erased.

Example 1

Suppose you want to salvage a file you accidentally erased from your default drive. Before creating or deleting any more files in your default drive, type

    SALVAGE <Enter>

The file is recovered.

Example 2

Suppose you erase a file called MAY.RPT from F:RECORDS/SYS:HOME/JIRO and you want to recover the file. Before creating or deleting any more files on volume SYS, type

    SALVAGE RECORDS/SYS: <Enter>

or

    SALVAGE F: <Enter>

The file is recovered.

Use SECURITY to determine how secure your network
configuration is. Because SECURITY is located in the
SYS:SYSTEM directory, you must have supervisor rights to
perform tasks in SECURITY.

Command format

SECURITY [> *filename*]

The output of SECURITY often fills more than one screen
on the computer. You can redirect the output to a file, and
this file can be printed.

Replace *filename* with the name of the file to which you
want to redirect the output.

Additional information

SECURITY checks for possible security weaknesses by
examining the bindery, a special database maintained by
each file server. The bindery contains information about
each object (usually a user or a user group). SECURITY
reports the possible security weaknesses explained below.

No password assigned

Anyone can log in with the username of an object if it has
no password. If a guest account has no 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 new and unique password each time they change their password.

Supervisor equivalence

SECURITY checks for objects that are security equivalent to the network supervisor. If security is important to your network, only the supervisor should have this level of privilege.

Anytime a user with supervisor rights leaves the workstation unattended, anyone can gain access to the file server, giving an intruder complete access to the file server. The intruder can replace one of the user's programs with a counterfeit program. The counterfeit program could appear to execute normally, but while executing the program could concurrently change all users' passwords and save or change them somewhere for the intruder to use later. (This situation may sound far-fetched, but it is a common method used by computer hackers to break into a system.)

In this situation, the breach in the file server's security is completely camouflaged. Therefore, the only object that should be a supervisor equivalent is the network supervisor.

Root directory privileges

SECURITY reports any users who have been granted access privileges in the root directory of any volume.

Granting a user privileges in the root directory of a volume gives that user privileges to the entire volume unless those rights are specifically revoked at a lower level. Be especially cautious about granting the Parental right in a root directory because users with the Parental right can grant themselves all other rights in any subdirectory on the volume.

You can improve network security by granting privileges only in the specific directories each user accesses.

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 Create and Write rights 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 O   S ]
SYS:LOGIN       [R O   S ]
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 weaknesses

To use SECURITY to check the network for security weaknesses, complete the following steps.

1. In the SYS:SYSTEM directory, type

    SECURITY <Enter>

    Or, to redirect the output to a file, type

    SECURITY > *filename* <Enter>

2. You see the following message on the screen:

    File Server Security Evaluation Utility

    Checking for network security holes, please wait.

    SECURITY checks the bindery and reports potential security weaknesses. The information scrolls down the screen. To stop the information from scrolling, press <Ctrl> <S> simultaneously. Press any key to continue scrolling.

3. To print a hard copy of the output, type

    NPRINT *filename* <Enter>

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.

Use SEND to send a short 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 (see page 466).

Command format

Send a message to one or more users

SEND "*message*" [TO] [USER] [*server/*]*user* ...

Send a message to one or more groups

SEND "*message*" [TO] [GROUP] [*server/*]*group* ...

Send a message to one or more users and one or more groups

SEND "*message*" [TO] [USER] [*server/*]*user* ...
      [GROUP] [*server/*]*group* ...

Replace *message* with any string of characters up to 45 characters long minus the number of characters in your username.

Include *server* only if the user to whom you want to send a message is not logged in to your file server. Replace *server* with the name of the user's file server.

Replace *user* with the name of the user you want to send a message to.

Replace *group* with the name of the group you want to send a message to.

Use the word 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 PC workstations support SEND.

Send a message to a user

The following examples show how to send messages to users.

Example 1

Suppose you want to send the following message to user HANS: "Meeting at 1:30 today." Also suppose that HANS is logged in to your default file server. Type

SEND "MEETING AT 1:30 TODAY" HANS <Enter>

You see a message on your screen telling you whether or not the message was sent.

Example 2

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>

SEND

Send a message to a group

The following examples show how to send messages to groups.

Example 1

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>

You see a message on your screen telling you whether or not the message was sent.

Example 2

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>

You see a message on your screen telling you whether or not the message was sent.

Send a message to several users or groups

You can also use SEND to send messages to multiple users or groups.

Example

Suppose you want to send the following message to user INGA on your default file server, user HETI on server UTIL, group STAFF on server RECORDS, and group DAYCREW on server SALES: "Meeting at 1:30 today." Type

> SEND "MEETING AT 1:30 TODAY" INGA UTIL/HETI
> RECORDS/STAFF SALES/DAYCREW <Enter>

Since INGA is logged in to your default server, you do not have to specify a file server for INGA in the command.

You see a message on your screen telling you whether or not the message was sent.

SEND

Use the console command SEND to send messages from the file server to one or more specified workstations.

Command format

SEND "*message*" [TO] [STATION] [*stationlist*]

Replace *message* with any message up to 40 characters long.

Replace *stationlist* with a list of workstation numbers. Separate workstation numbers by commas or blank spaces. The message is sent only to those workstations included in the stationlist. If you do not specify a stationlist, the message is sent to all workstations.

Additional information

To view a list of users and their workstation numbers, use USERLIST (see page 580).

If you want to send console messages to all workstations, use BROADCAST (see page 77). If you want to send messages from your PC workstation, use the SEND command line utility (see page 462).

Send a message from the file server

The message you send must be enclosed in quotation marks, as shown in the command format. If you do not enclose the message in quotation marks, the file server assumes the message consists of everything typed after the word SEND and sends the message to everyone logged in or attached to the file server. (The file server assumes that any stationlist you specify is simply part of the message.)

Example

Suppose you want to tell the users at workstations 3, 4, 7, and 9 that you want to talk to them. At the file server, type

SEND "PLEASE MEET AT THE PRINTER" TO 3,4,7,9
< Enter >

In this example, the stationlist consists of numbers separated by commas. You could also list the numbers separated by spaces.

SESSION

SESSION is a menu utility used to perform a variety of tasks relating to a user's file server selections and drive mappings.

```
┌─────────────────────────┐
│    Available Topics     │
├─────────────────────────┤
│Change Current Server│
│Drive Mappings           │
│Group List               │
│Search Mappings          │
│Select Default Drive     │
│User List                │
└─────────────────────────┘
```

Change Current Server

Use this option to change to another file server from within SESSION.

The specific tasks are listed on page 470.

Drive Mappings

Use this option to view or temporarily change your drive mappings.

The specific tasks are listed on page 472.

Group List

Use this option to view groups on your network or send a message to a group (see page 478).

Search Mappings

>Use this option to temporarily create, change, or delete search drives.

>The specific tasks are listed on page 479.

Select Default Drive

>Use this option to choose your default drive (see page 485).

User List

>Use this option to list user information and send messages to users (see page 485).

SESSION

Change Current Server tasks

Attach to or log out of additional file servers

Attach to an additional file server

1. Enter SESSION and select "Change Current Server" from the "Available Topics" menu. A list of the file servers you are attached to is displayed.

2. Press <Insert>. A list of the file servers you can attach to is displayed.

3. Highlight the name of the file server you want to attach to; then press <Enter>. The "New User Name" entry box is displayed.

4. Type the username you want to use to attach; then press <Enter>.

5. If a password is required along with the username, the "Password" entry box appears. Type the password and press <Enter>.

   When you correctly enter the username and password, you are attached to the selected file server.

Log out of additional file servers

If you are attached to more than one file server, you can log out of any file server (except your default file server) from within SESSION.

1. Enter SESSION and select "Change Current Server" from the "Available Topics" menu to list the file servers you are attached to.

2. Highlight the file server you want to log out of, or use the Mark key (<F5> on most machines) to select multiple servers; 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 different username if you know the password required by the username. You cannot change your username on your default server.

To change your username on your current file server, complete the following steps.

1. Enter SESSION and select "Change Current Server" from the "Available Topics" menu to list 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> on most machines). The "Name Of User To Change To" box is displayed.

3. Type the new username you want to use; then press <Enter>.

4. If that username requires a password, the "Password" entry box is displayed. Type the password and press <Enter>.

   If you entered the name and password correctly, you are attached to the file server under the new username.

Drive Mappings tasks

Display drive mapping information

When you view information about drives in SESSION, you can see

- 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).

To display your drive mapping information, complete the following steps.

1. Enter SESSION and select "Drive Mappings" from the "Available Topics" menu.

2. Press <Enter>. A list of your current drive mappings is displayed.

3. Select the drive you want information about.

    The drive type is shown. If the drive is a network
    drive, your effective rights in the directory to which
    the drive is mapped are also displayed.

Add a drive mapping

Drive mappings that you map in SESSION are temporary;
they are usable only until you log out. To map drives
permanently, map them in your login script (see the
Installation for ELS NetWare Level II manual).

To add a drive mapping, complete the following steps.

1. Enter SESSION and select "Drive Mappings" from the
    "Available Topics" menu.

2. Press <Enter>. A list of your current drive mappings is
    displayed.

3. Press <Insert>. The next available drive letter appears
    in a box. If you want to specify a different drive letter,
    press the Backspace key to delete the current drive
    letter; then type the letter of the drive you want to use.

4. Press <Enter>. The "Select Directory" entry box is
    displayed.

5. Specify the directory you want to map the drive to.
    (You can specify only directories for file servers you are
    attached to.) Then skip to Step 12.

    If you do not know the directory name, continue with
    the following steps as needed.

SESSION

Choose a file server

6. Press <Insert>. The "File Servers/Local Drives" list is
displayed. If the file server you want to add is not
displayed in this list, complete Steps 6a through 6d.
Otherwise, go to Step 7.

6a. Press <Insert> to display the "Other File Servers" list.

6b. Select the file server you want to attach to. The "New
User Name" entry box is displayed.

6c. Type the username; then press <Enter>. The
"Password" entry box is displayed.

6d. Type the password and press <Enter>. If you entered
the correct username and password, you are attached to
the specified file server, and the file server is added to
the "File Servers/Local Drives" list.

7. Select the file server you want. The selected file server
is added to the "Select Directory" box, and the "Available
Volumes" list is displayed. If you need to choose a
volume for the drive you are adding, complete Step 8.
Otherwise, press <Escape> and skip to Step 12.

Choose a volume

8. Select the volume you want. The volume is added to the
"Select Directory" box, and the "Network Directories" list
is displayed.

Note:	Choosing ".." takes you back a level in the directory structure. The ".." option appears in the following lists: "Available Volumes," "Network Directories," and "Local Directories." If ".." appears as the only entry in the "Network Directories" list, there are no directories below the current level.

Choose a directory

9. If you need to choose a directory, complete the following steps. Otherwise, press <Escape> and skip to Step 12.

10. Select the directory you want. The directory is added to the "Select Directory" box.

11. Repeat Step 10 as many times as necessary to complete the directory path. Then press <Escape>.

12. Press <Enter>. The drive is now mapped to the specified directory.

Delete a drive mapping

To delete a drive mapping, complete the following steps. (Only network drives can be deleted.)

1. Enter SESSION and select "Drive Mappings" from the "Available Topics" menu.

2. Press <Enter>. A list of your current drive mappings is displayed.

3. Select the drive mapping you want to delete, or use the Mark key (<F5> on most machines) to select multiple drive mappings; then press <Delete>. The "Delete Drive Mapping" (or "Delete Marked Drive Mappings") confirmation box is displayed.

4. Select "Yes." The drive mappings are deleted.

When a mapping for a network drive that was originally a local drive is deleted, the drive regains its local drive status.

Modify a drive mapping

1. Enter SESSION and select "Drive Mappings" from the "Available Topics" menu.

2. Press <Enter> to list your current drive mappings.

3. Select the drive mapping you want to modify, and press the Modify key (<F3> on most machines). The "Select Directory" box is displayed.

4. Press the Backspace key to delete the parts of the drive mapping you want to modify.

5. If you know the information you need to add, type it and press <Enter>; the directory is modified.

    If you do not know the directory name, continue with the following steps as needed. For example, if you know the names of the file server and volume, type them and skip to Step 10.

    If you are modifying a local drive, the "Map Local Drive to Network Directory" confirmation box appears after you press <Enter>. Select "Yes" to modify the drive mapping.

Choose a file server

6. Press <Insert>. A list of the available file servers is displayed. If the file server you want to specify is not displayed, complete Steps 6a through 6d. Otherwise, go to Step 7.

6a. Press <Insert> to display the "Other File Servers" list.

6b. Select the file server you want to attach to. The "New User Name" entry box is displayed.

6c. Type the username; then press <Enter>. The "Password" entry box is displayed.

6d. Type the password and press <Enter>. If you entered the correct username and password, you are attached to the specified file server, and the file server is added to the "File Servers/Local Drives" list.

7. Select the file server you want. The file server is added to the "Select Directory" box, and the "Available Volumes" list is displayed.

Choose a volume

8. Select the volume you want. The volume is added to the "Select Directory" box, and the "Network Directories" list is displayed.

Note: Choosing ".." takes you back a level in the directory structure. The ".." option appears in the following lists: "Available Volumes," "Network Directories," and "Local Directories." 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.

9. If your directory path is complete, press <Escape>. Then skip to Step 12.

If you need to choose the directory or subdirectory for your new drive mapping, complete Steps 10 and 11.

10. Select the directory you want. The directory is added to the "Select Directory" box.

11. Repeat Step 10 as many times as necessary to complete the directory path. Then press <Escape>.

12. 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 after you press <Enter>. Select "Yes" to modify the drive mapping.

Group List tasks

View groups

To view the groups on your file server, complete the following steps.

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 (40 characters or fewer) to a group by completing the following steps.

1. Enter SESSION and select "Group List" from the "Available Topics" menu.

2. Select the group to whom you want to send the message, or use the Mark key (<F5> on most machines) to select multiple groups.

3. Type the message. (The message can be up to 40 characters long, depending on the length of your username.) Then press <Enter>.

Search Mappings tasks

Display search drive mapping information

When you view information about search drives in
SESSION, you see

- 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).

To display information about search drives, complete the
following steps.

1. Enter SESSION and select "Search Drive Mappings"
   from the "Available Topics" menu. The "Current Search
   Mappings" list appears.

2. Select the drive you want information on and press
   <Enter>. The drive type is shown. If the drive is a
   network drive, your effective rights in that directory are
   also shown.

For more information about search drive mappings, see the
Installation for ELS NetWare Level II manual.

SESSION

Add a search drive mapping

You can define as many as 16 search drive mappings. These are labeled sequentially by number and letter (numbers begin with 1; letters begin with Z and move backwards through the alphabet). For example, the first search drive is assigned the number 1 and the letter Z; the second, 2 and Y, and so on.

To add a search drive mapping, complete the following steps.

1. Enter SESSION and select "Search Drive Mappings" from the "Available Topics" menu. The "Current Search Mappings" list appears.

2. Press <Insert>. The next available search drive number appears in the "Search Drive Number" box.

   If you want to insert a search drive mapping out of sequence, press the Backspace key to delete the current number. Then type the number of the search drive.

3. Press <Enter>. The "Select Directory" entry box is displayed.

4. Specify the name of the directory you want to map the search drive to.

   If you know the complete directory name, type it; then press <Enter> and skip to Step 10.

   If you do not know the directory path, complete Steps 5 through 9 as needed. For example, if you know the names of the file server and volume, type them in and skip to "Choose a directory" on page 482.

Choose a file server

5. Press <Insert>. The "File Servers/Local Drives" list is displayed. If the file server you want to specify is not displayed, complete Steps 5a through 5d. Otherwise, go to Step 6.

5a. Press <Insert> to display the "Other File Servers" list.

5b. Select the file server you want to attach to. The "New User Name" entry box is displayed.

5c. Type the username; then press <Enter>. If the username you entered has a password, the "Password" entry box is displayed.

5d. Type the password and press <Enter>. If you entered the correct username and password, you are attached to the specified file server, and the file server is added to the "File Servers/Local Drives" list.

6. Select the file server or local drive you want. The "Available Volumes" list is displayed if your new search drive mapping is a network drive; the "Local Directories" list is displayed if the search drive is mapped to a local drive.

Choose a volume

7. Select the volume you want. The "Network Directories" or "Local Directories" list is displayed.

Note: Choosing ".." takes you back a level in the directory structure. The ".." option appears in the following lists: "Available Volumes," "Network Directories," and "Local Directories." If ".." is the only entry in the "Network Directories" list, there are no directories below the last directory in the "Select Directory" entry box.

SESSION

Choose a directory

8. Select the directory you want. If you do not need to add any more directories, skip to Step 10.

9. Repeat Step 8 as many times as necessary to complete the directory path.

10. Press <Enter>. The search drive has now been mapped to the specified directory.

Modify a search drive mapping

1. Enter SESSION and select "Search Drive Mappings" from the "Available Topics" menu.

2. Select the search drive mapping you want to modify, and press the Modify key (<F3> on most machines). The "Select Directory" entry box appears.

3. Press the Backspace key to delete the parts of the directory name you want to change. (If the drive is a local drive, the "Select Directory" entry box is blank.)

4. Type new information to replace what you have deleted; then press <Enter>. For example, to change X:\PROJECTS\XFER to X:\PROJECTS\DONE, delete XFER and type DONE.

If you know the complete directory name, type it and press <Enter>.

If you do not know the directory path, complete the following steps as needed. For example, if you know the names of the file server (you must be attached to the file server) and volume, erase the contents of the entry box and type in the name of the file server and volume; then skip to "Choose a directory" on page 484.

Choose a file server

5. Press <Insert>. The "File Servers/Local Drives" list is displayed. If the file server you want to specify is not displayed, complete Steps 5a through 5d. Otherwise, go to Step 6.

5a. Press <Insert> to display the "Other File Servers" list.

5b. Select the file server you want to attach to. The "New User Name" entry box is displayed.

5c. Type the username; then press <Enter>. The "Password" entry box is displayed.

5d. Type the password and press <Enter>. If you entered the correct username and password, you are attached to the specified file server, and the file server is added to the "File Servers/Local Drives" list.

6. Select the file server or local drive you want and press <Enter>. The "Available Volumes" list is displayed if your new search drive mapping is a network drive; the "Local Directories" list is displayed if the search drive is mapped to a local drive.

Choose a volume

7. Select the volume you want. The "Network Directories" list is displayed.

Note:	Choosing ".." takes you back a level in the directory structure. The ".." option appears in the following lists: "Available Volumes," "Network Directories," and "Local Directories." If ".." appears as the only entry in the "Network Directories" list, there are no directories below the current level.

SESSION

Choose a directory

8. Select the directory you want. If you do not need to add any more directories, skip to Step 10.

9. Repeat Step 8 as many times as necessary to complete the directory path.

10. Press <Enter>. The search drive is now mapped to the specified directory.

Delete a search drive mapping

To delete a search drive mapping, complete the following steps.

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 delete, or use the Mark key (<F5> on most machines) to select multiple search drive mappings; then press <Delete>. The "Delete Drive Mapping" (or "Delete Marked Drive Mappings") confirmation box appears.

3. Select "Yes" and press <Enter>. The search drive mappings are deleted.

Select 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. To
choose a different default drive, complete the following
steps.

1. Enter SESSION and select "Select Default Drive" from
   the "Available Topics" menu. The "Select Default List"
   appears.

2. Select the drive mapping you want to specify as your
   default drive and press <Enter>. The drive you chose
   is now your default drive.

User List tasks

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 users 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). To access this
information, complete the following steps.

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 on. The "Available Options" menu is displayed.

3. Select "Display User Info." An inset displays the information described above.

Send a message to a user

You can send short messages (40 characters or fewer) to a user on your network by completing the following steps.

1. Enter SESSION and select "User List" from the "Available Topics" menu. The "Current Users/Station" list is displayed.

2. Select the user you want to send the message to, or use the Mark key (<F5> on most machines) to select more than one user. If you are sending a message to more than one user, go to Step 4.

3. If you have chosen a single user, the "Available Options" menu is displayed. Select "Send Message." The "Message" entry box appears.

4. Type the message you want to send. (The message can be up to 40 characters long, depending on the length of your username.) Then press <Enter>.

SETKPASS

SET Keyboard PASSword

Use SETKPASS to set or change the password that "locks" the console keyboard.

Command format

SETKPASS [*server*]

Initialize the LOCK VAP program

The LOCK VAP program must be installed on the file server before you can use SETKPASS (see page 241).

Note: When you initialize the LOCK VAP program, the password will be set, but the console keyboard will <u>not</u> be locked.

To initialize the LOCK VAP program using SETKPASS, complete the following steps.

1. At the file server console, type

   SETKPASS < Enter >

   You see the following prompt on your screen:

   Enter SUPERVISOR password:

2. Type the supervisor password and press <Enter>. You see the following prompt:

   Enter new keyboard password:

3. Type a password for the console keyboard and press
   <Enter>. You see the following prompt:

   `Retype new keyboard password:`

4. Retype the new keyboard password and press <Enter>.
   You see a message confirming that the new password
   has been set:

   `The keyboard password has been set.`

The keyboard password has been set, but the console
keyboard has not been locked. To lock the console
keyboard, use LOCK (see page 243).

Change the console keyboard password

You can change the password for the console keyboard using
SETKPASS from either the file server or a workstation.

Example 1

To change the password from the file server, complete the
steps listed below.

1. Type

   SETKPASS <Enter>

   You see the following prompt:

   `Enter old keyboard password:`

2. Type the old keyboard password and press <Enter>.
   You see the following prompt:

   `Enter new keyboard password:`

3. Type the new keyboard password and press <Enter>.
   You see the following prompt:

   `Retype new keyboard password:`

4. Retype the new keyboard password and press <Enter>.
   You see a message confirming the password change:

   `The keyboard password has been changed.`

   If you did not retype the new password correctly, you
   must start over by re-entering the SETKPASS
   command.

   If you did not type the old password correctly, an error
   message appears, and you are denied access. You must
   start over by re-entering the SETKPASS command.

Example 2

To change the password from a workstation, complete the
steps listed below.

1. Type

   SETKPASS <Enter>

   You see the following prompt:

   `Enter old console keyboard password:`

2. If you are not logged in as SUPERVISOR (or as a user
   with a supervisor equivalence), type the old password
   and press <Enter>.

   If you are logged in as SUPERVISOR (or as a user with
   a supervisor equivalence), press <Enter>. The
   supervisor does not have to type the old password; the
   supervisor's password provides security.

You see the following prompt:

```
Enter new console keyboard password:
```

3. Type the new password and press <Enter>. You see the following prompt:

```
Retype the new console keyboard password:
```

4. Retype the new password and press <Enter>. You see the following message confirming the password change:

```
The console keyboard password has been changed.
```

If you do not retype the new password correctly, you must re-enter the SETKPASS command.

If you do not type the old password correctly, an error message appears, and you are denied access. You must re-enter the SETKPASS command.

You can change the console keyboard password of any file server to which you are attached. If the file server is not your default file server, include the name of the file server in the SETKPASS command in Step 1. Continue with Steps 2 through 4 to change the console keyboard password for that file server.

SETPASS

Use SETPASS to set or change your password on a file server. A password can consist of up to 127 characters and cannot include control characters.

Command format

SETPASS [*server*]

Replace *server* with the name of the file server on which you want to set or change your password.

Additional information

You must be attached to a file server before you can set or change your password on that file server.

Create a password

To create a password, complete the following steps.

1. To create a password on your default file server, type

   SETPASS < Enter >

   To create 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 a password on server RECORDS, type

   SETPASS RECORDS < Enter >

You see the following prompt on your screen:

Enter your old password:

2. Since you do not have a password, press <Enter>. You see the following prompt on your screen:

Enter your new password:

3. Type the password you want to create and press <Enter>. You see the following prompt on your screen:

Retype your new password:

4. Retype your password and press <Enter>. You see the following message on your screen.

Your password has been changed.

Change your password

To change your password, complete the following steps.

1. To change your password on your default file server, type

SETPASS <Enter>

To change your 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 change your password on server RECORDS, type

SETPASS RECORDS <Enter>

2. You see the following prompt on your screen:

   `Enter your old password:`

3. Type your old password and press <Enter>. You see the following prompt on your screen:

   `Enter your new password:`

4. Type your new password and press <Enter>. You see the following prompt on your screen:

   `Retype your new password:`

5. Retype your new password and press <Enter>. You see the following message:

   `Your password has been changed.`

SET TIME

Use SET TIME to set the date and time kept by the file server.

Command format

SET TIME [*month/day/year*] [*hour:minute:second*]

Replace the variables with the appropriate information.

When setting the time, you must separate the hours, minutes, and seconds with colons (hours:minutes:seconds). You can omit the minute and second entries; however, if you omit them, you must type a colon after the hour. Enter the time in either standard or military format:

- 1:15:32 (standard time)

- 13:15:32 (military time)

You can also specify AM or PM (for example, 7:14:32 AM). If you do not specify AM or PM, the file server supplies this information for you, based on usual working hours.

Once you have entered a time, the file server always displays it in the standard format (1:15:32 PM).

Enter the date in any of these formats:

- 6/28/89

- June 28, 1989

- 28 June 1989

If you do not enter either the date or the time, the file server console displays the current date and time recorded in the file server's clock.

Additional information

You can set both the date and time in the same command, or you can set each one separately. You can enter either the date or the time first. If you replace only one variable, the other variable remains unaffected.

Set the date and time on the file server

Example

Suppose you want to set the date and time on your file server to December 19, 1989 at 2:15 PM. At the file server, type

SET TIME 12/19/89 2:15:00 PM <Enter>

or

SET TIME December 19, 1989 14:15:00 <Enter>

or

SET TIME 19 December 1989 2:15:00 <Enter>

The date and time kept by the file server are changed.

SETTTS

SET Transaction Tracking System

Use SETTTS to ensure that the Transaction Tracking System (TTS) feature of SFT NetWare works in harmony with your application in tracking a transaction. This feature is not included in ELS NetWare.

Command format

SETTTS [*logical level* [*physical level*]]

Replace *logical level* with the number (1 through 255) of logical record locks that TTS ignores before beginning to track a transaction.

Replace *physical level* with the number (1 through 255) of physical record locks that TTS ignores before beginning to track a transaction. (If you set a physical level, you must set a logical level first.)

Leave a space between *logical level* and *physical level*.

Additional information

Although SETTTS is not included in ELS NetWare, you may encounter it if you can attach to file servers running SFT NetWare.

Do not use SETTTS unless your situation meets the requirements listed below.

- The TTS feature of SFT NetWare is installed on your file server.

- You are using an application program to modify transactional data files used for applications such as database management, accounting systems, or inventory maintenance. (Files can be marked, or flagged, as Transactional using FLAG or FILER.)

- The application program you are using to modify these files requires you to set new transaction beginning points.

You must run SETTTS from DOS before you enter your application or from within a batch file or menu.

Note: Currently, dBASE III PLUS v1.0 is the only software program tested that requires you to use SETTTS. Version 1.0 uses an immediate record lock for copy protection and does not release the lock until you exit the program. Later versions of dBASE III PLUS (v1.1 and above) do not use record locks in this way and may be used normally.

Once you specify the number of logical and physical record locks TTS will ignore, you can change the settings only by issuing another SETTTS command, logging out, or rebooting your workstation.

Supervisors can learn more about TTS, logical and physical record locks, and the kinds of programs that require the user to activate SETTTS in the *SFT/Advanced NetWare 286 Maintenance* manual. See FILER and FLAG to learn more about how to flag a file as Transactional.

View the current transaction tracking setting

To view your current transaction tracking setting, type

SETTTS <Enter>

You see information similar to the following on your screen:

```
Transaction Tracking Record Lock Threshold
Logical level:1
Physical level:2
```

This screen display indicates that TTS ignores one logical record lock and two physical record locks before beginning to track your transaction.

SETTTS

Set the logical and physical levels

Suppose you want to indicate the logical and physical levels in your SETTTS command. You want TTS to ignore two logical record locks and two physical record locks before beginning to track your transaction. Type

SETTTS 2 2 <Enter>

You see the following information on your screen:

```
Transaction Tracking Record Lock Threshold
Logical level:2
Physical level:2
```

After entering a SETTTS command, you can enter your application program and access, modify, and close files normally. The TTS feature tracks each transaction, ensuring that the entire transaction is recorded correctly or (if a problem arises) none of the transaction is recorded. In this way, none of your database files that are marked Transactional are ever corrupted by incomplete transactions.

SHell GENeration

A customized workstation shell must be generated for each
workstation in an ELS NetWare Level II network. (This
includes workstations that will use Remote Reset.) These
customized shells must be loaded into each workstation so
the workstation can communicate on the network. Use
SHGEN to generate ELS NetWare workstation shells.

For more information on using SHGEN, see the *Installation
for ELS NetWare Level II* manual.

SHOWFILE

Use SHOWFILE to make visible files hidden by
HIDEFILE.

Command format

SHOWFILE [*drive*] [*directory/*] *filename*

Replace *drive* with the drive letter of the directory where the
file is hidden.

Replace *directory* with the name of the directory where the
file is hidden.

Replace *filename* with the name of the file you want to make
visible again.

Additional information

You must have the Modify right in the specified directory to
use SHOWFILE. To execute SHOWFILE, you must either
be in the directory that contains the SHOWFILE.EXE file
(usually the SYS:SYSTEM directory), or you must map a
drive to that directory and specify the drive before the
command. For example, if you mapped drive G to
SYS:SYSTEM, you could type "G:SHOWFILE" in any
directory to execute SHOWFILE.

SHOWFILE makes a specified file visible by clearing the
file's Hidden and System attributes.

After SHOWFILE is executed, a previously hidden file
reappears in a directory listing and can be changed or
deleted.

Make a hidden file visible again

To make a hidden file visible again, complete the following steps.

1. From the directory that includes the SHOWFILE.EXE file, type

   SHOWFILE *filename* <Enter>

2. If the file you want to show is not in the same directory as the SHOWFILE.EXE file, add the appropriate directory path by typing a drive letter or specifying the directory path.

   You can specify a complete or partial directory name.

   For example, if the file you want to make visible is in the SYS:PUBLIC directory and drive F is mapped to that directory, you could type either

   SHOWFILE F: *filename* <Enter>

   or

   SHOWFILE SYS:PUBLIC *filename* <Enter>

   When specifying a filename, you can use wildcard characters (* and ?).

SHOWFILE

Example

Suppose you are in the SALES directory, which contains a
file named TEST that has been hidden with HIDEFILE.
Drive G is mapped to the SYS:SYSTEM directory, which
contains the SHOWFILE.EXE file.

1. Type

    G:SHOWFILE TEST <Enter>

    You see information similar to the following:

    fileserver/SYS:SALES
    Test visible

2. List the files and directories in the SALES directory.
    Type

    DIR <Enter>

    TEST is shown in the directory listing, along with other
    files:

    Volume in drive D is SYS
    Directory of D:\SALES

    TEST   128   5-02-89   3:53p
    OEMDOC 2432   5-02-89   3:53p
    DOC   <DIR>   5-01-89   3:23p
    3 File(s) 5566464 bytes free

After SHOWFILE is executed, a previously hidden file
appears in a directory listing and can be changed or deleted.

Use SLIST to view a list of the file servers on your internetwork and information about those file servers.

Command format

SLIST [*server*] [/Continuous]

To view information about one file server only, replace *server* with the name of that file server.

Include the /Continuous option if you want the list of file servers to scroll down the screen without stopping.

You can use wildcard characters (? and *) to view related files.

View information about all file servers

Example

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
```

"Network" refers to the network address of each file server. File servers on the same network have the same network address. File servers on different networks (on the same internetwork) have different network addresses.

"Node address" refers to the identifying number of the LAN A network interface board inside each file server. For example, the number of the LAN A network interface board for file server RECORDS is 2608C234732.

View information about one file server

Example

To view information about file server RECORDS only, type

SLIST RECORDS <Enter>

You see information similar to the following:

```
Known NetWare File Servers  Network  Node Address
--------------------------  -------  ----------------
RECORDS                     CED88    2608C234732
```

"Network" refers to the network address of each file server. File servers on the same network have the same network address. File servers on different networks (on the same internetwork) have different network addresses.

"Node address" refers to the identifying number of the LAN A network interface board inside each file server. For example, the number of the LAN A network interface board for file server RECORDS is 2608C234732.

SMODE

Use SMODE to assign a search mode to an executable file.
You can also use SMODE to view an executable file's
assigned search mode.

Command format

SMODE [*path* | *filespec* [*mode* [/SUB]]]

Replace *path* with a directory path leading to and including
the volume, directory, or subdirectory containing the
executable files whose search modes you want to view or
change.

Replace *filespec* with a path leading to and including the
executable file or files 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 or files specified in
your command. Each search mode number indicates how
your executable file or files will search for data files. Search
modes are explained on the next page.

Include /SUB in the command to extend the search mode
assignment to include all subdirectories of the specified
directory. If you include /SUB in your SMODE command,
you must include the variable *path* or *filespec* in the
command.

SMODE

Search modes

0   No search instructions. The executable file looks
    for instructions in the SHELL.CFG file. (Use this
    mode if you include the command SEARCH
    MODE = n in the SHELL.CFG file where n equals
    1 through 7.) 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   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 and the executable file opens data files
    flagged Read-Only, the executable file searches the
    default directory and then all search drives.

4   Reserved.

5   The executable file searches the default directory
    and all search drives whether or not the path is
    specified in the executable file.

6   Reserved.

7   If the executable file opens data files flagged Read-
    Only, the executable file searches the default
    directory and all search drives whether or not the
    path is specified in the executable file.

Additional information

Some executable files (.EXE and .COM files) need to access data files when they run. When the executable file and the data file are in the same directory, the executable file can easily find and access the data file. Sometimes, however, the executable file and the data file are in different directories. In this case, the executable file must search for the data file.

You can determine where a particular executable file can and cannot search for a data file by assigning a search mode to the executable file. For example, if you assign mode 2, the executable file can search for a data file only in the default directory. If you assign mode 5, the executable file can search the default directory and then all search drives.

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, you can press <Ctrl> <S> to temporarily stop your screen from scrolling through all the files in a given directory. Press <Enter> to resume scrolling.

SMODE

Assign a search mode

The following example illustrates how to assign a search mode to a file.

Example

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>

or

SMODE RECORDS/SYS:PROGRAMS 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 with the other subdirectories.

View current search mode settings in your default directory

To view the search modes assigned to all executable files in your default directory, type

SMODE <Enter>

To view the search mode assigned to a particular file in your default directory, specify the filename in your command.

Example

To view the search mode assigned to the ACC.EXE file in your default directory, type

SMODE ACC.EXE <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 can look for data files only in the default directory and not in any search drives.

SMODE

View current search mode settings in any directory

The following example shows how to view a search mode assigned to a file in a particular directory.

Example

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>

or

SMODE COUNT/SYS:PROGRAMS/ACC.EXE <Enter>

You see information similar to the following:

ACC.EXE mode = 2, do not search

To view the search modes assigned to all executable files in the PROGRAMS directory, type

SMODE G: <Enter>

or

SMODE COUNT/SYS:PROGRAMS <Enter>

Change search mode settings in your default directory

The following examples illustrate how to change search mode settings in your default directory.

Example 1

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 on your screen:

ACC.EXE mode = 5, search on all opens

The executable file ACC.EXE is assigned search mode 5. 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).

Example 2

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 can also use wildcard characters (* and ?) to represent all files.

SMODE

Change search mode settings in any directory

The following examples illustrate how to change search mode settings in any directory.

Example 1

Suppose you want to change the search mode assigned to file ACC.EXE in directory PROGRAMS from mode 2 to mode 5. Drive G is mapped to directory PROGRAMS as follows:

Drive G: = COUNT/SYS:PROGRAMS

Type

SMODE G:ACC.EXE 5 <Enter>

or

SMODE COUNT/SYS:PROGRAMS/ACC.EXE 5 <Enter>

You see information similar to the following on your screen:

`ACC.EXE mode = 5, search on all opens`

The executable file ACC.EXE is assigned search mode 5. ACC.EXE can search for a data file in the default directory and on all search drives whether ACC.EXE is programmed to open the data file Read-Only or Read-Write.

Example 2

To assign search mode 5 to all executable files in the PROGRAMS directory, type

SMODE G: 5 <Enter>

or

SMODE COUNT/SYS:PROGRAMS 5 <Enter>

Use SPOOL to change or display the spooler mappings.

Command format

Change the spooler mapping   513

    S[POOL] *n* [TO] [QUEUE] *name*

List the spool mappings   514

    S[POOL]

Change the spooler mapping

Use SPOOL to change the spooler mappings for NetWare v2.1x. Spoolers are necessary for NPRINT and CAPTURE to function properly.

Spoolers for NetWare v2.1x and above automatically redirect spool jobs supported by NetWare v2.0a to the appropriate queue and printer. If you create new print queues, you must also create new spooler mappings for those queues.

If you use SPOOL (or any SPOOL call) at your workstation as it exists in NetWare v2.0a and you spool to a file server that is using NetWare v2.1x, the old SPOOL command is converted automatically to the new spooler mappings.

SPOOL

Command format

S[POOL] *n* [TO] [QUEUE] *name*

Replace *n* with the spool number (0 through 5).

Replace *name* with the queue name.

Example

Suppose spooler 1 has been sending SPOOL commands to
the ACCOUNTS queue and you want to spool those calls to
the PROFITS queue. Type

S 1 TO PROFITS   <Enter>

After you change the spooler mapping for spooler 1, all print
jobs spooled to spooler 1 are sent to the PROFITS queue
and are printed by the printer servicing the PROFITS queue.

List the spool mappings

Use SPOOL to display the current spooler mappings for the
file server. Spooler mappings are necessary for NPRINT
and CAPTURE to function properly.

To maintain compatibility with NetWare v2.0a, NetWare
v2.1x automatically assigns spooler mappings to printers and
print queues serviced by the file server, allowing older
SPOOL calls to function in the NetWare v2.1x printing
environment. The supervisor can also create mappings in
the AUTOEXEC.SYS file using SYSCON.

When many workstations use the same peripherals (such as
printers), it is not always possible to use peripherals on
demand, so the spooler reroutes the job to a temporary
storage area or queue. Jobs that arrive at the queue first
are serviced first, unless the printing order is changed. This
command allows you to see the current spooler mappings.

Command format

S[POOL]

Example

To list the spooler mappings, type

S <Enter>

You see information similar to the following on the file
server console:

```
Spooler 0 is directed into queue ACCOUNTS
Spooler 1 is directed into queue PAYROLL
Spooler 2 is directed into queue MARKETING
```

SYSCON

SYStem CONfiguration

SYSCON is used by supervisors and users to perform a
variety of tasks. These tasks are organized according to the
options in SYSCON's "Available Topics" menu. Refer to the
appropriate option to locate the task that you want to
perform.

```
┌─────────────────────────────┐
│      Available Topics        │
├─────────────────────────────┤
│Accounting                    │
│Change Current Server         │
│File Server Information        │
│Group Information             │
│Supervisor Options            │
│User Information              │
└─────────────────────────────┘
```

Accounting

Use this option to install or remove NetWare's accounting
feature and to establish charge rates for network services.

The specific tasks are listed on page 518.

Change Current Server

Use this option to change to another file server.

The specific tasks are listed on page 527.

File Server Information

Use this option to view information about NetWare (such as
version number, number of users supported, and so on) for
any file server on your network. See page 531.

Group Information

Use this option to create or delete a group and to view or modify a group's full name, member list, console operator status, or trustee assignments.

The specific tasks are listed on page 533.

Supervisor Options

Use this option to perform supervisor tasks, such as view the error log, create and modify system login scripts, set up account balances, and activate intruder detection.

The specific tasks are listed on page 539.

User Information

Use this option to create login scripts for users, to set account balances and restrictions for users, and to perform other user-related tasks.

The specific tasks are listed on page 550.

Accounting tasks

Install or remove the accounting feature

Install the accounting feature

To take advantage of the accounting options, complete the following steps.

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 deactivate and completely remove the accounting feature from your file server, you must delete all accounting servers. After deleting the last accounting server, you are given the option of removing the accounting feature.

1. Enter SYSCON and select "Accounting" from the "Available Topics" menu.

2. Select "Accounting Servers." You see a list of all servers that are currently authorized to charge for services. Mark all accounting servers using the Mark key (<F5> on most machines); then press <Delete>.

3. Once you have deleted all accounting servers, press
   <Escape>. The "Do you wish to remove accounting?"
   confirmation box appears.

4. Select "Yes" to remove the accounting feature.

Set up or delete accounting servers

Set up an accounting server

1. Enter SYSCON and select "Accounting" from the
   "Available Topics" menu.

2. Select "Accounting Servers" and press <Enter>. You
   see a list of all servers that are currently authorized to
   charge for services.

3. Press <Insert>. The "Select Server Type" list appears,
   showing the types of servers on the current file server
   that have been authorized to charge. (When there are
   no additional accounts for the types of servers known by
   SYSCON, a message appears indicating no servers are
   authorized to charge for their services.)

4. Select the type of server you want to authorize to charge
   and press <Insert>. The "Other Servers" list appears.

5. Select the server you want to authorize to charge, or use
   the Mark key (<F5> on most machines) to select
   multiple servers.

6. Press <Escape> to return to the "Accounting" menu.

Delete an accounting server

If you no longer want to allow a server to charge for its services, you must delete the server from the "Accounting Servers" list.

1. Enter SYSCON and select "Accounting" from the "Available Topics" menu.

2. Select "Accounting Servers" to view a list of all servers that are currently authorized to charge for services.

3. Highlight the server that you no longer want authorized to charge for its services, or use the Mark key (<F5> on most machines) to highlight multiple servers; then 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 accounting servers deleted.

Set or modify charge rates for network usage

Set charge rates

If you plan to charge users for services provided by the file server, you will need to calculate the amount to charge. The amount you charge depends on your network environment.

Do the following before setting charge rates for services.

1. Determine what your costs are and the amount you want to charge over a given period of time.

2. Determine what services you will charge for and the amount you expect to make from each service.

3. Estimate how much 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. We suggest that you assign a charge rate of 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 each service is being used.

4. At the end of the monitoring period, use ATOTAL to see total usage for each service.

   At the DOS prompt, type

      ATOTAL <Enter>

   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 an estimate of the how much each service is used, you can calculate the charge rates.

   Charge rates are designated as multipliers and divisors. This multiplier/divisor ratio is used to convert the amount of service usage to a monetary charge. The unit of charge is completely 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.

$$\frac{\text{Total charge for a service}}{\text{Estimated total usage of a service}} = \frac{\text{Charge rate multiplier}}{\text{Charge rate divisor}}$$

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, your charge rate would be $100/250,000.

You need to make the necessary conversion to cents (assuming one charge is equal to one cent) per block.

The following three examples show how to assign charge rates.

Example 1

Suppose you want to charge $500 a week for connect time. You decide to assign charge rates only Monday through Friday, 8:00 am to 5:00 pm.

1. Enter SYSCON and select "Accounting" from the "Available Topics" menu.

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 a no charge rate.

3. Highlight the block of time (8:00 am to 5:00 pm) you want to assign a charge rate to.

3a. Use the Right-arrow key to move the cursor to Monday at 8:00 am. Then press the Mark key (<F5> on most machines).

3b. Press the Right-arrow key until Friday at 8:00 am is highlighted. The upper-left corner of the screen should read "Monday To Friday, 8:00 am To 8:29 am."

3c. Press the Down-arrow key until you highlight "Monday To Friday, 8:00 am To 4:59 pm." Press <Enter>.

4. Select "Other Charge Rate" from the "Choose Charge Rate" box.

The multiplier/divisor ratio is equal to the amount you want to charge for connect time/total usage of connect time. (You have to 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 (multiplier)/100,000 (divisor) or 1/2. So if a user were connected to the file server for 80 hours, the amount charged would be

$$4{,}800 \text{ minutes (units used)} \times \frac{1}{2} = 2{,}400 \text{ (charges)}$$

4. 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 and then press <Enter>.

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 multiplier/divisor ratio, or charge rate (1/2), is listed on the left side of the screen.

Example 2

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 assign the charge rate for all hours. To assign charge rates, complete the following steps.

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.

3. Highlight the block of time you want to assign a charge rate to.

3a. Press the Mark key (<F5> on most machines).

3b. 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 am To 8:29 am."

3c. Press the Down-arrow key until you block the whole screen, "Sunday To Saturday, 8:00 am To 7:59 am." Now press <Enter>.

   The "Choose Charge Rate" box appears.

4. Select "Other Charge Rate."

   The multiplier/divisor ratio is equal to the amount you want to charge for blocks read/total usage of connect time. (You have to 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 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)/500,000 (divisor) or 1/10.

If a user reads 2,000 blocks, the amount charged is

$$2,000 \text{ (units used)} \times \frac{1}{10} = 200 \text{ (charges)}$$

5.   In the "New Charge Rate" box, leave the multiplier as 1. Press the Down-arrow key and type 10 for the divisor. Press <Escape> twice and then <Enter>.

The new charge rate is indicated by a 1 on the screen. The multiplier/divisor ratio, or charge rate (1/10), is listed 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 immediately tell which rates are higher and which are lower.

Example 3

Disk storage rates are assigned a little differently than 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 are used each week. (*Block days* are disk storage measurement units.) You want the file server to charge for storage at 2:00 am each day.

1.   Select "Disk Storage Charge Rates" in the "Accounting" menu.

The "Disk Storage Charge Rates" screen appears. The default setting is no-charge rate.

2.   Specify when disk storage usage should be charged.

2a. Move the cursor to Sunday at 2:00 am. Then press the Mark key (<F5> on most machines).

2b. Move the cursor to Saturday at 2:00 am. "Sunday - Saturday 2:00 am To 2:29 am" 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 (multiplier)/200,000 (divisor) or 1/4.

So if a user uses 1,000 block days, the amount charged would be

$$1{,}000 \text{ (units used)} \times \frac{1}{4} = 250 \text{ (charges)}$$

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 and then press <Enter>.

The new charge rate is indicated by a 1 on the screen. The multiplier/divisor ratio, or charge rate (1/4), is listed on the left side of the screen.

Change Current Server tasks

Attach to and log out of 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 user GUEST. User
GUEST is automatically created on every server when the
server is installed. GUEST generally does not have a
password. You can also attach to an additional file server as
one of the server's previously defined users if you know that
user's password.

Attach to additional file servers

1. Enter SYSCON and select "Change Current Server"
    from the "Available Topics" menu to list the file servers
    you are attached to.

2. Press <Insert> to see a list of the file servers on your
    internetwork you can attach to.

3. Select the file server you want to attach to. The "User
    Name" entry box is displayed.

4. Type the username you want to use (for example, GUEST); then press <Enter>.

5. If a password is required, the "Password" entry box appears. Type the password; then press <Enter>.

    If the username or password is incorrect, you are denied access to the file server.

Note: With SYSCON, you can view or attach to file servers that are running NetWare v2.1 or above. To attach to file servers running earlier versions of NetWare, use SESSION or ATTACH.

Log out of additional file servers

If you are attached to more than one file server, you can log out of any file server (except your default server) from within SYSCON.

1. Enter SYSCON and select "Change Current Server" from the "Available Topics" menu to list the file servers you are attached to.

2. Highlight the file server you want to log out of and press <Delete>.

3. The "Logout from Server" confirmation box appears. Select "Yes."

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.

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. Since you cannot change usernames on your default server, you must be attached to at least two servers in order to specify a different username. (Your default server is the file server you originally logged in to.)

You can change to a different username on a file server if you know that user's password. You can also attach to most file servers as GUEST, since GUEST generally does not have a password.

To attach to a file server using a different username, complete the following steps.

1. Enter SYSCON and select "Change Current Server" from the "Available Topics" menu to list the file servers you are attached to.

2. Highlight the file server you want to change your username on; then press the Modify key (<F3> on most machines). The "New User Name" entry box appears.

3. Type in the new username; then press <Enter>.

4. If a password is required, the "Password" entry box appears. Type in the password; then press <Enter>.

    If the username or password is incorrect, you are denied access to the file server.

View file server (operating system) information

To view information about a file server, complete the
following steps.

1. Enter SYSCON and select "File Server Information"
   from the "Available Topics" menu.

2. The "Known NetWare Servers" list appears. Select the
   file server you want to view information about. The
   "File Server Information" inset appears.

You can view the following information about any file server
on your internetwork.

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 SFT NetWare v2.1 and above.

Transaction Tracking System

Indicates whether the file server supports Transaction
Tracking System (TTS) recovery for database files. This
information appears with SFT NetWare v2.1 and above.

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 located on.

Node Address

> The address of the node within the network where the file
> server resides.

Note: If other file servers on your network are running NetWare
v2.1 or above, you can use SYSCON to attach to and access
information from those file servers. For example, if
MARKETING is your default server and you want access to
information in the Communications department, you could
attach temporarily to the Communications file server.

To access information on another file server, you must first
choose that server as your current server. See "Choose an
attached file server as the current file server" on page 529.

Group Information tasks

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 or delete a group

Create a group

1. Enter SYSCON and select "Group Information" from the "Available Topics" menu.

2. Press <Insert> to display the "New Group Name" entry box.

3. Type the group's name and press <Enter>.

Delete a group

1. Enter SYSCON and select "Group Information" from the "Available Topics" menu. The "Group Names" list appears.

2. Highlight the group you want to delete, or use the Mark key (<F5> on most machines) to highlight more than group; then press <Delete>.

3. In the "Delete Group" confirmation box, select "Yes."

Assign users to or delete users from a group

Assign users to a group

1. Enter SYSCON and select "Group Information" from the "Available Topics" menu. The "Group Names" list appears.

2. Select the group you want to assign a user to. Then select "Member List."

3. Press <Insert> to view the "Not Group Members" list.

4. Select the user you want to add to the group, or use the Mark key (<F5> on most machines) to select multiple users. Press <Enter>.

Delete users from a group

1. Enter SYSCON and select "Group Information" from the "Available Topics" menu. The "Group Names" list appears.

2. Select the group you want to delete users from. Then select "Member List."

3. Highlight the user you want to delete, or use the Mark key (<F5> on most machines) to highlight multiple users. Then press <Delete>.

4. In the "Delete User from Group" confirmation box, select "Yes."

Assign or modify group trustee rights in a directory

Assign group trustee rights in a directory

1. Enter SYSCON and select "Group Information" from the "Available Topics" menu.

2. Select the group you want to give trustee rights to. The "Group Information" menu appears.

3. Select "Trustee Assignments." The group's trustee assignments are listed.

4. To add trustee rights in a particular directory, press <Insert>.

5. In the "Directory In Which Trustee Should be Added" entry box, specify the directory.

Note:	If you specify a nonexistent directory, you are asked if you want to create that directory.

- If you know the name of the directory that you want to give the user rights in, type the full directory path and press <Enter>.

- If you do not know the directory name, 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 specify the complete directory name. Press <Escape> and then <Enter>.

Modify group trustee rights in a directory

1. Enter SYSCON and select "Group Information" from the "Available Topics" menu.

2. Select the group whose trustee rights you want to modify. The "Trustee Assignments" list appears.

3. Select the directory in which you want to modify the group's trustee rights. The "Trustee Rights Granted" list appears.

4. You can delete trustee rights from or add them to this list.

Delete trustee rights

4a. Highlight a right or use the Mark key (<F5> on most machines) to highlight multiple rights. Then press <Delete>.

4b. Select "Yes" in the "Revoke Trustee Right" confirmation box. Press <Escape> to return to the "Trustee Assignments" list.

Add trustee rights

4a. Press <Insert>. The "Trustee Rights Not Granted" list appears.

4b. Select the right you want to add, or use the Mark key (<F5> on most machines) to select multiple rights. Press <Enter> and then <Escape> to return to the "Trustee Assignments" list.

Assign or modify a group's full name

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.

   If the group has not been assigned a full name, the box is blank. Type a full name for the group.

   To change the group's full name, use the Backspace key to delete the old name; then type the new name.

4. Press <Enter> to save the change.

Delete a group as trustee of a directory

You may need to delete a group's assignment as a trustee of a directory. Deleting a group's trustee rights, however, is not the same as deleting the group's trustee assignment. A group that does not have specific trustee assignments 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.

To delete a group as a trustee of a directory, complete the following steps.

1. Enter SYSCON and select "Group Information" from the "Available Topics" menu.

2. Select the group you want to remove as a trustee of the directory.

3. Select "Trustee Assignments."

4. Highlight the directory from which you want to delete the group as a trustee, or use the Mark key (<F5> on most machines) to delete more than one directory. Then press <Delete>.

5. In the "Remove Trustee from Directory" confirmation box, select "Yes."

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.

1. Enter SYSCON and select "Group Information" from the "Available Topics" menu.

2. Select the group whose ID and console operator status you want to view.

3. Select "Other Information."

Supervisor Options tasks

View and erase the error log

As a supervisor, you can view any errors recorded in the file server's system error log. You can also erase the error log after you view the errors. To view or erase the error log, complete the following steps.

1. Enter SYSCON and select "Supervisor Options" from the "Available Topics" menu.

2. Select "View File Server Error Log" from the "Supervisor Options" menu.

    The "File Server Error Log" screen lists any error messages since the file server 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.
```

An explanation of error messages can be found in the *NetWare System Messages* manual.

3. You can erase the error log by pressing <Escape>. Select "Yes" at the "Clear Error Log" confirmation box. If you want to keep the log, select "No."

Create or modify an AUTOEXEC.SYS file

You can use an AUTOEXEC.SYS file to store console commands you want executed each time the file server comes up. The file is kept in the SYS:SYSTEM directory, and you can create it in SYSCON or with a text editor. For information on why you would want an AUTOEXEC.SYS file, see the next page.

To create or modify an AUTOEXEC.SYS file, complete the following steps.

1. Enter SYSCON and select "Supervisor Options" from the "Available Topics" menu.

2. Select "Edit System AUTOEXEC File." The "System AUTOEXEC File" entry box appears.

3. Type a list of the printer and spooler mappings you want executed each time the file server comes up. Use the following formats.

   P[RINTER] *nn* ADD [QUEUE] *name*
   S[POOL] *nn* [TO] [QUEUE] *name*

4. List any additional console commands that you want executed each time the file server comes up.

5. Use the Backspace key to delete console commands. Press <Escape> and then <Enter> to save changes.

Example

To add print queue LASER to printer 0 and print queue LASER2 to printer 1, use the following commands:

   P 0 ADD LASER
   P 1 ADD LASER2

To assign spooler 0 to the LASER print queue and spooler 1 to the LASER2 print queue, use the following commands:

   S 0 LASER
   S 0 LASER2

Why use an AUTOEXEC.SYS file?

Printer mappings are the most important console commands included in the AUTOEXEC.SYS file. Printer mappings indicate which printer prints the jobs in a given queue.

ELS NetWare v2.15 allows multiple queues to be mapped to multiple printers. The file server must be informed of which mapping the user wants to use. These mappings can be created, viewed, and changed temporarily using console commands. The AUTOEXEC.SYS file allows you to save the mappings permanently.

If you do not create an AUTOEXEC.SYS file, the server creates a default print queue for each physical printer. Each printer is assigned a queue, and the corresponding spooler is initialized to place jobs in the given queue.

Note: If you create an AUTOEXEC.SYS file, include at least the default printer mappings. If an AUTOEXEC.SYS file exists, the system executes only mappings listed in the file. The system does not automatically map one print queue to each physically attached printer or spool old printer numbers into a queue, as it does if no AUTOEXEC.SYS file exists.

For example, suppose your file server has two printers, PRINTER 0 and PRINTER 1. PRINTQ_0 and PRINTQ_1 are automatically created by the system and mapped to the respective printers when the file server first comes up. After the file server is booted, you create a third print queue, PRINTQ_2, and map it to PRINTER 0 using the console command "P 0 ADD PRINTQ_2."

For these printer mappings to be executed each time the server comes up, you need to create an AUTOEXEC.SYS file. This file must include both the automatically created mappings and the console command mappings. For example, after you create a third print queue, the AUTOEXEC.SYS file should contain the following printer mappings:

```
P 0 ADD PRINTQ_0
P 0 ADD PRINTQ_2
P 1 ADD PRINTQ_1
```

(The first and third printer mappings are system-created mappings. The second mapping is the console command.)

In addition, you must include spooler mappings in your AUTOEXEC.SYS file. The spooler mappings allow compatibility with previous NetWare versions and allow the printing commands to function properly. Your AUTOEXEC.SYS file could also contain the following spooler mappings:

```
S 0 PRINTQ_0
S 1 PRINTQ_1
S 2 PRINTQ_2
```

In addition to printer and spooler mappings, you can save any other console command except the DOWN command in the AUTOEXEC.SYS file. For example, you might want to include the MONITOR command to automatically start the monitoring function.

Create or modify the system login script

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.

   You can include any of the commands explained in the Planning Login Scripts module in the *Installation for ELS NetWare Level II* manual. This script is executed for users when they log in.

   You could include commands similar to these:

```
MAP INS S1:=SYS:PUBLIC
MAP INS S2:=SYS:PUBLIC/WORDPROC
MAP INS S3:=
  SYS:PUBLIC/%MACHINE/%OS_OPTION
COMSPEC=S3:COMMAND.COM
```

The first command enables users to access the NetWare utilities.

The second command enables users to access a word processing program.

The third command enables users to access the DOS files in the DOS directory.

The fourth command ensures that the COMMAND.COM file will reload properly into each workstation when an application is exited.

3. To exit the system login script, press <Escape>. Select "Yes" at the confirmation box to save your changes.

Set up default account restrictions

You can set up default account restrictions that apply to all users created after the restrictions have been set up. If you create a user before you set up the default restrictions, the restrictions do not apply to that user. The default restrictions affect a user's account only when it is first created, so changing the system defaults affects only those users created after the defaults are made.

To set up default account restrictions, complete the following steps.

1. Enter SYSCON and select "Supervisor Options" from the "Available Topics" menu.

2. Select "Default Account Balance/Restrictions."

The system default is set so accounts have no expiration date, no connection limitations, no password restrictions, and no disk space limitations.

3. Change the "Default Account Balance/Restrictions" menu by selecting the restrictions that you want to apply to all users.

Assign time restrictions to all users

You can use SYSCON's "Supervisor Options" to change the default time restriction that is assigned to new user accounts.

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 one-hour block the cursor is on.

3. Use the Mark key (<F5> on most machines) to mark the block of time during which you do not want users to log in. Then press <Delete>.

Activate intruder detection and lockout feature

The intruder detection and lockout feature allows you to set conditions for recognizing an intruder. Once these conditions have been met, you can also prevent any further attempts to log in to the file server on that account.

If the intruder lockout status is activated, the account makes a record of attempts to log in with an incorrect password more than the number of times allowed. In addition, you can specify how many attempts can be made before the account locks automatically and how long the account remains locked before allowing a user to try logging in again.

1. Enter SYSCON and select "Supervisor Options" from the "Available Topics" menu.

2. Select "Intruder Detection/Lockout."

3. The default for intruder detection is "No." To activate intruder detection, change the "Detect Intruders" response to "Yes" by typing Y and pressing <Enter>. The file server records repeated attempts to log in to the network.

   You can deactivate intruder detection by changing the "Detect Intruders" response to "No." To do this, type N and press <Enter>. Then press <Escape> to return to the "Supervisor Options" menu.

4. If you decide to use intruder detection, the "Intruder Detection Threshold" system defaults appear. The "Incorrect Login Attempts" is set to seven. This setting indicates that 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.

   To change this number, highlight seven, type in the new number, and press <Enter>.

5. 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 that the last incorrect login was detected. Whenever 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.

To change the "Bad Login Count Retention Time," highlight the days, hours, or minutes options, type in the new numbers, and press <Enter>.

6. You can also activate the lockout security feature, which 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."

If you do not want to use the lockout feature, change the response to "No."

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.

To change the amount of time, highlight the days, hours, or minutes options, type in the new numbers, and press <Enter>.

7. After you have entered any changes, press <Escape> to save your changes and return to the "Supervisor Options" menu.

Set up or change default account balances

To set up a default account balance (which is automatically assigned to any user created after the default is set up), complete the following steps.

1. Enter SYSCON and select "Supervisor Options" from the "Available Topics" menu.

2. Select "Default Account Balance/Restrictions."

3. Highlight "Account Balance" (near the bottom of the screen) and enter the account balance you want users to be given when their accounts are created. The balance is assigned in charges and is lowered each time the user is charged for a service. An account balance of 320 indicates that the user can use up to 320 charges. The default account balance is 0.

4. After you have entered the account balance, you also 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.

   If you want to allow unlimited credit, highlight "Allow Unlimited Credit" and change the response to "Yes" by typing Y and pressing <Enter>.

   If you want to allow 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 still receive chargeable services 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 user's 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 will no longer be able to receive chargeable services.

5. After you enter the account balance options, press <Escape> twice to return to the "Available Topics" menu.

Assign or delete groups or users as file server console operators

You can specify which groups or users are file server console operators. Console operators can access FCONSOLE (file server console) from workstations where they are logged in.

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 any groups or users that are console operators.

Add console operators

To add console operators to the list, press <Insert>. The "Other Users and Groups" list appears.

Select the user or group you want to be a console operator. Use the Mark key (<F5> on most machines) to select more than one user or group.

Delete console operators

To delete console operators, highlight the user or group you want to delete from the "File Server Console Operator" list. If you want to delete more than one user or group, use the Mark key (<F5> on most machines). Then press <Delete>. Select "Yes" in the confirmation box.

User Information tasks

User Information tasks (cont.)

Create or modify a user's login script

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."

4. If the "Login Script Does Not Exist" box appears, press <Enter> and then type in one or more login script commands. (See the Planning Login Scripts module in the *Installation for ELS NetWare Level II* manual.)

If you want to modify an existing login script, type in any additional commands. Use the backspace key to delete login script commands.

Copy one user's login script to another user

You can assign a user's login script only to another user who
does not already have a login script. Copying login scripts is
an easy way to assign many users the same login script.

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.
   Type in the name of the user whose login script you
   want to copy and press <Enter> to complete the task.

Enable or disable a user's account

You can close an 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 completing the following steps.

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.

3. Select "Account Restrictions" from the "User
    Information" menu.

4. In the "Account Restrictions" list, type Y to disable the
    account and N to enable the account.

5. Press <Escape> to save the changes and exit the menu.

Set an expiration date on a user's account

You can set up a temporary account. At a specified date,
the account is automatically 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 could no longer log in to their accounts.

Set an expiration date restriction

To set up the expiration date restriction, complete the
following steps.

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.

3. Select "Account Restrictions" from the "User
    Information" menu.

4. In the "Account Restrictions" list, select "Account Has
    Expiration Date." Change the response to "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 a new date. Use the
    format month-day-year (i.e., 11-25-89; November 25,
    1989; or Nov 25, 1989). Press <Enter> and then
    <Escape> to save the changes and return to the "User
    Information" menu.

On the specified expiration date, the account is disabled.

Remove an expiration date restriction

To remove an expiration date restriction after the account
has been disabled, complete the following steps.

1. From the "Account Restrictions" list, select "Account
    Disabled" and change the response to "No" by typing N
    and pressing <Enter>.

2. Select "Account Has Expiration Date" and change the
    response to "No" by typing N and pressing <Enter>.

Limit the number of workstations a user can log in from

1. Enter SYSCON and select "User Information" from the
    "Available Topics" menu.

2. Select the user you want to place the restriction on.

3. Select "Account Restrictions" from the "User
    Information" menu.

4. From the "Account Restrictions" list, select "Limit
    Concurrent Connections." Change the response to "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 the desired number of workstations (between 1 and 100, 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 password of a user already logged in at another location.

Set password restrictions

You can allow users to change a password. 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.

To assign password restrictions, complete the following steps.

1. Enter SYSCON and select "User Information" from the "Available Topics" menu to display the users on the current file server.

2. Select the user you want to assign the restriction to.

3. Select "Account Restrictions" from the "User Information" menu.

You can choose from the following options.

Allow User to Change Password

You can decide whether or not a user is allowed to change the password of the account. The default is set to "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 using SYSCON.

To specify whether a user may change the password, select "Allow User to Change Password" and change the response to "No" by typing N.

Require Password

You can require a user to have a password. Before you use the "Minimum Password Length" and "Force Periodic Password Changes" options, you must require a user to have a password. The default is set to "No."

To require a password, select "Require Password" and change the response to "Yes" by typing Y.

Minimum Password Length

If you require a password, the system automatically sets the minimum password length to five characters.

To change the minimum password length, select "Minimum Password Length" and type in the new number. Passwords can be up to 128 characters long. Then press <Enter>.

Force Periodic Password Changes

If you require a password and allow users to change their passwords, the system forces 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.

Select "Force Periodic Changes." If you decide not to require password changes, change the response to "No" by typing N and pressing <Enter>.

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" box is shown.

Limit Grace Logins

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, 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. Select "Grace Logins" and enter a new number. The number of "Remaining Grace Logins" appears on the screen.

Require Unique Passwords

If you require passwords, you can also require users to use new passwords 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 eight previous passwords. A user must keep a new password for at least one day before it is remembered by the system.

To require unique passwords, select "Require Unique Passwords" and change the response to "Yes" by typing Y.

Press <Escape> twice to save your changes and return to the "User Information" menu.

Limit disk space for individual users

If the "Limit Disk Space" option was selected when the NetWare operating system was generated and installed, you can specify the file server disk space each user can use. If the "Limit Disk Space" option was not selected, the SYSCON "Limit Disk Space" option does not appear.

You may want to limit the disk space for only one or two users. Or, you may want to limit the disk space for all users, assigning each a different amount of space. (If you want to limit the disk space for all users, but assign each user the same amount of space, set the system defaults as explained under "Set up default account restrictions" on page 544.)

To limit disk space for individual users, complete the following steps.

1. Enter SYSCON and select "User Information" from the "Available Topics" menu.

2. Select the user whose disk space you want to limit.

3. Select "Account Restrictions" from the "User Information" menu.

4. Select "Limit Disk Space" in the "Account Restrictions" form. Change the response to "Yes" by typing Y.

5. If "Limit Disk Space" is set to "Yes," you can specify how much space the user is allocated. Select the "Maximum Disk Space" response. Enter the amount (in KB). All amounts are rounded up to the nearest 4KB when you exit. Press <Escape> to save the changes and return to the "User Information" menu.

Note: If a user tries to use more disk space than assigned, an error message appears, indicating insufficient disk space.

Assign or delete station restrictions

You can restrict the physical locations that a user can log in from. The default is 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 the 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. The Network Boards Worksheet should have been completed with these addresses when the network was installed. If you do not have this worksheet, 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.

Assign station restrictions

To assign station restrictions, complete the following steps.

1. Enter SYSCON and select "User Information" from the "Available Topics" menu. The users logged in to the 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. To restrict the workstations a user can log in from, press <Insert>. The "Network Address" box appears.

5. Type the network address (in hexadecimal notation) of the workstation the user may log in from and press <Enter>. A confirmation box appears.

6. You have two options in the "Allow Login From All Nodes" confirmation box.

Note: The "Allow Login From All Nodes" confirmation box appears only the first time a new network address is entered.

- Select "Yes" if you want the user to be able to log in from any node address on the specified network. The restriction for all nodes on the specified network are listed in the "Allowed Login Addresses" box.

- Select "No" if you want to restrict the user to a single or to only a few node addresses on the network. Type the address (in hexadecimal notation) of the appropriate workstation in the "Node Address" box, and press <Enter>.

The network address and node address of the specified
workstation are listed in the "Allowed Login Addresses"
box.

7. To restrict the user to multiple node addresses on the
    same network, specify each node individually by
    repeating Steps 5 and 6.

Delete station restrictions

To delete station restrictions, complete the following steps.

1. Enter SYSCON and select "User Information" from the
    "Available Topics" menu. The users logged in to the file
    server are listed.

2. Select the user whose station restrictions you want to
    delete. The "User Information" menu appears.

3. Select "Station Restrictions." The "Allowed Login
    Addresses" box appears.

4. Highlight the address of the station you want to delete
    and press <Delete>. Select "Yes" in the "Delete Station
    Restriction" confirmation box.

A user who tries to log in from an unauthorized station is
denied access.

Assign time restrictions to individual users

You can restrict the hours during which users can log in. The default is set so that no time restrictions apply.

For example, you might want to restrict users to log in during normal working hours only.

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> on most machines) 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. The asterisks indicate the times when the user can log in.

4. Using the Mark key (<F5> on most machines), mark the block of time during which you <u>do not</u> want users to log in. Then press <Delete>. You can also delete blocks individually.

   For example, suppose you want to allow users to log in from 8 am to 7 pm. In this case, it is easiest to delete the whole screen and then insert M-F 8 am -7 pm. Press the Mark key (<F5> on most machines). Next press <End>, <PageDown>, and <Delete>. The time box should now be empty.

Using the arrow keys, highlight "Friday from 8:00 am to 8:30 am" and press the Mark key (<F5> on most machines). Press the Right-arrow key until the screen reads "Friday 8:00 am to 7:00 pm."

Now press the Up-arrow key until the screen reads "Monday to Friday 8:00 am to 7:00 pm." After this block of time is defined, press <Insert>.

Unlock user accounts

If you want to unlock a user account that has been locked by intruder detection and lockout, complete the following steps.

1. Enter SYSCON and select "User Information" from the "Available Topics" menu.

2. Select the user whose account you want to unlock. The "User Information" menu appears.

3. Select "Intruder Lockout Status."

   The "Intruder Lockout Status" box indicates that the account is locked, when the reset time is, how much time is left until the account is reset, and the workstation address at which the last intruder was detected.

4. To unlock the account, highlight "Account Locked," type N, and press <Enter>. The incorrect login account is reset to 0.

Create, rename, or delete a user

Create a user

1. Enter SYSCON and select "User Information" from the "Available Topics" menu. The names of the users on the current file server appear.

2. Press <Insert>. The "User Name" entry box appears.

3. Type the new user's name. The username can be up to 47 characters long. Then press <Enter>.

Rename a user

1. Enter SYSCON and select "User Information" from the "Available Topics" menu. The names of the users on the current file server appear.

2. Highlight the user you want to rename and press the Modify key (<F3> on most machines).

3. Use the Backspace key to delete the old username in the "Rename User to" entry box.

4. Type the user's new username and press <Enter>.

Delete a user

1. Enter SYSCON and select "User Information" from the "Available Topics" menu. The names of the users on the current file server appear.

2. Highlight the user you want to delete, or use the Mark key (<F5> on most machines) to highlight multiple users. Then press <Delete>.

3. In the "Delete User" confirmation box, select "Yes."

Assign or change a user's full name

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. If the user has not been assigned a full name, type in a name and press <Enter>.

    To change the user's full name, use the Backspace key to delete the old name; then type a new name. Press <Enter> to save the change.

Add a user to or delete a user from a group

Add a user to a group

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 a group. The "User Information" menu appears.

3. Select "Groups Belonged To."

4. Press <Insert> to see a list of groups the user does not belong to.

5. Select the group you want to add the user to, or use the Mark key (<F5> on most machines) to select multiple groups.

Delete a user from a group

6. Enter SYSCON and select "User Information" from the "Available Topics" menu. The names of the users on the current file server appear.

7. Select the user you want to delete from a group. The "User Information" menu appears.

8. Select "Groups Belonged To."

9. Highlight the group you want to delete the user from, or use the Mark key (<F5> on most machines) to highlight multiple groups. Then press <Delete>.

10. In the "Delete User From Group" confirmation box, select "Yes."

Assign or change a user's password

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. Assign a user a new password or change an old one by changing the entry in the "Enter New Password" box.

    ■ To assign a new password, type the new password in the empty box and press <Enter>.

    ■ To change the old password, type a new password (you can't see the old password) and press <Enter>.

5. Confirm the new password by retyping it in the "Retype New Password" box. Press <Enter>.

Assign or delete a user's security equivalence

Assign a user's security equivalence

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. Press <Insert> to display the "Other Users and Groups" list.

5. Select the user or group that you want to make the user equivalent to. Use the Mark key (<F5> on most machines) to select more than one user or group.

Delete a user's security equivalence

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 equivalence you want to delete. The "User Information" menu appears.

3. Select "Security Equivalences."

4. Highlight the name of the user or group that you no longer want the user to be security equivalent to. Use the Mark key (<F5> on most machines) to highlight more than one user or group. Then press <Delete>.

5. Select "Yes" in the "Delete Security Equivalence" confirmation box.

Assign or delete user trustee rights in a directory

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 make a trustee of a directory. The "User Information" menu appears.

3. Select "Trustee Assignments." The user's trustee assignments appear.

4. Press <Insert>. The "Directory In Which Trustee Should be Added" entry box appears.

5. Specify the directory in which you want to make the user a trustee.

Note: If you specify a nonexistent directory, you are asked if you want to create that directory.

- If you know the directory name, type it and press <Enter>.
- If you do not know the directory name, press <Insert> to list the available file servers. Select the file server you want to access.

  Select the volume you want to access from the "Available Volumes" list.

  Select the directory you want from the "Network Directories" list.

  Continue choosing directories until you have specified the complete directory name. Then press <Escape> and <Enter> to make the user a trustee of the directory you have specified.

6. Press <Enter>. The "Trustee Rights Granted" list
    appears. Now you can assign or delete the user's trustee
    rights in the directory.

    ■ To assign a given trustee right, press <Insert>.

      In the "Trustee Rights Not Granted" list, select the
      right you want to assign, or use the Mark key (<F5>
      on most machines) to select more than one right.

    ■ To delete a given trustee right, highlight that right. If
      you want to delete several rights, use the Mark key
      (<F5> on most machines). Then press <Delete>.

      In the "Revoke Trustee Rights" confirmation box,
      select "Yes."

Remove a trustee from a directory

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 trustee assignments you want to
    delete. The "User Information" menu appears.

3. Select "Trustee Assignments." The user's trustee
    assignments appear.

4. Highlight the directory you want to remove the trustee
    from, or use the Mark key (<F5> on most machines) to
    highlight multiple directories. Then press <Delete>.

5. In the "Remove Trustee from Directory" confirmation
    box, select "Yes."

List users

Enter SYSCON and select "User Information" from the
"Available Topics" menu. A list of the users defined on the
current file server appears.

SYSTIME

Use SYSTIME to view the date and time set on any file server on your network or internetwork. When you view this information for a file server, you also synchronize the date and time set on your workstation with the settings on that file server.

Command format

SYSTIME *server*

To view the date and time on a file server other than your default file server, replace *server* with the name of that file server.

View the date and time set on a file server

You must be attached to a file server before you can use SYSTIME to view the date and time of that file server and synchronize the date and time set on your workstation with those on the file server.

Example 1

To see the date and time on your default file server, type

    SYSTIME <Enter>

You see a message similar to the following:

    Current System Time: Monday May 8, 1989   8:37 am

SYSTIME

Example 2

Suppose you want to view the date and time on file server SALES. Type

SYSTIME SALES <Enter>

You see information similar to the following:

Current System Time: Monday June 8, 1989   8:32 am

Use TIME to display the date and time kept by the file server's built-in clock.

Command format

TIME

Additional information

To reset the file server's time or date, use SET TIME.

View the file server's date and time

To view the date and time kept by the file server, type

TIME <Enter>

You see a message similar to the following:

December 19, 1989   3:11:25 PM

TLIST

Trustee LIST

Use TLIST to view the trustee list for a given directory.

Command format

TLIST [*path* [USERS | GROUPS]]

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

Include the space and period (.) before USERS or
GROUPS if you want to view the user trustees or group
trustees of your default drive.

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.

Additional information

You must be attached to a file server before you can view
the trustee list for a directory on that server. You must also
have the Parental effective right in the directory.

View the trustee list of your default directory

To view the trustee list of your default directory, type

TLIST <Enter>

You see information similar to the following:

```
User Trustees:
    MICHIKO    [RWOCDPSM]    (Michiko Jones)
    GEORGE     [ROS]         (George Sato)
    -----
Group Trustees:
    CLERKS     [ROS]         (Accounting clerks)
```

This screen display lists the users and groups who are trustees of your default directory. It also shows their trustee rights and gives either their full names or a brief description of the groups they belong to.

View the trustee list of any directory

The following example illustrates how to view the trustee list of any directory.

Example

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

TLIST

To view the trustee list of the DATA directory, type

    TLIST G: < Enter >

or

    TLIST RECORDS/SYS:DATA < Enter >

You see information similar to the following:

```
User Trustees:
    MICHIKO    [RWOCDPSM]    (Michiko Jones)
    GEORGE     [ROS]         (George Sato)
    -----
Group Trustees:
    CLERKS     [ROS]         (Accounting clerks)
```

View only the user trustees of a directory

To view only the user trustees of a directory, include USERS in the TLIST command.

Example 1

To view only the user trustees of your default directory, use a period (.) in the command to represent your default drive. (Be sure to leave a space before the period.) Type

    TLIST . USERS < Enter >

You see information similar to the following:

```
User Trustees:
    MICHIKO    [RWOCDPSM]    (Michiko Jones)
    GEORGE     [ROS]         (George Sato)
```

Example 2

Suppose you want to view only the user trustees in 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 only the user trustees in the DATA directory, type

TLIST G: USERS < Enter >

or

TLIST RECORDS/SYS:DATA USERS < Enter >

You see information similar to the following:

```
User Trustees:
  MICHIKO [RWOCDPSM]      (Michiko Jones)
  GEORGE  [ROS]           (George Sato)
```

View only the group trustees of a directory

To view only the group trustees of a directory, include GROUPS in the command.

Example 1

To view only the group trustees of your default directory, use a period (.) in the command to represent your default drive. (Be sure to leave a space before the period.) Type

TLIST . GROUPS < Enter >

You see information similar to the following:

```
Group Trustees:
    CLERKS [ROS]    (Accounting clerks)
```

Example 2

Suppose you want to view only the groups in the DATA directory, which is not your default directory. Also suppose that drive G is mapped to the DATA directory as follows:

Drive G: = RECORDS/SYS:DATA

To view the group trustees in the DATA directory, type

TLIST G: GROUPS <Enter>

or

TLIST RECORDS/SYS:DATA GROUPS <Enter>

You see information similar to the following:

```
Group Trustees:
    EDITORS    [ROS]    (Technical editors)
```

USERDEF

USER DEFinition

USERDEF can be used to create multiple users, provide
them with a simple login script, and set them up with a
home directory, minimal login/password security, account
restrictions, and print configurations.

For more information on using USERDEF, see the
Installation for ELS NetWare Level II manual.

USERLIST

Command
Line Utility F>

Use USERLIST to view a list of current users for a given
file server. You can also view each user's connection
number, login time, network address, and node address.

Command format

USERLIST [*server/*][*user*] [/A]

Include *server/* if you want to view the list of users for a file
server other than your default file server. Replace *server*
with the name of the file server. The slash (/) indicates that
the name is for a file server rather than a user.

Replace *user* with the name of the user whose connection
number and login time you want to view.

Include /A in the command if you want 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.

Additional information

You must be attached to a file server before you can view
the list of users for that file server.

An asterisk (*) appears next to your username in the list of
current users.

View a list of a file server's users

Example 1 shows how to list the users on the default file server. Example 2 shows how to list the users on a file server other than the default file server.

Example 1

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        6-16-1989 8:03 am
    2         *CORRINE    6-16-1989 8:30 am
    3         PAULO       6-16-1989 7:59 am
    4         GUY         6-16-1989 9:30 am
```

Example 2

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        6-16-1989 7:31 am
    2         *LINDA      6-16-1989 7:30 am
    3         MARC        6-16-1989 8:51 am
    4         JILLIAN     6-16-1989 7:30 am
```

USERLIST

View users' network and node addresses

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.

Example

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 NodeAddress  LoginTime
---------- -------- ------- ----------- ----------
    1      ELENA    CED88   2608C234732 6-16-1989 8:03 am
    2      KARL     CED88   2608C374892 6-16-1989 8:30 am
    3      VANESSA  CED87   2608C857593 6-16-1989 7:59 am
    4      *LEON    CED87   2608C448928 6-16-1989 9:30 am
```

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.

Example 1

Suppose you want to view information about user ELENA on your default file server. Type

USERLIST ELENA <Enter>

You see information similar to the following:

```
Connection   User Name   Login Time
----------   ----------  ------------------
    1         ELENA       3-16-1989 8:03 am
```

Example 2

To view the network address and the node address for user ELENA, include /A in the command. Type

USERLIST ELENA /A <Enter>

You see information similar to the following:

```
Connection UserName Network NodeAddress  LoginTime
---------- -------- ------- -----------  ----------
    1       ELENA   CED88   2608C234732  6-16-1989 8:03 am
```

VAP

Value-Added Process

Use VAP to view a list of all Value-Added Processes (VAPs) that are loaded onto the NetWare operating system. Commands used by each VAP are also listed.

Command format

VAP

Additional Information

VAPs are applications that run on top of the network operating system, much like applications (such as word processing, accounting, or spreadsheets) run on top of DOS. VAPs allow NetWare processes and third-party processes to be linked into the network operating system. These processes can then be executed from a file server or bridge while the network is operating. VAPs allow you to use value-added products such as print servers, archive servers, and database servers. For more information about a VAP that is linked to the network operating system, refer to the documentation that came with the VAP.

View a list of VAPs

To view a list of VAPs, type

VAP <Enter>

You see a list of currently loaded VAPs and their associated commands on the file server console.

VERSION

Use VERSION to view the version of a NetWare utility on your file server.

Command format

VERSION [*path*] *filename*

Replace *path* with the 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.

View the version of a utility on your file server

This example shows how to view the version of a utility or command on your file server.

Example

To see which version of USERLIST is on your file server, type

VERSION USERLIST <Enter>

You see information similar to the following:

USERLIST.EXE: NetWare Userlist, Version 2.10

VOLINFO

Menu Utility

VOLume INFOrmation

VOLINFO allows you to see information about each volume on your file server.

```
┌─────────────────────┐
│ Available Options   │
├─────────────────────┤
│ Change Servers      │
│ Update Interval     │
└─────────────────────┘
```

To view information about volumes on the current file server, enter VOLINFO (see the next page).

Other VOLINFO tasks are listed below.

Change Servers

Select this option if you want to view information about a file server to which you are already attached (see page 590).

You should also make this selection to attach to an additional file server so you can view information about it (see page 590).

Update Interval

Select this option to modify the interval between volume information updates (see page 591).

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View volume information

To display information about the volumes on a file server, enter VOLINFO.

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.

The program displays information for as many as 32 volumes, in pages containing up to 8 volumes at a time. A sample VOLINFO screen is shown below. Refer to this screen for help in understanding VOLINFO. Each screen entry is explained in the list following the sample screen.

```
Page 1/1      Total   Free    Total   Free

Volume name        SYS             BOOM
KiloBytes    149904    3544   149904  14336
Directories    9728     874     8448    739

Volume name        BAH
KiloBytes    114740   68212
Directories    4096    3424
```

VOLINFO screen entries

Page

Refers to the page number (from 1 to 4) of the VOLINFO display. Each page can display information for as many as eight volumes.

Volume name

Identifies the volume whose information 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.

Directories

Refers to the number of directory entries allocated for the volume. 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 allocated by the installer; "Free Directories" lists the number of available directory entries.

The information in each box is updated at intervals varying from 1 to 3,600 seconds. Any user can specify the amount of time between updates or use the default setting of 5 seconds. When the "Free KiloBytes" or "Free Directories" figures increase or decrease, up and down arrows appear. The arrows reflect changes that have occurred during the previous update interval. The figures will flash if the amount of disk space reaches the minimum or maximum level.

View the next page

If your file server has more than eight volumes, the "Next Page" option appears on the "Available Options" menu. This option allows you to display the next page of volume information. The VOLINFO display has four pages. Each page displays information for as many as eight volumes.

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 Topics" menu. The next page of volume information is displayed.

View the previous page

If your file server has more than eight volumes, the "Previous Page" option appears in the "Available Options" menu when you access the second, third, or fourth screen. This option allows you to view information on previous pages.

To return to a previous page, select "Previous Page."

Note:	Selecting "Next Page" takes you to the first page of the VOLINFO display if you are currently viewing the last page. Similarly, selecting "Previous Page" takes you to the last page of the display if you are viewing the first page.

VOLINFO

List the file servers to which you are attached

To list the file servers to which you are attached, enter
VOLINFO and select "Change Servers" from the "Available
Options" menu.

View Information about another server

To view volume information about another file server to
which you are attached, complete the following steps.

1. Enter VOLINFO and select "Change Servers" from the
   "Available Options" menu.

2. Select the file server you want to view information
   about. You are returned to the main VOLINFO
   display, which contains information for the file server
   you just specified.

Attach to an additional file server

To attach to an additional file server so that you can view
volume information about it, complete the following steps.

1. Enter VOLINFO. Select "Change Servers" from the
   "Available Options" menu.

2. To view a list of the file servers recognized by your file
   server, press <Insert>. The "Other File Servers" list
   appears.

3. Select the file server you want to attach to. The "New
   User Name" entry box is displayed.

4. Type your username; then press <Enter>. If the username you enter has a password, the "Password" entry box is displayed. Type the password; then press <Enter>. The name of the file server you specified and your username are added to the "File Server/User Name" list.

5. Select the newly added file server to view information about it. The VOLINFO display appears.

Update the interval

You can increase or decrease the amount of time that elapses between volume information updates. The default interval is five seconds.

To change the update interval, complete the following steps.

1. Enter VOLINFO and select "Update Interval" from the "Available Options" menu. The "Volume Update Interval" inset is displayed.

2. To change the volume update interval, use the Backspace key to delete the previous update interval.

3. Type the new update interval; then press <Enter>. The interval can be between one second and one hour (3,600 seconds).

VREPAIR

Volume **REPAIR**

Minor hard disk problems are indicated by various error messages on the file server console or the workstation screen. VREPAIR allows you to correct these minor hard disk problems without destroying the data on the disk. VREPAIR corrects directory and File Allocation Table (FAT) problems arising from defective media or unexpected power loss, and locates and adds new bad blocks to a disk's Bad Block table.

If your hard disk does not perform properly due to major hard disk problems, you must reformat the disk using COMPSURF. COMPSURF destroys all the data on the hard disk.

For information on running VREPAIR, refer to the *Maintenance for ELS NetWare Level II* manual.

WHOAMI

Use WHOAMI to view the following information about the file servers to which you are attached:

- The file server names
- Your username on each file server
- Your login date and time for each server
- The groups you belong to on each server
- Your security equivalences on each file server
- Your effective rights in every directory on each file server

Command format

WHOAMI [*server*] [*option* ...]

Replace *server* with the name of the file server you want to specify.

Replace *option* with one or more of the options listed below.

Command options

/Groups

Use this option to view your membership in groups on each file server you specify.

/Security

Use this option to view your security equivalences on each file server you specify.

WHOAMI

/Rights

Use this option to view your rights in any directory on each file server you specify.

/All

Use this option to view all the information available with the other options.

View who you are on your network or internetwork

To view network information about yourself, type

WHOAMI <Enter>

You see information similar to the following:

```
You are user EARL attached to server MKTG connection 1
Login Time:  Wednesday June 14, 1989  8:03 am

You are user GUEST attached to server SALES connection 7
Login Time:  Wednesday June 14, 1989  9:34 am
```

This screen display indicates that you are attached to both file servers MKTG and SALES. Your username on server MKTG is EARL, and your username on SALES 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.

Example

Suppose you want to see network information about yourself on server MKTG. Type

WHOAMI MKTG <Enter>

You see information similar to the following:

```
You are user SANDY attached to server MKTG connection 1
Login Time:  Wednesday May 17, 1989  8:03 am
```

View your group memberships

To view your membership in groups on a file server, include the /Group option in the command.

Example 1

Suppose you want to view which groups you belong to on server MKTG. Type

WHOAMI MKTG /G <Enter>

You see information similar to the following:

```
You are user SANDY attached to server MKTG connection 1
Login Time:  Wednesday May 17, 1989  8:03 am
You are a member of the following Groups:
    EVERYONE (group)
    CLERKS (group)
```

WHOAMI

Example 2

Suppose you want to view which groups you belong to on all file servers to which you are attached. Type

WHOAMI /G <Enter>

You see information similar to the following:

```
You are user EARL attached to server MKTG connection 1
Login Time:  Wednesday June 14, 1989  8:03 am
You are a member of the following Groups:
    EVERYONE (group)
    CLERKS (group)

You are user GUEST attached to server SALES connection 7
Login Time:  Wednesday June 14, 1989  9:34 am
You are a member of the following Groups:
    EVERYONE (group)
```

View your security equivalences

To view your security equivalences on a file server, include the /Security option in the command.

Example 1

Suppose you want to see which groups you are security equivalent to on server MKTG. Type

WHOAMI MKTG /S <Enter>

You see information similar to the following:

```
You are user SANDY attached to server MKTG connection 1
Login Time:  Wednesday May 17, 1989  8:03 am
You are security equivalent to the following:
    EVERYONE (group)
    CLERKS (group)
```

Example 2

Suppose you want to view your security equivalences on all file servers to which you are attached. Type

WHOAMI /S <Enter>

You see information similar to the following:

```
You are user EARL attached to server MKTG connection 1
Login Time:  Wednesday June 14, 1989  8:03 am
You are security equivalent to the following:
    EVERYONE (group)
    CLERKS (group)

You are user GUEST attached to server SALES connection 7
Login Time:  Wednesday June 14, 1989  9:34 am
You are security equivalent to the following:
    EVERYONE (group)
```

View your effective rights in each directory of a file server

To view your effective rights in each directory on a file server, include the /Rights option in the command.

Example 1

Suppose you want to see your effective rights in each directory on file server MKTG. Type

WHOAMI MKTG /R <Enter>

You see information similar to the following:

```
You are user SANDY attached to server MKTG connection 1
Login Time:  Wednesday May 17, 1989  8:03 am
You have the following effective rights:
    [ALL]      COUNT/SYS:HOME/SANDY
    [ROS]      COUNT/SYS:PUBLIC
    [RWOCDSM]    COUNT/ACCT:ACCPAY
```

If this command displays a long list of directories and rights, 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>.

Example 2

Suppose you want to view your effective rights in each directory of all file servers to which you are attached. Type

    WHOAMI /R <Enter>

You see information similar to the following:

```
You are user EARL attached to server MKTG connection 1
Login Time:  Wednesday June 14, 1989  8:03 am
You have the following effective rights:
        [ALL]     RECORDS/SYS:HOME/EARL
        [ROS]     RECORDS/SYS:PUBLIC
        [RWOCDSM]    RECORDS/ACCT:ACCPAY

You are user GUEST attached to server SALES connection 7
Login Time:  Wednesday June 14, 1989  9:34 am
You have the following effective rights:
        [ROS]     RECORDS/SYS:PUBLIC
```

If this command displays a long list of directories and rights, 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 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 /R options in the command.

Example 1

Suppose you want to view the groups you belong to, your security equivalences, and your effective rights on your default file server. Type

WHOAMI /G/S/R   <Enter>

or

WHOAMI /A   <Enter>

Example 2

Suppose you want to view the groups you belong to, your security equivalences, and your effective rights on file server MKTG. Type

WHOAMI MKTG /G/S/R   <Enter>

or

WHOAMI MKTG /A   <Enter>

WHOAMI

Notes

Glossary

The terms included in this glossary are defined as they are
used in the NetWare manuals. Consult a standard computer
dictionary for other definitions and terms.

active hub A device used to amplify transmission signals in certain
network topologies. An active hub can be used either to add
additional workstations to a network or to lengthen the cable
distance between workstations and the file server. *See also*
passive hub.

add-on board An optional circuit board that modifies or enhances a
personal computer's capabilities. *See also* memory board;
network board; NIC.

address An identifying number for a location in computer memory.
Also a unique number that identifies a particular network or
network station.

application A software program or program package that makes calls to
the operating system and manipulates data files, thus
allowing a user to perform a specific job (such as accounting
or word processing).

archive To back up data files. *See also* back up.

ASCII (American Standard Code for Information Interchange)
A standard character set that uses a 7-bit code to create 128
characters. IBM PC-compatible computers use an extended
ASCII character set, which adds an eighth bit to the code,
doubling the number of characters to 256. Each bit pattern
determines the appearance of a character. ASCII characters
form the computer's text display and control such features as
back space, line feed, and carriage return.

asynchronous transmission
A transmission method in which each character is sent 1 bit at a time. Each character has a start and stop bit to synchronize signals between the sending device and the receiving device. This allows a character to be sent at random after the preceding character has been sent. *See also* synchronous transmission.

attach
To access a file server; particularly to access additional file servers after having already logged in to one file server. The term also means to connect components, often by cable.

attributes
See file attributes.

automatic rollback
A feature of the Transaction Tracking System (TTS). Returning a database to its original state, abandoning the current transactions. This occurs when a network running under TTS fails in the middle of a transaction; the database is "rolled back" to its most recent complete state, preventing corruption from the half-complete transaction. *See also* backing out; TTS.

back up (verb)
To copy a file, directory, or volume onto another storage device so that the data can be retrieved if the original source is accidentally corrupted or destroyed.

backing out
The abandoning of an incomplete transaction because of system failure. NetWare's Transaction Tracking System (TTS) views a sequence of database changes as a single transaction that must be wholly completed or wholly "backed out" (no changes made at all). TTS stores all the information necessary to back out of a transaction and return the database to its previous state. *See also* automatic rollback; TTS.

backup (noun)
A stored copy of a file, directory, or volume preserved as a safeguard in case the original is accidentally corrupted or destroyed.

Bad Block table
A list (kept on a hard disk) of storage locations on the disk that are physically unable to hold data reliably. The Bad Block table is usually duplicated on a label on the outside of the disk housing. Also called "media defect list." *See also* Hot Fix; read-after-write verification.

banner	The first page of a printout. The banner page usually identifies the user who printed the file, the name of the file, the directory the file came from, the connection number of the workstation the file was printed from, the print queue, the file server, and the date and time the file was printed.
base I/O address	The beginning address of an I/O port. The base I/O address allows the microprocessor to find the correct port for communicating with a particular device. *See also* I/O.
base memory address	The beginning address of a block of memory. A network board uses the base memory address as a buffer where both the computer and the network board can leave information and signal the other to pick it up.
baud rate	The rate at which data is transferred over a serial interface.
bindery	A database maintained by the file server's operating system and used to monitor network resources. The bindery contains a list of "objects" (such as users, groups, and file servers) and their "properties" (rights, passwords, network addresses, and so forth). *See also* object.
BIOS	(Basic Input/Output System) A set of programs, usually in firmware, that enables each computer's central processing unit to communicate with printers, disks, keyboards, consoles, and other attached input and output devices.
bit	A binary digit; must be either 0 or 1. It is the smallest unit of information and indicates one of two states – "off" (0) or "on" (1).
block	A unit of stored data. In NetWare, a block is 4 kilobytes (KB), or 4,096 bytes, of data. For example, a 40MB hard disk contains roughly 10,000 blocks of data storage area.
boot	To load a computer's operating system into RAM. After the operating system has been booted, applications can be loaded into the computer. *See also* cold boot; Remote Reset; warm boot.

boot up   *See* boot.

bootstrap   A program that starts a "cold" computer. Generally, the
                     bootstrap program tells the computer where to find the
                     operating system software so that the computer can load the
                     operating system. (Also referred to as "bootstrap loader.")

bridge   A software and hardware connection between two networks,
                     usually of similar design. A NetWare bridge can connect
                     networks that use different kinds of network boards or
                     transmission media, as long as both sides of the connection
                     use the IPX protocol. There are two types of NetWare
                     bridges: internal and external. If a bridge is located in a file
                     server, it is an internal bridge. If a bridge is located in a
                     workstation, it is an external bridge. *See also* internetwork.

buffer   A storage area in RAM where data that is being transferred
                     can be stored temporarily. Data is placed in buffers when
                     the devices handling the data process it at different speeds.
                     For example, a printer may not be able to process
                     information as fast as a file server can send it. Any
                     information the printer receives but cannot process
                     immediately is placed in a buffer until the information can
                     be processed.

bus   A signal route for transmitting data between various parts of
                     the network. Several devices can be connected to a single
                     bus, allowing them to share the same data pathway.

bus, data   The primary bus inside a personal computer, used for
                     transferring data.

bus, network   The main network cable or line that connects network
                     stations.

byte   Usually the 8 bits that represent a character in binary.

cache   To read data into a cache buffer in memory so that the data
                     is available the next time it is needed and does not have to
                     be read from the disk again. Caching greatly increases file
                     server speed, since data in memory can be accessed up to
                     100 times faster than data on disk. *See also* directory
                     caching; disk caching.

cache buffer   An area in the RAM of a NetWare file server in which portions of disk files are stored temporarily. Data requests from network stations can then access data from the file server's memory rather than from the disk. Since reading from memory is much faster than reading from a disk, performance is greatly increased.

central processing unit   *See* CPU.

channel   A data communication path, both physical and logical, that allows data transmission to travel from its origin to its destination. *See also* disk channel.

character   A unit of information that is usually composed of 6, 7, or 8 bits. Also, the figure that designates each unit of information.

character set   The group of characters a computer can recognize and process. IBM PC-compatible computers use an extended ASCII character set. *See also* ASCII.

CMOS RAM   Random access memory for storing system configuration data (such as number of drives, type of drives, and amount of memory). The CMOS RAM is battery maintained and is not available to the computer's operating system.

coaxial cable   A connecting cable consisting of two insulating layers and two conductors. A central conductor wire is surrounded by the first layer of insulation. An outer shielding conductor is laid over the first layer of insulation and then covered with the second layer of insulation.

cold boot   To reload a computer's operating system by turning the computer's power off and then back on. (If a computer has a reset switch, a cold boot can be performed without turning the power off and on.) *See also* boot.

cold boot loader   A program that automatically loads the NetWare operating system after a cold boot. The program is written onto a file server's system hard disk during installation.

COM1, COM2   The serial communication ports of a workstation. *See also* serial port.

command	An instruction, entered by a user, that tells the computer to perform a specific task.

command format	A pattern that shows the proper way to enter a command at the computer keyboard. In NetWare manuals, a command format may include constants, variables, and symbols.

communication buffers	Areas in the memory of a file server or bridge that are set aside to temporarily hold packets arriving from the various network stations until the file server or bridge is ready to process them and send them to their destinations. Also called "routing buffers."

communication medium	The physical device that carries a signal (data) from one place to another. A communication medium may be wiring (such as coaxial cable, twisted-pair cable, or dual-twisted-pair cable), or it may be a nonwire medium (such as fiber optics, infrared, or microwave).

configuration, hardware

1. The equipment used on a network (such as file servers, workstations, printers, cables, network boards, and bridges) and the way the equipment is connected – the physical layout of the network.

2. The specific type of hardware installed in or attached to the computer itself, such as disk subsystems, network boards, memory boards, and printer boards.

3. A specific set of parameters selected for a board.

configuration, software	The procedure that prepares software programs to run using the computer's specific hardware, operating system, memory capacity, peripherals, and so forth.

connection number	A number assigned to any station that attaches to a file server; it may be a different number each time a station attaches. The file server's operating system uses connection numbers to control each station's communication with other stations. You can find out your connection number by executing the WHOAMI or USERLIST command line utilities.

console	The monitor and keyboard at which you actually view and control server activity. At the console, you can type in commands to control printers and disk drives, send messages, set the file server clock, shut down the file server, and view file server information.
controller address	The number that is used by the operating system to locate a hard disk controller board on a disk channel. The controller address is physically set (usually with jumpers) on the controller board.
controller board	A device that enables a computer to communicate with a particular device (such as a hard disk, network board, or tape drive). The controller board manages input/output and regulates the operation of its associated device.
coprocessor	*See* DCB.
CPU	(Central Processing Unit) The circuit board or chip that controls all activity within a computer system. The CPU receives information, acts on it, and then sends it somewhere else.
crash (crashed)	A slang term that means hardware or software has stopped working properly.
CRT	(Cathode Ray Tube) An abbreviation that has become a generic term for any computer display screen. *See also* console; monitor.
current directory	The directory you are working in; your default directory.
current drive	*See* default drive.
cylinder	Distinct, concentric storage areas on a hard disk (roughly corresponding to tracks on a floppy diskette). Generally, the more cylinders a hard disk has, the greater its storage capacity.
data buffer	*See* buffer.
data bus	*See* bus, data.

database	On a network, a collection of data organized and stored on disk by network users, usually through a special application program.
DCB	(Disk coprocessor board) An intelligent board that acts as an interface between the host microprocessor and the disk controller. The disk coprocessor board relieves the host microprocessor of data storage and retrieval tasks, thus increasing the computer's performance time. A disk coprocessor board and its disk subsystems make up a disk channel.
dedicated file server	*See* file server.
default	A value or option that is chosen automatically when no other value is specified. For example, a word processing program's preset page length is called the "default" page length.
default drive	The drive that a workstation is currently using. The drive prompt (such as A> or C>) identifies the default drive letter.
default server	The file server to which your default drive is mapped. In other words, the drive you are currently using is mapped to a particular file server; therefore, that file server is your default server. Any commands you enter will be directed automatically to the default server <u>unless you specify otherwise</u>.
delimiter	A symbol or character that signals the beginning or end of a command or a parameter within a command. For example, in the command CHKVOL A: B:, the blank space between A: and B: is a delimiter that marks two distinct parameters. Other delimiters include the comma (,), the period (.), the slash (/), the backslash (\), the hyphen (-), and the colon (:).
destination	The network station, directory, drive, printer, file, etc., to which data is sent.

device driver	A program that translates operating system requests (such as input/output requests to a peripheral device) into a format that is recognizable by specific hardware. For each type of device, a corresponding driver is normally linked with the operating system.
diagnostic	A procedure used to detect and isolate a malfunction or mistake.
Direct Memory Access	*See* DMA.
directory	1. A logical portion of disk space that is named. Users create directories and assign them names. A directory may be part of another directory, and may itself contain several other directories. The different "levels" of directories on any disk form a hierarchical "directory structure." Directories contain files, grouping them together conveniently.
	2. The list of files that are contained in a directory. This list is displayed when the NetWare directory command (NDIR) or the DOS directory command (DIR) is typed at any directory level.
directory caching	A method of decreasing the time it takes to determine a file's location on a disk. The File Allocation Table and directory entry table are written into the file server's memory. A file's location can then be read from memory, which is much faster than reading from the disk.
directory entries	In a NetWare volume, information stored in the volume's directory table, usually a directory name or filename. A directory's trustee list can also take up one or more directory entries, depending on how large the list is. The maximum number of directory entries that can be created on a volume is specified during installation.

directory hashing   A method of indexing file locations on a disk so that the time needed to locate a file is significantly reduced. Hashing reduces the number of references made in search of a specific file by indexing directories in each volume and then indexing files by volume and subdirectory. Rather than searching sequentially through all entries (as with DOS), the file server looks at only a few directory entries.

directory name   A name that both identifies a directory and reflects its position within a directory structure. On a network, the full directory name lists the name of the file server, the volume, and each subdirectory leading down to the directory you need to access. The directory name is also called the directory path.

directory path   *See* directory name.

directory rights   Restrictions specific to a directory that regulate trustee activity within it. Directory rights are limited to a single directory and do not extend down through the directory structure. *See also* maximum rights mask; rights; trustee rights.

directory structure   The different levels of directories (such as parent directories and subdirectories) organized to form a hierarchy. *See also* directory name.

directory table   A table kept on a hard or floppy disk that contains information about each file and directory, such as the name, creation date, size, date and time of each update, file attributes, and trustees.

disable

1. To turn off; to render inactive. For example, the DISABLE LOGIN console command prevents workstations from logging in to the file server.

2. To prevent certain interrupts from occurring in a processing unit (such as a network board) by setting a switch or a jumper, or using some other means.

disk

A magnetically encoded storage medium in the form of a plate (also called a platter). For example, three types of disks are used with personal computers: hard, flexible, and floppy. Hard disks use a metallic base and are usually installed within a computer or disk subsystem. (In some cases the storage media is removable.) Floppy and flexible disks (called diskettes) use a polyester base and are always removable. *See also* disk drive.

disk cache block

A block of data written into a cache buffer during a disk read. *See also* cache buffer; disk caching.

disk caching

Reading portions of requested files into the file server's memory (into a cache buffer). This decreases the number of times the disk is read and thus increases the speed of access. Data placed in memory can be accessed up to 100 times faster than data on disk.

disk channel

A data transmission route. In a NetWare file server, a disk channel can be an internal disk drive or any data bus added by a Disk Coprocessor board. NetWare file servers can accommodate up to four additional disk channels. Multiple disk channels help protect data and improve the file server's efficiency in handling data requests. *See also* DCB; disk duplexing.

disk controller

A hardware device associated with a disk drive that controls how data is written to and retrieved from the disk. The disk controller sends signals to the disk drive's logic board to regulate the movement of the head as it reads data from or writes data to the media.

disk coprocessor board

See DCB.

disk drive

A storage device that allows users to write, read, and delete data. A disk drive can be internal (built into the computer) or external (attached as a peripheral to the computer). The disk drive operation is regulated by a disk controller. *See also* drive; floppy disk drive; hard disk.

disk duplexing	An SFT NetWare method of safeguarding data in which the same data is copied simultaneously to two hard disks on separate channels. If one channel fails, the data on the other channel remains unharmed. When data is duplexed, read requests are sent to whichever disk in the pair can respond faster, thus increasing the file server's efficiency. When two or more read requests occur together, the requests are split and can be processed simultaneously. *See also* disk mirroring.
disk interface board	An add-on board that acts as an interface between the host microprocessor and the disk controller. *See also* DCB.
disk mirroring	An SFT NetWare method of safeguarding data in which the same data is copied to two hard disks on the same channel. If one of the disks fails, the data on the other disk remains unharmed. Because the two disks are on the same channel, mirroring provides only limited data protection – a failure anywhere along the channel could shut down both disks and data would be lost. *See also* disk duplexing.
Disk Operating System	*See* DOS.
disk subsystem	An external unit that attaches to the file server and contains hard disk drives, a tape drive, or both. The disk subsystem gives the file server more storage capacity. A disk channel can accommodate up to eight disk subsystems.
diskette, floppy	*See* floppy diskette.
DMA	(Direct Memory Access) A technology that may increase file server speed. The file server processor passes parameters to a special integrated circuit (chip) that controls the reading and writing of memory, independent of the file server processor. The circuit enables the file server processor to perform other tasks. (Most 286-based machines, such as the IBM PC AT and compatibles, perform better when DMA is not used.)
DOS	(Disk Operating System) An operating system for individual personal computers that is stored on disk. *See also* operating system.

DOS text file   A file made up of ASCII characters.

down time   In a NetWare UPS system, the *down time* is the number of
                     minutes between the time the UPS begins supplying power
                     and the time the operating system brings down the file
                     server. *See also* UPS; wait time.

drive   1. A storage device that data is written to and read from,
                         such as a disk drive or tape drive (physical drive). A
                         drive that is physically attached to a workstation is called
                         a local drive. *See also* disk drive.

                     2. An identification for a specific directory located on a
                         disk drive. For example, a network (logical) drive reads
                         information from a specified directory on the network,
                         rather than from a local disk.

drive letter   A letter that can represent a local (physical) drive or a
                     network (logical) drive.

drive mapping   *See* map.

driver   *See* device driver.

duplexing   *See* disk duplexing.

dynamic   A form of memory, such as RAM, that requires a continual
memory   rewriting of all stored information. A continuous electrical
                     current is necessary to maintain dynamic memory. All data
                     is lost when the power supply is turned off.

effective rights The rights a user may exercise in a given directory. Two
                     factors determine effective rights:

                     1. The trustee rights granted to a particular user;

                     2. The directory rights specified in the directory's
                         maximum rights mask.

                     Since directory rights take precedence over trustee rights,
                     any trustee right not specifically denied in the maximum
                     rights mask is an effective right.

embedded SCSI	A hard disk that uses a SCSI interface and has a controller board built into the hard disk unit. *See also* SCSI.
emulation	On a network, the imitation of all or part of one device by another so that the mimicking device can accept the same data and perform the same functions as the actual device.
enable	1. To turn on, especially to restore a feature that has been disabled. For example, the ENABLE LOGIN console command allows workstations to log in to the file server after they have been prevented from doing so.
	2. To place in a state that will allow certain interrupts to occur in a processing unit (such as a network board). Interrupts are usually enabled by setting a switch or a jumper.
entry format	*See* command format.
expansion slot	A space within a personal computer where add-on boards can be connected to the data bus.
extended memory	In a personal computer running DOS, extended memory is memory above the 1MB address range. Normally, this memory is available to DOS only as a virtual disk (memory that is treated as though it were a disk drive). The NetWare operating system also uses this memory.
external bridge	*See* bridge.
FAT	(File Allocation Table) An index on a disk that records the disk locations of all the parts of a file.
fault tolerance	*See* SFT.
file	A collection of data stored as one unit and given a filename. A file may contain many separate items (for example, a list of names and addresses), or it may contain continuous text (such as a letter). A file can be stored and saved on a disk or magnetic tape, and then retrieved later to be viewed or changed.
File Allocation Table	*See* FAT.

file attributes	Designations that regulate how a file can be handled on the network. For example, a file can be assigned the attributes *Shareable* and *Read/Only*. *Shareable* means that more than one user can access the file at the same time; *Read/Only* means that users can read the file but cannot alter it.
file server (dedicated and nondedicated)	A computer that controls all network activity. The NetWare operating system is loaded into the file server, and all modems and shareable devices (such as disk subsystems and printers) are attached to it. The file server controls all access to shared devices and the system security; it also monitors station-to-station communications. A <u>dedicated</u> file server can be used only as a file server while it is on the network. A <u>nondedicated</u> file server can be used simultaneously as a file server and a workstation.
file sharing	A feature of networking that allows more than one user to access the same file at the same time. *See also* file attributes; multiuser network.
firmware	A program that resides in ROM and is not erased when the computer is turned off.
floppy disk drive	A disk drive that reads from and writes to a floppy diskette. *See also* disk drive.
floppy diskette	Another name for a flexible diskette, a removable magnetic storage medium. *See also* disk.
form	In a printer command, the design or shape of the printing surface, such as letter-size paper, labels, and continuous-feed paper.
format (noun)	The logical or physical arrangement of the tracks and sectors on a floppy diskette or a hard disk. To be usable, a disk must be formatted so that the tracks and sectors are laid out in a manner compatible with the disk driver in use.
format (verb)	To prepare a disk or diskette, dividing it into sectors so that it is ready to receive data.

gateway　　　　A hardware/software package that allows communication between dissimilar protocols (for example, NetWare and non-NetWare networks) using industry standard protocols such as BISYNC, X.25, or SNA.

group access　　A method of granting identical rights to several users at the same time so that they can all access the same directories. Rather than assigning each individual user the same rights, the network supervisor can make each user a member of the same group, then grant that group the needed rights. Each user in the group has the same access rights as the rest of the group.

handshaking　　The initial exchange between two data communication systems prior to and during data transmission. The first unit sends a signal, then waits for an appropriate signal in response. A handshake method (such as XON/XOFF) is part of the complete transmission protocol. A serial (asynchronous) transmission protocol might include the baud rate, handshake method (XON/XOFF), parity setting, number of data bits, and number of stop bits.

hard copy　　　A paper printout. It is *hard* because it is a tangible copy rather than a screen display.

hard disk　　　A high-capacity magnetic storage device that allows a user to write, read, and erase data. Hard disks may be network disks, or they may be attached locally to workstations. *See also* disk drive.

hardware　　　Physical equipment. All the electronic and mechanical components of a network, such as personal computers, network boards, disk drives, hub devices, and cables.

hashing　　　*See* directory hashing.

head　　　　The mechanism in a drive that writes data to and retrieves data from an electronic medium. For example, when a hard disk is operating, the hard disk head floats on a cushion of air just above the surface of the rotating disk while it writes data to and reads data from the disk.

hertz　　　　*See* Hz.

| **hexadecimal** | A numeric notation system frequently used to specify addresses in computer memory. In hexadecimal notation, the decimal numbers 0 through 15 are represented by the decimal digits 0 through 9 and the alphabetical "digits" A through F (A = decimal 10, B = decimal 11, and so forth). |

| **hierarchy** | A directory structure made up of different levels in which some directories are parts of others and the entire structure is organized in a branching, tree-like form. |

| **home directory** | A network directory that the network supervisor creates specifically for a user. The supervisor may include a drive mapping to the home directory in the user's login script. |

| **host** | A computer, attached to a network, that provides services to another computer beyond simply storing and forwarding information. Mainframes, minicomputers, and file servers are sometimes called hosts, but the term is often used more broadly. For example, the network station that a remote caller takes over and controls is referred to as the host. |

| **Hot Fix** | A feature of NetWare that, along with read-after-write verification, protects data from hard disk defects. If data cannot be written to and then read back reliably from a particular block on the hard disk, Hot Fix stores the data in the redirection area (a small portion of the hard disk reserved for this purpose during installation). The location of the defective block is added to the Bad Block table, and the operating system will not try to store data in that block again. *See also* Bad Block table; read-after-write verification; redirection area. |

| **Hot Fix redirection area** | *See* redirection area. |

| **hub** | A device used on certain network topologies that modifies transmission signals, allowing the network to be lengthened or expanded with additional workstations. *See also* active hub; passive hub. |

| **Hz** | (Hertz) Unit of measure for electrical frequency representing the number of cycles per second. One hertz equals one cycle per second. |

initialize   A process in the NetWare installation program that divides a
                          hard disk into one or more volumes and sets up the
                          NetWare directory entry and File Allocation Tables on each
                          one. Initialize also refers to the process of removing all data
                          from a storage medium.

intelligent board   An add-on board that features a coprocessor chip. The
                          coprocessor allows the board to make "decisions" on its own,
                          independent of the CPU. Rather than just relaying
                          information, an intelligent board is able to manage and
                          direct the processing of data requests.

interface (verb)   To make two devices capable of communicating. Used most
                          often to refer to the design of hardware and software that
                          allows connection of network components and transfer of
                          information.

internal bridge   *See* bridge.

internetwork   Two or more networks connected by an internal or external
                          bridge. Users on an internetwork can use the resources
                          (such as files, printers, or disk drives) of all connected
                          networks.

Internetwork   *See* IPX.
Packet
Exchange

interrupt   A signal that temporarily suspends a program, permitting the
                          program to proceed from where it left off. During the
                          suspension, another task may appropriate the computer's
                          resources. Interrupts are divided into two general types,
                          hardware and software. A hardware interrupt is caused by a
                          signal from a hardware device, such as a printer. A software
                          interrupt is created by instructions from within a software
                          program.

interrupt line   A circuit used by an I/O device to send interrupt signals to
                          the microprocessor. Sometimes abbreviated as IRQ for
                          hardware interrupt lines.

I/O	(input/output) The process of moving data, as in the transmitting of data from a disk to a printer for printing, or from disk storage to display on a workstation screen.
IPX	(Internetwork Packet Exchange) A protocol that allows the exchange of message packets on an internetwork. With IPX, applications running on a NetWare workstation can use the NetWare network drivers to communicate directly with other workstations, servers, or devices on the internetwork. IPX is based on Xerox Corporation's Internetwork Packet Protocol. *See also* SPX.
jumper block	A group of jumper pins used to make hardware configuration settings on a printed circuit board.
KB	(kilobyte) A unit of measure for memory or disk storage capacity; two to the tenth power (1,024) bytes.
kilobyte	*See* KB.
LAN	(Local Area Network) *See* network.
LAN driver	Specialized software that must be linked to the NetWare operating system or shell to allow communication between NetWare and a specific type of network board.
LAN interface board	In the SFT NetWare 68 manuals, a NetWare network board used in the NetWare 68 File Server. *See also* network board.
local area network (LAN)	*See* network.
local disk	A disk that is attached to a workstation but is not part of the network. A local disk can be accessed only by the workstation to which it is attached. It does not contain network files and cannot be accessed by other stations on the network.
log in (verb)	To gain access to the network. Logging in to the network involves executing a login script and establishing yourself as a user.

logical

Conceptual, not physical. For example, the arrangement of files and directories on a disk is logical. The actual elements of a file may be scattered all over the disk, but they are presented to a user in an orderly manner for the user's convenience.

login (noun)

The process of accessing the network.

login script

The set of instructions that directs your workstation to perform specific actions when you log in to the network. The network supervisor can create a system-wide login script that instructs all workstations to perform the same actions upon login. The system login script is the same for all users on the network. Your individual login script executes after the system login script; it specifies your individual drive mappings. (You do not access a second login script when you attach to an additional file server.)

LPT1

The primary printer port of a workstation. *See also* parallel port.

map

To assign a drive letter to a chosen directory path on a particular volume of a particular file server. For example, if you map drive F to the directory SYS:ACCTS/RECEIVE, you will access that directory every time you enter "F:" at the DOS prompt.

maximum rights mask

A feature of directory security that controls the rights that all trustees can exercise in one directory. If a particular right is removed from a directory's rights mask, no user (other than SUPERVISOR) will be able to exercise that right <u>in that directory</u>, even if the user has that trustee right. *See also* directory rights; effective rights; trustee rights.

MB

(Megabyte) A unit of measure for memory or disk storage capacity. Two to the twentieth power (1,048,576) bytes.

Mbps

Megabits per second (one million bits per second).

megabyte

See MB.

megahertz

See MHz.

memory	One of the essential components of a computer's central processing unit. Memory is the area where information and programs are actively processed. *See also* RAM; ROM.
memory board	An add-on board designed to increase the amount of RAM within a personal computer.
message packet	The unit of information by which the network communicates. Each packet contains a request for services, information on how to handle the request, and any data that must be transferred.
MHz	(Megahertz) One million cycles per second. *See also* Hz.
microprocessor	A chip that acts as the central processing unit inside a personal computer.
mirroring	*See* disk mirroring.
modem	(MOdulator/DEModulator) A hardware device that sends data via telephone lines from one computer device to another or to a network resource, such as a file server.
monitor	Any computer display screen. *See also* console.
Monitor Display	A formatted screen that can be displayed on any file server console by entering the MONITOR console command. The Monitor Display shows file server activity and allows you to manage server resources.
multiserver network	A single network that has two or more file servers operating on it. On a multiserver network, users can access files from any file server to which they are attached (if they have access rights). A multiserver network should not be confused with an internetwork (two or more networks linked together through a bridge).
multiuser network	An operating system that allows several users (at separate workstations) to share a system's resources, such as processing power, data, printers, and disks. NetWare is a multiuser network.

NetBIOS   An emulator program provided with NetWare to allow workstations to run applications that support IBM's NetBIOS calls.

NetWare   Networking software products made by Novell, Inc. NetWare, a registered trademark, generally refers to the NetWare network operating system and its related software.

NetWare bridge   *See* bridge.

NetWare operating system   The operating system developed by Novell, Inc. The NetWare operating system runs in the file server and controls the system resources and information processing on the entire network or internetwork.

NetWare remote   NetWare software that, when combined with appropriate hardware (including a modem), allows a workstation to communicate with the network over telephone lines, at distances greater than those allowed over standard network cables.

NetWare shell   A NetWare program that is loaded into the memory of each workstation. It is called a shell because it builds itself around DOS and intercepts the workstation's network requests, rerouting them to a NetWare file server. Shells can be configured for several different types of workstations running different versions of DOS so that all of the workstations can operate on the network.

network   A group of computers that can communicate with each other, share peripherals (such as hard disks and printers), and access remote hosts or other networks. A NetWare network consists of one or more file servers, workstations, and peripherals. NetWare network users can share the same files (both data and program files), send messages directly between individual workstations, and protect files with an extensive security system.

network address   A unique identifying number assigned during installation to each network on an internetwork. If a file server contains more than one network board (and therefore is operating on more than one network), each additional network must have its own network address.

network board	A circuit board installed in each network station to allow stations to communicate with each other and with the file server. *See also* LAN interface board; NIC.
network bus	*See* bus, network.
network communication	Data transmission between network stations. Requests for services and data are passed from one network station to another through a communication medium such as cabling.
network communication board	*See* network board.
network console	*See* console.
network disk	A hard disk controlled by the file server.
network interface board	*See* network board.
Network Interface Card	*See* NIC.
network station	Any personal computer (or other device) connected to a network by means of a network board and some communication medium. A network station can be a workstation, bridge, or server.
NIC	A specific kind of network board manufactured by Novell, including the following:

1. RX-Net NIC: A Novell network board that can be installed in workstations and in bridges and gateways that are connected to RX-Net networks. RX-Net NICs can take the place of Standard Microsystem's ARCNET board.

2. S-Net Intelligent NIC: A Novell network board that has its own communications processor and dual port memory. Intelligent NICs can be installed in workstations and in bridges and gateways that are connected to S-Net networks. They can replace the standard S-Net NIC in workstations.

3. S-Net NIC: A Novell network board installed in workstations that are connected to S-Net networks.

node　　　　　　　Any network station.

node address　　　*See* station address.

nondedicated file server　　*See* file server.

object　　　　　　An entity that is defined on the network and thus given access to the file server. Objects are classified as object types (such as users, groups, file servers, print servers, and archive servers) and are defined in the file server's bindery. *See also* bindery.

operating system　　The software that controls the computer. The operating system controls the way applications utilize the computer and its attached peripherals. *See also* DOS; NetWare operating system.

operator　　　　　A user who is given specific responsibilities on the network. For example, a print queue operator is a user who is allowed to manage printer queues, changing the position of jobs in the queue or deleting the jobs altogether.

packet　　　　　　*See* message packet.

PAL　　　　　　　(Programmable Array Logic) A programmable part of a circuit board commonly used to decode and select board addresses and to perform preprogrammed logic functions on the board.

parallel port　　　A printer interface that allows data to be transmitted a byte at a time, all 8 bits moving in parallel. *See also* LPT1.

parent directory   The directory immediately above any subdirectory. For example, SYS:ACCTS would be the parent directory of the subdirectory SYS:ACCTS/RECEIVE.

parity   A method of checking for errors in transmitted data. When the 8 bits of each transmitted character are added, the total must always be an odd number for odd parity or an even number for even parity. If the total is wrong, the communications software detects that an error has occurred during transmission and can request that the data be retransmitted.

partition   A portion of a hard disk's physical storage space that is allocated to an operating system (such as NetWare or DOS). Once created, a partition belongs exclusively to the specified operating system; no other operating system can access that area.

passive hub   A device used in certain network topologies to split a transmission signal, allowing additional workstations to be added. A passive hub cannot amplify the signal, so it must be connected directly to a workstation or an active hub. *See also* active hub.

password protection   A security feature that requires a user to enter a correct password before being allowed to log in to the network.

path   *See* directory name.

peripheral   A physical device (such as a printer or disk subsystem) that is externally attached to a workstation or the network.

port (verb)   To move from one environment to another.

port, hardware (noun)   A connecting component that allows a microprocessor to communicate with a compatible peripheral. *See also* parallel port; serial port.

port, software (noun)   A memory address that identifies the physical circuit used to transfer information between a microprocessor and a peripheral.

print device   A printer, plotter, or other peripheral used to create hard copy.

print function   A printer command that determines a characteristic of a print job. For example, a print function can specify the style of typeface.

print job   A group of characteristics that determine how a job is
configuration   printed. Some of the characteristics may include the mode, the form, the number of copies, and the particular printer that will be used. Users can create print job configurations using the PRINTCON utility. *See also* form; print mode.

print mode   A sequence of print functions that determines the appearance of the printed output. A print mode can define the style, size, boldness, and orientation of the typeface. The network supervisor can use the PRINTDEF utility to designate print modes, allowing users to quickly select a combination of print functions.

print server   A process that takes print jobs from the print queue and sends them to the printer. Print servers are currently embedded in the file server.

prompt   A character or message (from the software) that appears on the display screen and requires a response from the user. "D>" and "Enter your password:" are examples of prompts.

property   A descriptive feature of an object, defined in the file server's bindery. *See also* bindery; object.

protocol   Usually, a specified method for determining how and when to format and send data. A serial (asynchronous) transmission protocol might include the baud rate, handshake method (XON/XOFF), parity setting, number of data bits (character length), and number of stop bits.

public access   A security condition that gives all users access rights to a particular directory. For example, all users must be able to access NetWare utilities. Therefore, NetWare utilities are usually placed in a directory (named SYS:PUBLIC) that has public access rights; in other words, all users have rights to open, read, and search for files in that directory.

queue   A data-handling structure that stores requests (such as print jobs) in the order they are received while they await servicing. The first request that arrives is the first to be handled. Later requests are placed in the queue and must "wait in line" to be processed (unless they are assigned a higher priority).

RAM   (Random Access Memory) A type of storage in which each byte of information has a particular address, independent of all other bytes, and can be accessed in any order. This type of access is very fast. RAM is usually temporary memory; the data stored in RAM is lost when the computer is turned off. *See also* ROM.

Random Access Memory   *See* RAM.

read   To retrieve data from a storage medium. For example, when a computer transfers data from a hard disk drive into its memory, the computer is reading the data from the hard disk.

read-after-write verification   A data safeguard that reads back data written to a hard disk and compares it with the original data that is still in memory. If the data from the disk matches the data in memory, the data is released. If not, that block location is recognized as "bad," and Hot Fix redirects the data to a good block location elsewhere on the disk. *See also* Bad Block table; Hot Fix; redirection area.

read-only   A type of data security that protects files. If a file is flagged Read-Only, a user can access the data in the file but cannot change it. *See also* file attributes.

Read-Only Memory   *See* ROM.

record

A collection of related information that is treated as one unit within a file.

record locking

A feature of the NetWare operating system that prevents different users from gaining simultaneous access to the same record in a shared file, thus preventing overlapping disk writes and ensuring data integrity.

redirection area

A small portion of hard disk space set aside during installation. The redirection area is set up as a table to hold data blocks that are redirected from bad block locations on the disk. *See also* Bad Block table; Hot Fix.

remote

A connection between a LAN and a workstation or network, often using telephone lines. A remote connection allows data to be sent and received across distances greater than those allowed by normal cabling.

Remote Reset

A feature that enables a workstation to boot from the network, without using a local disk.

remote workstation

A terminal or personal computer that is connected to the LAN by a bridge or through a remote asynchronous connection. A remote workstation can be either a standalone computer or a workstation on another network.

resource

In NetWare installation programs, any device, feature, circuit board, or built-in circuitry that uses one or more of the following to communicate with the file server's microprocessor: interrupt lines, DMA lines, I/O addresses, or memory addresses (RAM or ROM).

resource set

In NetWare installation programs, a resource or collection of related resources assigned an identifying name. When a resource set consists of only one defined resource, the names of the resource and resource set are the same.

restore

To copy data from a backup storage device to the network.

ribbon cable

A cable in which the wires are placed side by side in the insulation material instead of being bunched together in a circle inside the insulation material.

rights Privileges (assigned by the network supervisor) that control how users can work with files in a given directory. For example, rights control whether a user may read, change, or delete a file. *Trustee rights* in a directory are assigned to individual users and control what each user can do with the files in the directory and its subdirectories. *Directory rights* are assigned in the maximum rights mask of each individual directory and restrict the rights of all users (except SUPERVISOR) in the directory, overriding the individual trustee rights of a user. *See also* directory rights; maximum rights mask; trustee rights.

ROM (Read-Only Memory) Permanent memory built into a device; the data in ROM cannot be erased or changed. Data in ROM can be accessed quickly and in any order (random access). *See also* RAM.

root directory The highest level in a hierarchical directory structure. With NetWare, the root directory is the volume; all other directories are subdirectories of the volume. Network users with sufficient rights can create directories and subdirectories within the volume.

routing buffers Portions of memory reserved in a bridge computer's RAM. Routing buffers are used to temporarily store and queue the message packets sent between communicating stations when the network bus is busy. *See also* buffer.

scroll To move the display on a screen or in a window up, down, left, or right.

SCSI (Small Computer System Interface) An industry standard that sets guidelines for connecting peripheral devices and their controllers to a microprocessor. The SCSI defines both hardware and software standards for communication between a host computer and a peripheral. Computers and peripheral devices that are designed to meet SCSI specifications are assured a large degree of compatibility.

search drive   A drive that is automatically searched by the operating system when a requested file is not found in the current (default) directory. The operating system will check search drives for executable files or data files accessed by the executable files. A search drive allows a user working in one directory to access an application that is located in another directory.

sectors   Locations in disk storage. Each disk track is divided into several sectors. In disks using the hard sectoring method, the sectors are marked by holes in the disk. In disks using soft sectoring, a single hole and a timing scheme enable the computer to read or write sector boundaries on the disk.

security   The control over users as they access and work with directories and files on a NetWare network. There are four levels of NetWare security: login/password security, trustee security, directory security, and file attributes security. *See also* file attributes; password protection; rights.

security equivalence   A feature of network security that allows the supervisor to quickly and easily assign one user or group the same trustee rights as another user or group.

Sequenced Packet Exchange   *See* SPX.

serial port   A port that allows data to be transmitted asynchronously 1 bit at a time. On IBM PC-compatible computers, COM1 and COM2 are asynchronous serial ports.

serialization   A method of copy protection; each set of operating system software has a unique serial number.

server   *See* file server; print server.

server console   *See* console.

SFT	(System Fault Tolerance) Duplicating data on multiple storage devices so that if one storage device fails, the data is available from another device. There are several levels of hardware and software system fault tolerance; each level of redundancy (duplication) decreases the possibility of data loss. *See also* disk duplexing; disk mirroring; Hot Fix.
shell	*See* NetWare shell.
software	The parts of a computer system that are not physical or tangible – usually computer programs.
spool	To transfer data that was intended for a peripheral device (such as a printer) into temporary storage. From there the data can be transferred to the peripheral at a later time, without affecting or delaying the operating system as it performs other operations.
SPX	(Sequenced Packet Exchange) A protocol by which two workstations or applications communicate across the network. SPX uses IPX to deliver the messages, but SPX guarantees delivery of the messages and maintains the order of messages on the packet stream. *See also* IPX.
station	*See* network station.
station address	A unique number assigned to each station on a network. It can be specified in either decimal or hexidecimal format. Also called *physical node address* or *node address*.
station number	*See* connection number.
stop bit	A control bit used to indicate the end of a group of data bits being sent in asynchronous transmission.
storage	A device or medium (such as floppy diskette, hard disk, or magnetic tape) that receives data and holds it for retrieval. Storage can be permanent or temporary.

streaming tape backup A backup method in which data is stored on a magnetic tape cartridge as the tape "streams" past the recording head. Since streaming tape backup records data sequentially, the data must be accessed sequentially when it is restored from the tape.

subdirectory Any directory that is below another directory in the directory structure. For example, in SYS:ACCTS/RECEIVE, RECEIVE is a subdirectory of SYS:ACCTS.

supervisor

1. The *network supervisor* is the person responsible for the smooth operation of the whole network. (The supervisor may also install the network.) The network supervisor maintains the network, reconfiguring and updating it as the need arises.

2. SUPERVISOR is a special username that is automatically created when a file server is initialized. This user is permanent and cannot be deleted or renamed. The user SUPERVISOR has all rights in all file server volumes and directories, and these rights cannot be revoked. Other users or groups can be granted a security equivalence to SUPERVISOR. In NetWare manuals, supervisor may mean either the SUPERVISOR or any user with a security equivalence to the SUPERVISOR.

switch block A set of switches mounted together to form a single component. In some file servers, a switch block is used to control system configuration data such as type of monitor, amount of memory, and number of drives. Network boards often use switch blocks to set system addresses (such as station, base I/O, and base memory addresses).

synchronous transmission Transmission in which receiver and transmitter are regulated by a clock signal. In synchronous transmission, events take place at fixed times and do not need an acknowledgment of the completion of preceding events. *See also* asynchronous transmission.

system console *See* console.

System Fault Tolerance *See* SFT.

system hard disk	The first hard disk (internal or external) to be initialized when NetWare is installed on a file server. The system hard disk contains the SYS volume and the LOGIN, MAIL, SYSTEM, and PUBLIC directories. The NetWare utilities and system information are stored in these directories.
tape backup unit	*See* disk subsystem.
terminating resistor	A grounding resistor placed at the end of a bus, line, or cable to prevent signals from being reflected or echoed. Sometimes shortened to "terminator."
terminator	*See* terminating resistor.
topology	The physical layout of network components (cables, stations, gateways, hubs, and so forth). There are three basic interconnection topologies – star, ring, and bus networks. On a star network, workstations connect directly to a file server but <u>not</u> to each other. On a ring network, the file server and workstations are cabled in a ring; a workstation's messages may have to pass through several other workstations before reaching the file server. On a bus network, all workstations and the file server are connected to a central cable (called a trunk or bus).
tracks	Physical locations on a data storage medium. On a disk, tracks take the form of concentric circles. Tracks are divided into sectors to form the fundamental units of disk storage.
transaction	A set of operations that completes a unified task.
Transaction Tracking System	*See* TTS.
transceiver	A device that converts digital information to a signal that can be transmitted over the main network communication medium.

transmit	To send electronic signals from station to station through a communication medium (such as coaxial cable, twisted-pair cable, fiber optics, and microwave).
transparent	Refers to computer functions that are automatically executed by the hardware and software without being noticed by the user.
trustee	A user who has been given specific rights to work in a particular directory or subdirectory.
trustee rights	The rights granted to an individual user allowing that user to work in a particular directory or subdirectory. *See also* effective rights; rights.
TTS	(Transaction Tracking System) A system that protects databases from being corrupted if the computer fails in the middle of a transaction. Each database change is viewed as one transaction, which must be either completed successfully or aborted entirely. If the workstation fails in the middle of a transaction, the transaction is "backed out," and the database is restored to its last completed state. *See also* backing out.
uninterruptible power supply	*See* UPS.
UPS	(Uninterruptible Power Supply) A backup power unit that provides continuous power even when the normal power supply is interrupted.
user	Any person who logs in to a file server.
utility	A computer program that conveniently performs one or more basic operating system tasks, such as copying files.
Value-Added Process	*See* VAP.
value-added server	A separate, specialized, dedicated computer that fulfills a specific function for network users (for example, print servers, database servers, and archive servers).

VAP

(Value-Added Process) An application that runs on top of the network operating system (in much the same way a word processing or spreadsheet application runs on top of DOS). VAPs tie in with the network operating system so that products like print servers, archive servers, and database servers can provide services without interfering with the network's normal operation.

virtual console utility

A utility that allows a network station to perform as a file server console, monitoring and controlling some aspect of file server activity. An example is the FCONSOLE utility, which can be fully utilized from any workstation by someone with FCONSOLE operator privileges.

volume

A predetermined amount of hard disk storage space. A volume is the highest level in the hierarchical directory structure (the same level as a DOS root directory). A hard disk is divided into one or more volumes by the network installer; these volumes can be divided into directories by network users who have the necessary rights.

wait state

A period of time when the processor does nothing; it simply waits. A wait state is employed to synchronize circuitry or devices operating at different speeds. For example, wait states used in memory access slow down the CPU so all components seem to be running at the same speed.

wait time

In a NetWare UPS system, the *wait time* is the number of seconds the UPS will wait before signaling to the file server that the normal power supply is off. The file server then alerts users at any operational workstations that they should log out. *See also* down time; UPS.

warm boot

To reload a computer's operating system into memory while the computer is on. Users on IBM PC and compatible computers can perform a warm boot by simultaneously pressing the Control, Alt, and Delete keys. *See also* boot.

Wide-area Network Interface Module

See WNIM.

wildcard character	A character recognized by a software application as a universal replacement for other characters. NetWare recognizes the * and ? wildcard characters. For example, to copy all files in a directory with filenames that include the extension .EXE, you could type COPY *.EXE. The asterisk would represent any combination of characters that precedes the period.
WNIM	(Wide-area Network Interface Module) An interface board that is installed in a workstation on the LAN. The WNIM routes LAN-to-remote, LAN-to-WAN (wide-area network), and remote-to-LAN asynchronous communications.
word	A logical unit of information, usually 16 bits, but also 8 or 32 bits, depending on the hardware implementation.
word length	The number of significant data bits in each word. When data is accessed, it is moved in a word across an interface cable; also called "transmission word size" or "character length." *See also* word.
workstation	Any individual personal computer that is connected to a NetWare network and used to perform tasks (such as word processing) through application programs or utilities.
workstation number	*See* connection number.
write	To record information on a hard disk, floppy diskette, or some other permanent storage device.
XON/XOFF protocol	A software handshaking protocol used to establish communication (such as that between a host microprocessor and a printer) so that data is not sent faster than it can be received.

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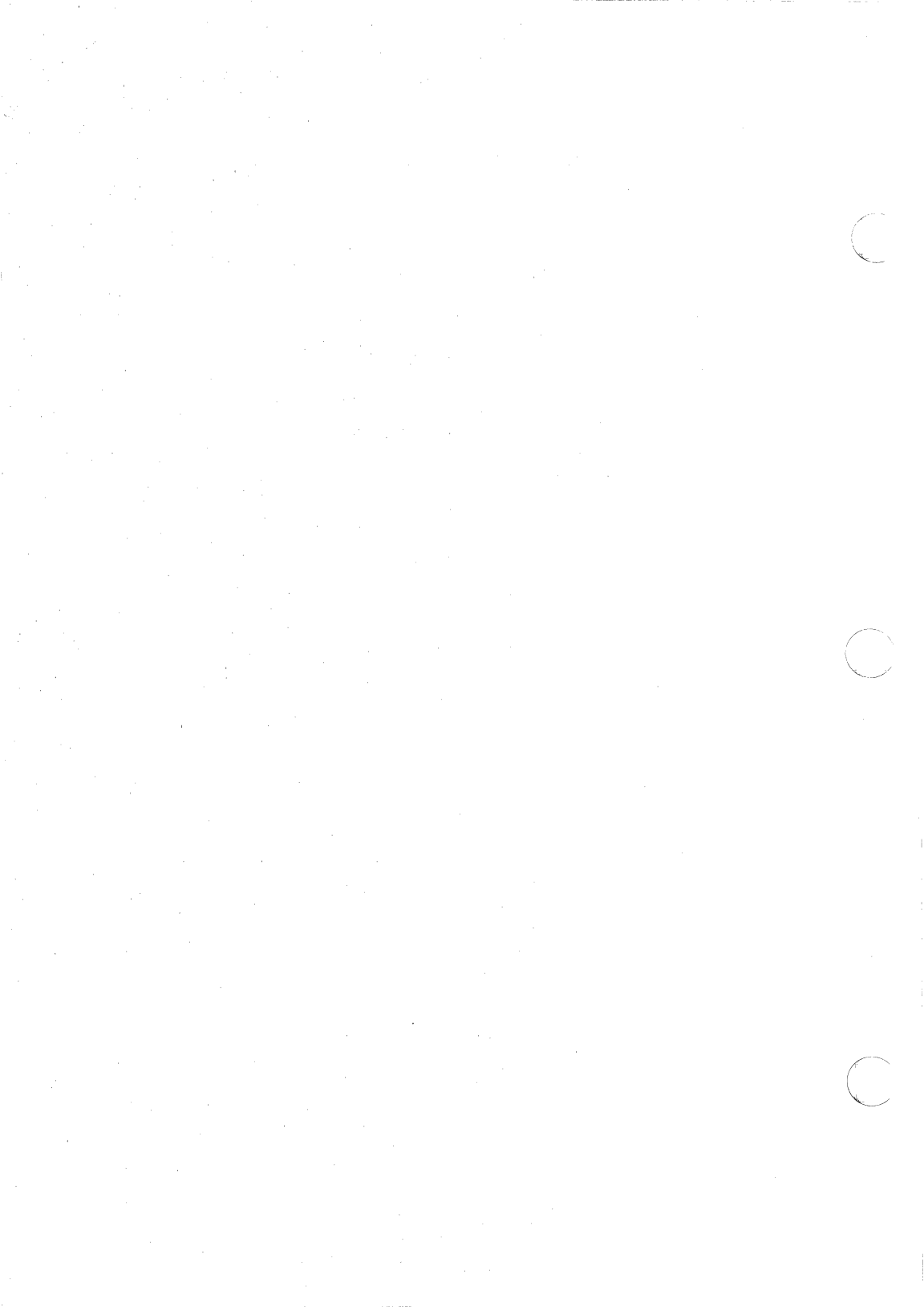Manual Name and Revision (if applicable): _____

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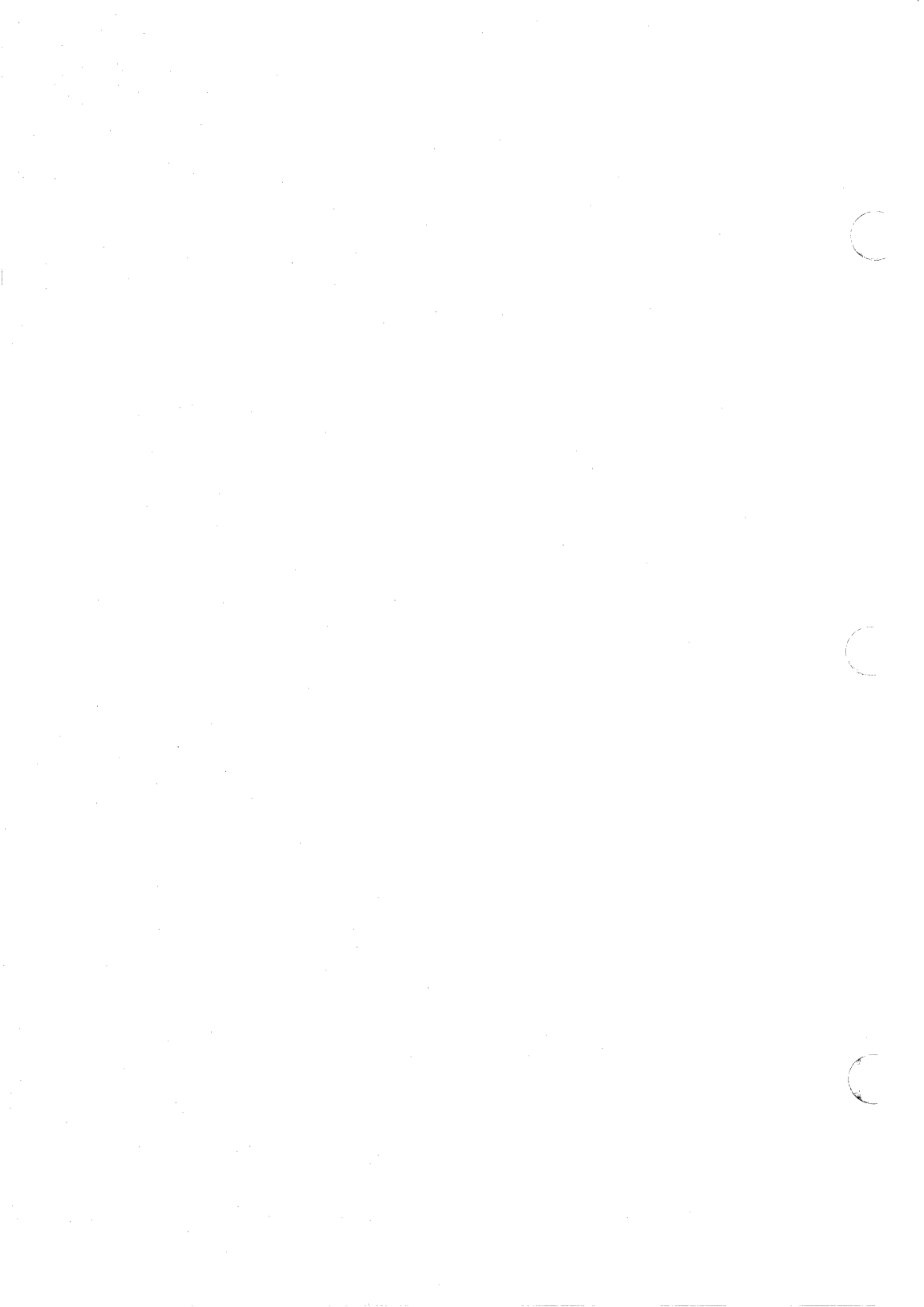
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