

PLAN 4000™

Print Server User's Manual

NESTAR

NESTAR SYSTEMS, INCORPORATED

PLAN 4000 (TM)

PRINT SERVER
USER'S MANUAL

DISCLAIMER OF WARRANTIES

The information in this document has been carefully reviewed and is believed to be reliable; nevertheless, Nestar Systems, Incorporated makes no warranties, either express or implied, with respect to this manual or with respect to the software described in this manual, its quality, performance, merchantability, or fitness for any particular purpose. The entire risk as to its quality and performance is with the buyer. The software herein is transferred "AS IS".

Nestar Systems, Incorporated, reserves the right to make changes to any products described herein to improve their functioning or design. Nestar programs are licensed products whose use is defined in the Nestar System Software License Agreement. Server Programs usually require a separate license for each machine on which they run.

In no event will Nestar Systems, Incorporated be liable for direct, indirect, incidental, or consequential damages at law or in equity resulting from any defect in the software, even if Nestar Systems, Incorporated has been advised of the possibility of such damages. Some states do not allow the exclusion or limitation of implied warranties or liability for incidental or consequential damages, so the above limitation or exclusion may not apply to you.

The Regents of the University of California, Apple Computer, Inc. and International Business Machines, Inc., make no warranties, either express or implied, regarding the computer software programs described herein, their merchantability or their fitness for any particular purpose. UCSD, UCSD Pascal, UCSD p-System are all trademarks of The Regents of the University of California. CP/M is a registered trademark of Digital Research, Inc. Z-80 is a registered trademark of Zilog, Inc. Softcard is a trademark of Microsoft Consumer Products.

This document is copyrighted and all rights are reserved. This document may not, in whole or part, be copied, photocopied, reproduced, translated, or reduced to any electronic medium or machine-readable form without prior consent, in writing, from Nestar Systems, Incorporated.

Copyright 1981, 1982, 1983 by Nestar Systems, Inc.
2585 E. Bayshore, Palo Alto, California, 94303
(415) 493-2223 Telex 171420 Nestar PLA

Publication Number SC40-0201-0
All rights reserved.

How to Use This Manual

The Print Server Subsystem allows all of the users in the network community to share printers and to send print requests to a waiting area on the hard disk. These waiting requests are then processed by the print server station. This manual describes the use of the print server user software and configuration of user default files for requests.

The Print Server Subsystem Installation and Operation Manual explains how to install, configure and maintain the print server software and emphasizes operation of the SERVER program which runs on the print server station. Those involved in installation, configuration, and maintenance of this package should read both of these manuals.

Prerequisite manuals for users are:

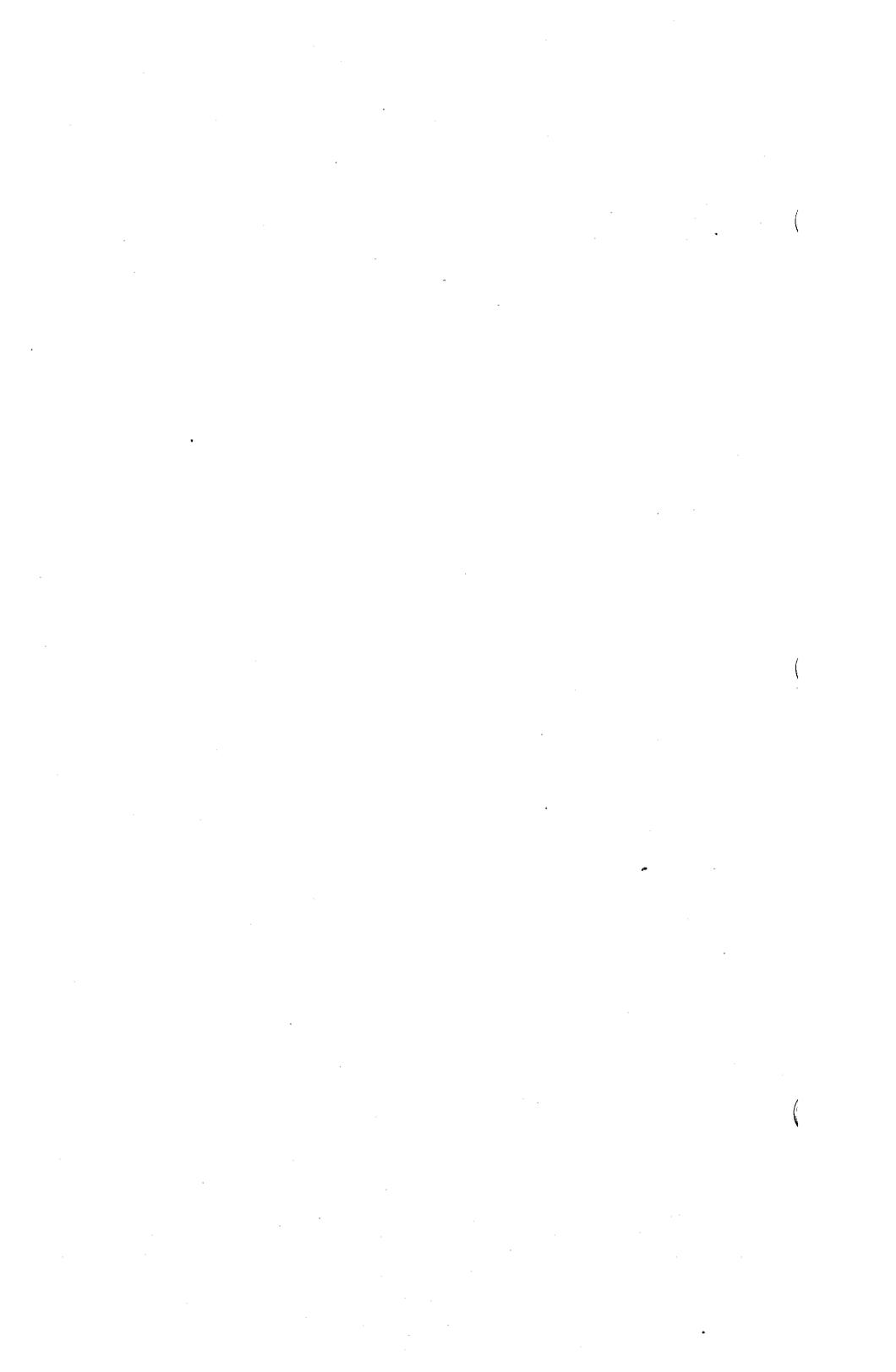
PLAN 4000 (TM) File Server User's Manual

PLAN 4000 (TM) File Server User's Guide (for your particular environment)

Chapter 1 of this manual provides an overview of the Print Server Subsystem, introducing you to the ways that the network print system allows sharing of printers and to the options that you have when you print.

Chapter 2 provides a detailed explanation of how to fill out your print request form, and how to initiate your request.

Appendices A-F provide details that are unique to each operating system environment.



The material in this document applies to Version 2.2 of the Print Server Subsystem software.

We welcome criticisms and suggestions. Forms for reporting program errors and documentation errors or inadequacies are provided at the back of this guide.

Contents

Disclaimer.....	ii
How to Use This Manual	iii
Contents	v

Chapter 1 Introduction to the Print Server Subsystem

1.0 The Print Server Programs.....	1-1
1.1 The Print Server Station.....	1-1
1.2 User Specified Printer "Setups".....	1-1
1.3 Multiple Printers and Multiple Setups..	1-3
1.4 Multiple File Servers and Multiple Networks	1-3
1.5 System Manager's Responsibilities	1-4

Chapter 2 The Print Request Program

2.0 Introduction	2-1
2.1 Printing a File	2-1
2.2 Printing Options	2-3
2.3 Multiple File Servers and Multiple Networks	2-10

Appendices

Appendix A Using the Print Server Subsystem in the Apple // DOS Environment

A.0 Introduction	A-1
A.1 Invoking the Print Request Form	A-1
A.2 Proper Syntax for File Names	A-2
A.3 Presetting Defaults for the Print Request Form	A-2
A.4 Printing Applesoft and Integer BASIC Files	A-3

CONTENTS

A.5	Printing DOS Files on a Local Printer	A-4
Appendix B Using the Print Server Subsystem in the Apple // Pascal Environment		
B.0	Introduction	B-1
B.1	Invoking the Print Request Form	B-1
B.2	Proper Syntax for File Names	B-3
B.3	Presetting Defaults for the Print Request Form	B-3
B.4	Using the Server Request Menu Commands.....	B-9
B.5	Printing Pascal Files on a Local Printer.....	B-16
Appendix C Using the Print Server Subsystem in the Apple // CP/M Environment		
C.0	Introduction	C-1
C.1	Invoking the Print Request Form	C-1
C.2	Proper Syntax for File Names	C-2
C.3	Presetting Defaults for the Print Request Form	C-2
C.4	Printing MBASIC Files	C-7
C.5	Printing Files on a Local Printer	C-7
Appendix D Using the Print Server Subsystem in the Apple /// SOS Environment		
D.0	Introduction	D-1
D.1	Invoking the Print Request Form	D-2
D.2	Proper Syntax for File Names	D-3
D.3	Presetting Defaults for the Print Request Form	D-3
D.4	Using the Server Request Menu Commands.....	D-9
D.5	Printing BASIC Files	D-15
D.6	Printing Files on a Local Printer.....	D-16

Appendix E Using the Print Server Subsystem
in the IBM UCSD p-System Environment

E.0	Introduction	E-1
E.1	Invoking the Print Request Form.....	E-1
E.2	Proper Syntax for File Names.....	E-2
E.3	Presetting Defaults for the Print Request Form	E-2
E.4	Printing Pascal Files on a Local Printer.....	E-8

Appendix F Using the Print Server Subsystem
in the IBM PC DOS Environment

F.0	Introduction	F-1
F.1	Invoking the Print Request Form.....	F-1
F.2	Proper Syntax for File Names.....	F-2
F.3	Presetting Defaults for the Print Request Form	F-2
F.4	Printing DOS Files on a Local Printer...	F-7

Index

Bibliography

Reader Comment Form

Chapter 1

Introduction to the System

1.0 The Print Server Programs

The Print Server Subsystem package consists of user and server programs. The user software, which is invoked by users at their workstations, presents a print request form on the screen. The user can fill out this form and issue a request for one or more text files to be printed. When the user issues the request, it is sent to the file server's associated hard disk where it becomes a little virtual volume. The server software processes these requests and manages the printing of them.

1.1 The Print Server Station

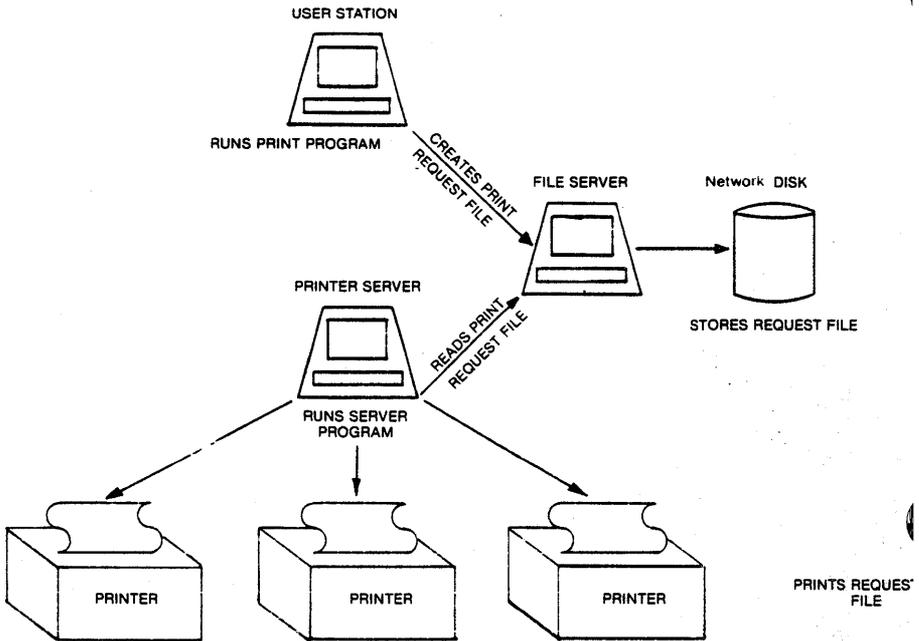
A print server station is a microcomputer that runs special print server software. The programs running on this stations check the request queues on the hard disk every minute or so, taking requests in the order they were issued but considering special user specified priorities. The print server software verifies that a printer is available and set up to do the job. If so, the job is completed. See figure on page 1-2.

1.2 User Specified Printer "Setups"

A printer is capable of printing according to varying length-of-page specificatons, on different types of paper, and, in some cases, in different fonts. Because the user requests are sent to a waiting area and don't have to be

INTRODUCTION

processed immediately, it is possible to allow specification of different setups. For instance, one employee may be producing a document that requires a higher grade of paper that is not commonly used by other employees. The print server software will note that the printer "setup" specification is not currently supported on the specified printer and delay the request until the software is told by the system manager that the setup is currently available. Meanwhile, other users who have other currently supported preferences, can issue requests that can be printed almost directly. There are many characteristics that determine a "setup". The system manager at your installation will create specifications for all the needed setups and give names to them. These names are then used by the user when the requests are issued and by the server program when the requests are processed.



1.3 Multiple Printers and Multiple Setups

One print server can be connected to several printers. In fact, a network can have more than one print server station, each connected to several printers. The user request form allows you to select a particular print server and even a particular printer to do your job. If you don't have a printer preference, you can enter "Any" in the appropriate blanks and the first free server will process your request, directing it to be printed on its first available printer.

1.4 Multiple File Servers and Multiple Networks

Some networks have more than one file server station. Each file server controls its own hard disks. The print servers can check with each file server on the network for print requests.

The user can specify that files be printed from any file server in the network that the system manager allows. Ask the system manager for the names of the file servers that can be accessed. Print requests that you queue on your default file server can specify files to be printed that reside on other file servers.

A single network print server can serve several physical network segments at once. The server is simply connected to the different networks by network interface cards placed in different slots in the server. Users on a network are not affected by such a multiple attachment. They queue print requests as if the print server served one network alone. However, files residing on another network can be printed for a user if the system manager has configured the system to allow it.

INTRODUCTION

The system manager can tell you which file servers are serviced by which print servers in your system.

1.5 System Manager's Responsibilities

Your system manager performs various configuration and maintenance tasks as detailed in the Print Server Subsystem Installation and Operation Manual. In brief, these tasks are:

1. Configuring various text files that tell the print server software which file servers, print server, printers, and setups are available. The system manager will tell you the correct names to use when specifying file servers, print servers, printers and setups.
2. Reconfiguring these same text files when the information changes.
3. Maintaining the server queues and killing requests that were issued incorrectly, and therefore can't be printed.
4. Presetting defaults that appear in the print request form. See the appendix for your environment for complete details about setting defaults.

Chapter 2

The Print Request Program

2.0 Introduction

The following sections present general information on the print request program. These sections explain how to:

- a. Print files from your workstation
- b. Specify printing options

You will be referred to the appendix for your environment for special instructions and information.

2.1 Printing a File

To print a file, invoke the print request program for your workstation environment, as described in the appropriate appendix of this manual. Turn to that appendix and follow the instructions in the first section. When the print request form appears on the screen, turn back to this chapter and continue following the instructions below:

PRINT REQUESTS

Print Request Version _____

--> File(s) to print?

 FS Pathname:

 File server: \$FE

 Page title:

 Identification:

 Number of Copies: 1

 Print Server: ANY

 Printer Model: LINEPRINTER

 Eject (0=none): 62

 Setup : STANDARD

 Priority (L/S/H/O): STANDARD

As can be seen from this example, the print request program allows you to specify more than just the file to be printed. Options such as number of copies, length of page, and job priority can be selected by moving the arrow at the left of the menu from option to option by typing the <Return> key. If you accidentally hit the return key too many times and miss an option, you can still specify it. The arrow returns to the top of the request when you type the <Return> key for the "Priority" option.

Some of the option blanks may already be filled in when the print request form appears. These values, that appear when the print request form is first invoked, are called defaults. They may be set by the system manager, by the print system software or by you. Once you have read and understood what each option is for and what values you can enter for it, we recommend that you turn to your appendix and learn how to set

your own defaults.

You can replace any value that appears next to an option by placing the cursor key in that field (option blank) and typing. When you have entered in the value, strike the <Return> key and proceed to the next option. If you aren't happy with the contents of a particular field you can use the <Return> key to position the cursor in that field again. Replace the contents by entering the new value and striking the <Return> key when you are done.

After you have entered the values and have issued the request, you can respond with a "Y" to the prompt which asks you if you want to issue another request. The request form appears again with the same values you just entered. You only need to change the values that must be different for the next request. If a previously specified pathname has a password in it, you will have to reenter that pathname again.

The values you enter into the print request form are not retained if you exit the print program, to return to your environment operating system or application.

2.2 Printing Options

Here is a detailed explanation of the options, the values that can be given for them and what the network print software will do if an option is not specified (its default state).

The options are:

FILE NAME(S)

Up to 8 can be specified. Separate file names by

PRINT REQUESTS

commas. Files must reside on the same volume. When specifying file names to be printed, be sure to use the appropriate syntax for your operating system environment as explained in the appendix.

FS PATHNAME:

Enter the complete pathname of the virtual network volume upon which the file(s) to be printed reside.

If a network default directory is set, you may enter a partial pathname. For example, if /MAIN/USERS is the default directory, you may enter

TEST/EXAMPLE

instead of

/MAIN/USERS/TEST/EXAMPLE.

The appendix for your workstation environment tells how to set default pathnames that automatically appear in the print request form when it is invoked.

Files to be printed may reside in virtual network volumes that are protected by passwords. This protection may prevent the files from being read (and printed) unless you provide the correct passwords.

If file server passwords have been set, enter them in the form:

/MAIN/USERS/TEST:password/EXAMPLE:password

Press <Return> to accept the pathname and it

will be redisplayed without the passwords.

FILE SERVER

Specify the name or address of the file server which manages the hard disk on which the files to be printed reside.

Ask the system manager for the names and addresses of those file servers currently serviced by the print server system.

The file server specified may be on another network, as long as the system manager indicates that the file server is part of the system.

PAGE TITLE

The title that you type in will be printed at the top of each page of your printing job, along with the date, time and page number. Two blank lines will precede the title line, and the name of the file being printed (and its network volume) will appear on the line following it. Another blank line completes the 5-line header on each page. If the page title field is left blank, no page titles will be printed and your job will begin at the top of the page. If a title is provided, or the default is accepted, pages will be numbered. Otherwise, page numbering must be provided by the file being printed.

Type <space> <Return> to remove a default title and have no title printed.

Text processing programs usually include their own title and page number values. When you wish to print files of formatted text, "PAGE TITLE"

PRINT REQUESTS

in the list of options should be left blank. If a default is displayed, remove it by entering <space> <Return>.

IDENTIFICATION

The word or words typed here as identification will appear as your job's identifying "I.D." as it waits in the print queue to be printed. You may enter a descriptive I.D. If left blank, the system will fill in the field with "filename on volumename" (the name of the file you have specified to be printed, and the volume upon which it resides).

COPIES

If you make no specification for number of copies, the print system will print one copy. Between 1 and 999 are allowed. If multiple files A, B, C have been specified, the copy sequence will be A, B, C, A, B, C,...

Pages will be numbered consecutively and the page number will be reset only at the end of each copy, not at the end of each file.

PRINT SERVER

Each printer in the Print Server Subsystem is associated with three identifying name tags: the name or number of its server station, its own (printer) name, and the name of the setup used in it. For a job to be printed on a specific printer, the name tags that are set in the list of options above must match the name tags given to the printer by the system manager.

PRINT REQUESTS

The "PRINT SERVER" tag identifies the print server station that controls a particular printer (or printers). Enter "ANY" if you don't care which print server handles your request. To have a particular printer do your job, specify the printer's server station number in decimal or in hexadecimal (preceded by "\$"), or enter the name of the print server station, if it has been given one by the system manager.

In some cases, printers at more than one print server station are acceptable to complete a print job, but "ANY" of the print server stations are not acceptable. To specify more than one print server station, enter the names or addresses (addresses can be expressed in decimal or hexadecimal) separated by commas.

PRINTER MODEL

The "PRINTER MODEL" tag is the name given to a particular printer by the system manager. This name may describe, for example, the type of printer ("DAISYWHEEL"), or its function ("CHECKWRITER"), or its location ("2NDFLOOR"). Several printers may have the same name, and be differentiated by their SERVER and SETUP tags, and their addresses.

EJECT

The Eject option controls page length. In the list of options above, the default is 62; thus, after 62 lines have been printed on a page, the printer will eject the page and begin a new one. Entering the number 0 will cause the printer to print without ejecting.

Note that most output from text processing

PRINT REQUESTS

programs should be printed with EJECT=0. This does not mean that the text will be continuous: most text processing programs include page-eject commands for the printer.

SETUP

In addition to its name and the address or name of its print server, each printer is identified by a setup tag. The SETUP tag describes the type of paper or form being used in the printer, with details of printer parameter configuration. Some forms used in your printer may require a different printer setup from the standard forms. Character spacing, lines per inch, forms length, and ribbon may be different for special forms. The print server uses SETUP to mean a combination of setup parameters required to use a particular form.

In the menu above, the default value for SETUP is "Standard". The system manager at each installation determines what kind of paper or forms will be standard for each printer and what the name of that setup will be.

For example, if you wish to print material on colored paper, queue the print request using the word "COLOR" (or some other tag designated by the system manager) in the "Setup" category. The job will not be printed until the print server console station's current setup is "COLOR". The system manager can change the current setup tag. The procedure for changing setup tags at the server console is described in detail in the Print Server Subsystem Installation And Operation Manual.

The value "ANY" is allowed for the SETUP tag.

PRIORITY

Print jobs are performed by the server software according to the priority assigned to them: "HIGH" priority jobs are printed first, "STANDARD" next, and "LOW" last. Jobs with Overnight priority are put aside and printed in a special time period at night. The hours of the Overnight printing period are set by the system manager.

Once a printer begins a job, it will continue it even if higher priority jobs are subsequently queued behind it. For this reason, very long jobs should be given Overnight priority rather than Low priority.

Typing <Esc> at any time will cause Request to redisplay the menu as you have filled it in, and to display the message

```
[Type <Esc><Return> to abort.]-----
Issue print request (yes/no)?
```

Typing "N" will return you to the list of options. The values you have entered are still displayed, as defaults for your next job.

Typing "Y" will cause the files specified to be queued for print. When you queue a print job, the print program will add your "print request" to the queue file on a disk served by your default file server. This request will contain the names of the files you have asked to be printed, as well as the number of copies and other information you have provided.

The print server stations will read this request file, and the correct printer will print out the files you have asked for. The appendix for your

PRINT REQUESTS

operating system environment discusses how to check on the status of a print request that you have created, and how to kill a request before it is printed.

When your request is queued, a message such as

```
FILE EXAMPLE ON /MAIN/DOE/A queued for print
```

```
More files to print (yes/no)?
```

will be displayed.

Typing "Y" will cause the list of options to be redisplayed, with the values used for the previous request retained as defaults.

Typing "N" will return you to the original print request function menu or to your operating system command line. Please note that what happens here is dependent on your particular operating system environment and is explained in the appropriate appendix.

2.3 Multiple File Servers and Multiple Networks

Your print request is stored as a virtual volume on the hard disk served by your default file server. This small virtual volume is placed under a special directory created for new request volumes.

This request will be read by the print server stations, and the correct server will cause your files to be printed for you. This print server will check to see which file server you have specified in the options list, and will search on that file server's disks (and on no others) for the file to be printed.

PRINT REQUESTS

You may enter the name or station address of any file server station, on your network or any other network to which the print servers are attached, if the system manager indicates that the file server you wish to specify is part of the print server system.

Appendix A

Using the Print Server Subsystem
in the Apple // DOS EnvironmentA.0 Introduction

This appendix contains special instructions for operation of the network print software in the Apple // DOS environment. It contains instructions and information about the following:

1. Section A.1 explains how to invoke the print request form from the DOS environment.
2. Section A.2 explains the proper syntax for file names.
3. Section A.3 explains how to preset defaults for the print request form.
4. Section A.4 explains how to print Applesoft and Integer BASIC files.
5. Section A.5 explains how to print DOS files on a local printer.

These instructions are specific to Apple // DOS and are meant to be read in conjunction with the more general instructions provided in Chapters 1 and 2 of this manual.

A.1 Invoking the Print Request Form

To print a file from the DOS environment, you need to RUN PRINT which should be located on the shared library volume called

APPLE // DOS

/MAIN/LIB/APPLE2/DOS

For example, if

/MAIN/LIB/APPLE2/DOS

is mounted on drive 2 and your network interface card is in slot 6, type:

RUN PRINT,S6,D2

If you decide to move the PRINT program to your boot volume, you can run it directly by typing:

RUN PRINT

A.2 Proper Syntax for File Names

When you enter file names into the request form, enter them as they appear in the catalog for that virtual volume.

A.3 Presetting Defaults for the Print Request Form

Chapter 2 of this manual shows the print request form. You will note that when you invoke your form that there are several blanks for you to use to specify printing options. You may decide that many of the option specifications need not change from printing to printing. For instance, everything you print may be from a certain volume, or you may always use a certain printer and setup combination, or you may always want two copies of everything.

If you would prefer not to specify each of the options every time you print a file, you can preset defaults for those options which you do

need to respecify very frequently.

In order to preset defaults for options do the following:

1. Decide on a virtual DOS volume which you intend to be booting from each time you are printing, or from which you can direct the system to run the PRINT program.
2. Boot the selected volume.
3. Type the following

```
MOUNT /MAIN/LIB/APPLE2/DOS
```

4. Type the following:

```
LOAD PRINT,St,Dn (where "t" is the slot in
which the Network Interface card resides
(usually 6) and "n" is the number of the
virtual drive in which /MAIN/LIB/APPLE2/DOS
is mounted.)
```

Modify the user-definable defaults at the bottom of the program, and enter the defaults that you desire.

Then type the following:

```
SAVE PRINT,St,Dn (where "n" is the number of
the virtual drive from which you will want to
run the Print program.)
```

A.4 Printing Applesoft and Integer BASIC Files

Applesoft and Integer BASIC files can be printed by the Print Server Subsystem. Enter file names just as you would for text files.

A.5 Printing DOS Files on a Local Printer

To print files to a local printer, the correct interface card for your printer must be installed in any free slot of your Apple //.

LOAD the file which you want to print.

Type the following:

PR#n (where "n" is the slot containing the printer interface card.)

Then type:

LIST

Appendix B

Using the Print Server Subsystem
in the Apple // Pascal EnvironmentB.0 Introduction

This appendix contains special instructions for operation of the Print Server Subsystem in the Apple // Pascal environment. It is organized as follows instructions and information about the following:

1. Section B.1 explains how to invoke the print request form from the Apple // Pascal environment.
2. Section B.2 explains the proper syntax for file names.
3. Section B.3 explains how to preset defaults for the print request form.
4. Section B.4 explains how to use the server request menu commands.
5. Section B.5 explains how to print files on a local printer.

These instructions are specific to Apple // Pascal and are meant to be read in conjunction with the more general instructions provided in Chapters 1 and 2 of this manual.

B.1 Invoking the Print Request Form

To invoke the print request form, type "X" to select the "Execute" option from the main Pascal command line. Then specify that LIB:REQUEST is

to be executed.

The following menu will appear:

Server Request Menu Version ---

```
Server Commands . . . .
P - PRINT server request
F - FILE server request
S - Display STATUS of previous requests
D - Display STATUS of print queue
K - KILL a previous print request
Q - QUIT (exit this program)
H - HELP (display tutorial)
? - HELP (display tutorial)
```

As you can see, there are a number of options in this menu, one of which is PRINT. In B.4 we discuss the other commands listed in this menu in more detail. In fact, since you know that you want to invoke the print request form whenever you want to print a file, you can specify that you want to execute LIB:PRINT instead of "REQUEST". If you do so, the system will bypass this menu and take you straight to the print request form. Try this now.

Type Q to quit the Server Command Menu.

Now type "X" to select the execute function from the main pascal command line.

Now type LIB:PRINT.

Now you should have successfully invoked the print request form. Turn to Chapter 2 for detailed instructions on filling out this form and initiating print requests. Also read B.3 below to learn how to preset defaults for the printing options in this form.

If the PRINT program is not on the shared library volume, you should contact your system manager as your print server software has not been installed.

B.2 Proper Syntax for File Names

If you want to print a text file, MARCH.TEXT for example, you can enter "MARCH.TEXT" or "MARCH". Either name will work because PASCAL will find MARCH.TEXT.

Do not attempt to print any file other than a text file.

When specifying files for the print request form, you can enter the following in the file name field.

#N:FILENAME

or

VOLUMENAME:FILENAME

If the volume indicated in your filename entry is currently mounted at your workstation, the second option - PATHNAME -- will be filled in for you so that the pathname of the volume you indicated in the filename field appears.

B.3 Presetting Defaults for the Print Request Form

Chapter 2 of this manual shows the print request form. You will note that when you invoke your form that there are several blanks for you to use to specify printing options. You may decide that many of the option specifications need not

change from printing to printing. For instance, everything you print may be from a certain volume, or you may always use a certain printer and setup combination, or you may always want two copies of everything.

If you would prefer not to specify each of the options every time you print a file, you can preset defaults for those options which you do not want or need to respecify very frequently.

There are two files called Defaults.Text; one is configured by the system manager and is located on the shared library volume, and the other is configured by you and is to be located on your boot volume.

The Defaults.Text file on your boot volume can be used by you to specify defaults for the printing options. The defaults you specify in this file will be read into the print request form each time it is invoked.

When the PRINT program is executed, the option specifications from the Defaults.Text file on the user's boot volume are read into the appropriate option blanks. If the Defaults.Text file does not contain specifications for all possible option blanks, the Defaults.Text file on the shared library volume will be read in to fill in blanks not filled by the user's defaults. The Defaults.Text file on the shared library volume is used by the system manager to set default specifications which are expected to be true for most users most of the time. The user's Defaults.Text file takes precedence over the shared library Defaults.Text file. This means that if both files specify a default for the same option, the user's specifications prevail (are the ones that appear in the Request Form when it is invoked).

Having the default values placed in the form automatically, saves time. However, if one or more of these preset defaults is not right for a particular job, you can change them in the print request form. Just use the <Return> key to move from line to line. To change the contents of a particular line in the form, move the cursor to that line and start typing your new value. The previous contents disappear as soon as you enter the first character. When you have finished filling in or approving all of the option specifications, follow the instructions at the bottom of the form for exiting the form. You will then be prompted to issue your request.

In order to preset defaults for print request options, use the Pascal editor to create a text file called Defaults.Text.

The following shows the possible options for which you can set defaults and the proper syntax to use for doing so. If you do not wish to set a value The system manager's Default.Text file can contain a value for that default, or you can fill in its value each time you initiate a print request.

<u>To Set</u>	<u>Enter in Defaults.Text</u>
User	User: User ID
Name	Name: User Name
Network Pathname	Print: Pathname <Pathname>
File Server	Print: FS <Station name or address>
Page Title	Print: Title <"Title">
Identification	Print: Identification <"Identification">
Print Server	Print: Server <stn name or address>
Print Model	Print: Printer <printer name>
Eject Value	Print: Eject <value>
Setup	Print: Setup <name>
Priority	Print: Priority <Priority Value>
Copies	Print: Copies <number>

Below is an extended explanation of each of the parameters in the above list. You can learn the purpose of each parameter and decide what your default, if any, should be:

1. "User" and "Name" are file server global system parameters and are not restricted to the print request program. They must be entered by beginning lines with "User:" and "Name:". The print request program will ignore any lines in Defaults.Text that do not begin with "Print:", "User:", or "Name:", since in the PLAN 4000 (TM) system, other products also use Defaults.Text to preset defaults. "User" may be printed out as a logo on the header page of your job (if the system manager formats the header pages to do so), and is usually a short ID, such as your initials. "Name" may also be printed out on the header page and is usually a longer identification, such as your full name.

2. Full Network pathname or, if a default directory is set, a partial pathname. For example, if /MAIN/USERS is set as the default directory.

SMITH/A

can be specified in Defaults.Text and the Request program will understand that /MAIN/USERS/SMITH/A is meant.

3. File server: station address in decimal, or in hexadecimal preceded by "\$". Ask the system manager for file server name if one has been assigned.
4. Page Title and Identification options must be enclosed in quotes. For no title, include in Defaults.Text:

Print: Title""

5. Copies must be between 1 and 999.
6. Print server: station address in decimal, or in hexadecimal preceded by "\$". Ask system manager for print server name if one has been assigned.
7. Eject (page length) must be between 0 and 999.
8. Priority must be L, S, H, or O (Low, Standard, High, or Overnight).

Multiple commands can be entered on the same line.

Below is a sample Defaults.Text file such as you might create:

User: Smith
Name: John Smith's Fiscal Account
Print: Pathname /MAIN/USERS/SMITH/TEXT
Print: FS \$FD
Print: Copies 3 Eject 55
Print: Server FISCAL
Print: Printer Lineprinter Priority Low
Print: Setup Ledger
Print: Title "Smith's Accounts"

If a Defaults.Text file like the sample above were placed on your boot volume, its contents would be read by the request program when it is invoked and the following form with defaults specified would appear:

Print Request Version X.X

--> File(s) to print?

FS Pathname: /MAIN/USERS/SMITH/TEXT

File server: \$FD

Page title: Smith's Accounts

Identification:

Number of Copies: 3

Print Server: FISCAL

Printer Model: LINEPRINTER

Eject (0=none): 55

Setup: LEDGER

Priority (L/S/H/O: LOW

As we explained above, The request program will also read the Defaults.Text that is located on the shared library volume. This file contains the defaults that have been set by your system manager. Any defaults set in

your own Defaults.Text, however, will take precedence over the shared Defaults.Text file. Any default values missing from your file will be supplied, if present, from the shared file.

When your job is printed, a "header" page is printed in front of it, listing information specified by the system manager. This information may include a logo representing your "user" value, the name of the file printed, its FS pathname, and other such information.

B.4 Using the Server Request Menu Commands

This section describes the server request menu in detail. Remember that this is the menu which appears when the request program is executed.

```
Server Commands. . .
P - PRINT server request
F - FILE server request
S - Display STATUS of previous requests
D - Display STATUS of print queue
K - KILL a previous print request
Q - QUIT (exit this program)
H - HELP (display tutorial)
? - HELP (display tutorial)
```

As we have seen, entering "P" takes us to a list of printing options and allows us to create and queue print requests. The command letters "K", "D", "S", "F", "Q", "H" and "?" will now be discussed.

"D" - Display STATUS of print queue

Typing "D" when the Server Command Menu is

displayed will cause the program to display current information about the Print Server subsystem and print request queue. First, all print server stations are listed:

Active Print Servers

```
(SD0) print FISCAL (busy) Printing #24
                                for SMITH:
                                Page 7 line 38
(SD1) print 2NDFLOOR    Currently idle
(SD2) print R&D         Currently idle
```

Print server station addresses (in hexadecimal), names and status are displayed. If a printer is printing a job, information on the progress of the job is also displayed.

Next, print requests that have not yet been processed by the print servers are listed:

```
New Requests (not yet entered in queue):
12/01 14:33 PRINT
```

If servers are printing other jobs when new requests are queued, the new requests must wait to be read. They are soon read by active servers, however, and moved to the active queue, which is displayed:

```
Date Time Qnum User Status Identification
12/01 11:30 28 DOE Waiting File LIST on
                                /MAIN/USERS/DOE/B
Note: Needs THERMAL setup RED

12/01 14:10 30 SMITH Active File EXAMPLE on
                                /MAIN/USERS/SMITH/A

12/01 12:16 29 JONES Completed File TEST on
                                /MAIN/USERS/JONES/A
```

As shown in this example, date and time of the

request's creation are displayed, together with the queue number assigned to the job, and the user's name. If passwords have been set on FS pathnames, they are not displayed. However, their existence is indicated by the presence of a colon following the directory or volume name with the password set.

The display will list as many of the currently queued print requests (active, waiting, and completed) as will fit on the screen. However, waiting requests will be shown at the top of the list, oldest first.

"Active" requests are being printed; "completed" requests have been printed or killed; "waiting" requests have print parameters specified that do not match those currently set by the system manager (such as SETUP type). Such jobs will be held, waiting, until the system manager changes the system parameters to match the request or until the request is killed. (The Kill command ("K") is described below.)

When multiple print servers are present, a job may temporarily be listed as "waiting" because its parameters do not match those set for the first print server that reads it. When the intended server reads it, it will become "active".

For waiting requests, the display will list (one of) the print parameters that do not match those currently set for the print system, after the word "needs":

Note: Needs THERMAL setup RED

In the sample display above, for example, request number 28 specifies that the job for user "DOE" be printed on a printer named

"THERMAL" using the "RED" setup. The current configuration of this print server does not include a printer named "THERMAL" with the "RED" setup. Request 28 must wait until the system manager reconfigures the system, or until another print server with the proper setup reads the queue. If a number of skipped requests have accumulated, recently queued requests may not fit on the screen. If this is the case, use the "D" command described below to check the status of your job.

To freeze a display, hold down the <ctrl> key and type S. The message

==>suspended<==

will appear at the bottom of the screen. Type any key to have the updating resume. (After one hour of updating the display on your screen, the program will automatically enter this suspended mode.)

Note: If your network has multiple file servers that are serviced by one print server station, you should be aware that requests from users with a different default file server than yours will not appear in your queue display. Therefore, your display may show that your request is next in line when, actually, another request from a different file server precedes yours. However, the queue display will show a request from any file server while it is in the act of printing.

"S" - Display STATUS of previous requests

To learn more about specific queued requests than is possible with the "D" command, type "S" when the Server command menu is displayed. A number of options will be displayed

L(ist) D(isplay) H(elp) Q(uit)?

Typing "L" or "D" will cause the prompt

Enter queue number or id?

Entering the queue number for your request will cause the "L" command to display date and time of the request, queue number, user identification, and request status.

Given the user id or queue number of a request, "S" will list:

Your station name or station address
Parameter change needed
Queue date and time
User ID and station address
Job status
Priority
Print Server requested
Print Servers that have skipped the request

Instead of queue number, you may enter:

1. "ALL"
2. "Identification" value
3. Your user name

The "L" and "D" commands will then display information for:

1. All currently queued requests (and as many of the completed requests as your system serves - usually 200), or
2. All requests queued that have the "Identification" you specify somewhere in their "Identification" field.

3. All requests queued under your user name.

Note that the first time you use the "L" and "D" commands to check the status of a request, you will not know the queue number of the request. However, you will know its identification and your user name and can specify the message by using one or the other.

If you have queued more than one print request recently, but are interested in the status of only one, it will be to your advantage to use unique identification (such as the name of the file to be printed) for each job.

"K" - KILL a previous print request

To remove a print request from the print queue before it has been printed, simply press "K" when the Server Command Menu is displayed. You will be asked to provide the queue number of your request, your user name, or other print request information for your job.

The queue number of your job is obtained by using the "L" option that is part of the Kill menu. "L" functions as described in the previous section.

Providing your queue number will cause the print request program to remove that specific request from the request queue. If instead of specifying a single queue number, you tell the request program which user you are, the program will display one at a time the print requests that you currently have queued. Select the one you want removed, and the request program will kill it.

The Kill command creates a kill request. Typically, the print server station will read the request to kill a job while the job is waiting to be done, and the server will remove the original request from the queue.

Requests can be killed only at the user station from which they were made. Requests currently being printed can only be aborted at the print server console by the system manager.

"F" - FILE server request

Connects you to the FS NET command program. Enter FS commands as needed. The commands will be executed and the prompt repeated. Type Q to exit.

"Q" - QUIT (exit program)

Typing "Q" returns you to the Pascal command level.

"?" and "H" - HELP (display tutorial)

Typing "?" or "H" causes the question

Help on what subject?

to be displayed. Enter "STATUS", "DISPLAY", "PRINT", "KILL", "FS", "HELP" or "?" and information on how to use that particular Print Server command will be displayed. Typing "ALL" will cause all the help information to be displayed.

B.5 Printing Pascal Files on a Local Printer

To print files on a local printer, be sure the appropriate printer interface card is inserted in slot 1 of your Apple //.

Then type the following:

X LIB:NET (from main Pascal command line to execute the NET program)

After the NET program : prompt, type the following:

SET DRIVE 6 REAL

Q (to quit the NET program and return to the main command line.)

Select the Filer option from the main Pascal command line.

Select the Transfer option.

The prompt will be:

Which file?

Your response will be the name of the file to be printed.

The prompt will be:

To where?

Your response will be:

Printer:

Appendix C

Using the Print Server Subsystem
in the Apple // CP/M EnvironmentC.0 Introduction

This appendix contains special instructions for operation of the network print software in the Apple // CP/M environment. It contains instructions and information about the following.

1. Section C.1 explains how to invoke the print request form from the Apple // CP/M environment.
2. Section C.2 explains how to provide the proper syntax for file names.
3. Section C.3 explains how to preset defaults for the print request form.
4. Section C.4 explains how to print MBASIC files.
5. Section C.5 explains how to print files from a local printer.

These instructions are specific to Apple // CP/M and are meant to be read in conjunction with the more general instructions provided in Chapters 1 and 2 of this manual.

C.1 Invoking the Print Request Form

To print a file from the Apple // CP/M environment, you need to type "PRINT" after the CP/M prompt. This will cause the print request

program to appear. The print request program is described in detail in Chapter 2 of this manual.

NOTE: If PRINT.COM is not located on the currently logged-in volume, you will need to specify the volume. For example:

C:PRINT

C.2 Proper Syntax for File Names

When specifying filenames to print, enter the name exactly as it appears in the "DIR" listing.

C.3 Presetting Defaults for the Print Request Form

Chapter 2 of this manual shows the print request form. You will note that when you invoke your form that there are several blanks for you to use to specify printing options. You may decide that many of the option specifications need not change from printing to printing. For instance, everything you print may be from a certain volume, or you may always use a certain printer and setup combination, or you may always want two copies of everything.

If you would prefer not to specify each of the options every time you print a file, you can preset defaults for those options which you do not need to specify very frequently.

There are two files called Defaults.Txt: one is configured by the system manager and is located on the shared library volume, which is normally mounted on drive H, and the other is configured

by you and is to be located on your logged-in drive (logged in at the time that PRINT.COM is invoked).

The Defaults.Txt file on the logged-in drive can be used by you to specify defaults for the printing options. The defaults you specify in this file will be read into the print request form each time it is invoked.

When the PRINT program is executed, the option specifications from the Defaults.Txt file on the logged-in drive are read into the appropriate option blanks. If the Defaults.Txt file on the logged-in drive does not contain specifications for all possible option blanks, the Defaults.Txt file on the shared library volume (H:) will be read in to fill in blanks that are not specified by the user. The Defaults.Txt file on the shared library volume is used by the system manager to specify options that are expected to be true for most users most of the time. The user's Defaults.Txt file takes precedence over the shared library Defaults.Txt file. This means that if both files specify a default for the same option, the user's specification prevails (is the one which appears in the request form when it is invoked).

Having the default values automatically placed in the form, saves time. However, if one or more of these preset defaults is not right for a particular job, you can change it in the print request form. Just use the <Return> key to move from line to line. To change the contents of a particular line in the form, move the cursor to that line and start typing your new value. The previous contents disappear as soon as you enter the first character. When you have finished filling in or approving all of the option specifications, follow the instructions at the

bottom of the form for exiting the form. You will then be prompted to issue your request.

Below we show the format for entering defaults in the Defaults.Txt file:

<u>To Set</u>	<u>Enter in Defaults.Txt</u>
User	User: User ID
Name	Name: User Name
Network Pathname	Print: Path <Pathname>
File Server	Print: FS <station name or address>
Page Title	Print: Title <"Title">
Identification	Print: Identification <"Identification">
Print Server	Print: Server <stn name or address>
Printer Model	Print: Printer <printer name>
Eject Value	Print: Eject <value>
Setup	Print: Setup <name>
Priority	Print: Priority <Priority Value>
Copies	Print: Copies <number>

Below are extended explanations of each option:

1. "User" and "Name" are FS global system parameters and are not restricted to the print request program. They must be entered by beginning lines with "User:" and "Name:". The print request program will ignore any lines in Defaults.Txt that do not begin with "Print:", "User:", or "Name:", since in PLAN 4000 system other products may also use Defaults.Txt to preset defaults.

"User" may be printed out as a logo on the header page of your job (if the system manager formats the header pages to do so), and is usually a short ID, such as your

initials. "Name" may also be printed out on the header page and is usually a longer identification, such as your full name.

2. Full Network pathname must be entered.
3. "File server" is specified by entering station address in decimal, or in hexadecimal preceded by "\$", or station name if assigned.
4. "Page Title" and "Identification" options must be enclosed in quotes. For no title, include in Defaults.Txt

Print: Title ""

5. "Copies" must be between 1 and 999.
6. "Print server" is specified by entering station address in decimal, or in hexadecimal preceded by "\$". Ask system manager for print server name if one has been assigned.
7. "Eject" (page length) must be between 0 and 999.
8. "Priority" must be L, .S, H, or O (Low, Standard, High, or Overnight).

Multiple commands can be entered on the same line.

Now that you have seen the expected format for your Defaults.Txt file, you are ready to create one. Use any CP/M editor to create a text file called Defaults.Txt. Below is a text file like one you might create:

APPLE // CP/M

A sample Defaults.Txt file:

User : Smith
Name : John Smith's Fiscal Account
Print: Pathname /MAIN/USERS/SMITH/TEXT
Print: FS \$FD
Print: Copies 3 Eject 55
Print: Server FISCAL
Print: Printer Lineprinter Priority Low
Print: Setup Ledger
Print: Title "Smith's Accounts"

If the above Defaults.Txt file were created, stored on the user's logged-in volume and read in by the PRINT.COM file the print request form would appear as follows when invoked:

Print Request Version _____

--> File(s) to print?

FS Pathname: /MAIN/USERS/SMITH/TEXT

File server: \$FD

Page title: Smith's Accounts

Identification:

Number of Copies: 3

Print Server: FISCAL

Printer Model: LINEPRINTER

Eject (0=none): 55

Setup: LEDGER

Priority (L/S/H/O): LOW

When your job is printed, a "header" page is printed in front of it, listing information specified by the system manager. This information may include a logo representing your "user" value, the name of the file printed, its

FS pathname, and possibly other information.

C.4 Printing MBASIC Files

Normally, the print server subsystem only prints text files. However it is possible for it to print BASIC files under the Apple // CP/M environment.

BASIC files that are to be printed must be "SAVE"d as ASCII files. To do so enter MBASIC and LOAD the BASIC program into memory. Then:

```
SAVE "filename", A
```

The file will then exist as a textfile, not as a tokenized program, and can be printed using PRINT.COM.

C.5 Printing Files on a Local Printer

To print files on a local printer, be sure that the proper interface card for that printer is installed in slot 1 of your Apple Computer. Use the PIP command, directing the files to LST:. You can also type <Ctrl>-P and then TYPE filename.

1970

1970
1971
1972
1973
1974

-1975

1976
1977

1978
-1979
1980
-1981
1982

1983
1984

INDEX

A

access rights 3-4
Apple /// SOS B-1
Apple // Pascal A-1
automatic startup 3-1
autosetting mail file pathname 2-1
available drives 2-4, 2-5

B

Bibliography BB-1

C

CHECK command 2-3
creating users mail file 2-1, 2-3

D

defaults 2-1
Defaults.Text 2-3, 3-1
disclaimer ii
distribution volumes 1-2, A-1, B-1, C-1
drives used 2-4, 2-5

E

environments 1-1, A-1, B-1, C-1
executing Messenger program 2-1

INDEX

F

FS command mode 2-6

H

HELP command 1-1

I

IBM PC C-1

incoming mail identification 2-2

INFO command 1-1

installation 1-1, A-1, B-1, C-1

M

MAIL 2-1

mail files,

program 1-lff

user 2-1

Mail.Code 1-1

Mail: commands 3-2, 3-3

Mailhelp.Text 1-1

Mailinfo.Text 1-1

Mailnews.Text 1-1

/MAIN/PRODUCTS/MESSENGER/X.X 1-1

maintenance A-3, B-3, C-3

message identification number 2-2

mounting MAIL and NEWMAIL 2-2, 2-3 thru 2-6

multiple recipients (CC:s) 2-2

N

"name" (user) 3-2
 NESTAR.START 3-1
 NEWSMAIL directory 2-2, 2-3
 news and information files 1-1
 NEWS command 1-1
 "Not found: /MAIN/USERS/SMITH/MAIL" 2-3

O

operation of mail program 2-1ff

P

p-System C-1
 Pascal A-1, B-1, C-1
 pathname of mail file 2-1
 prerequisite manuals iii
 prefix of mail file pathname 2-1
 prefix/userID/NEWSMAIL 2-2
 protection 3-4

R

READ command 2-3

S

SET commands (startup) 3-2
 shared library volumes 1-2, A-1, B-1, C-1
 size of MAIL files 2-3

INDEX

- STARTCMD TEXT 3-1
- system manager duties iii
- SYSTEM.STARTUP 3-1
- T
- tailoring your system 3-1
- tape cartridge containing program files 1-2
- U
- usage rights 3-4
- user's identification
 - (in mail file pathname) 2-1
- users mail file 2-1
- V
- virtual drives,
 - Messenger programs need for 2-4, 2-5
 - volumes that contain mail program files 1-2
- W
- "Who are you?" 2-3

BIBLIOGRAPHY

PLAN 4000 PUBLICATIONS

General Information Manual	GA40-0100
PLAN 4000 Physical Planning and Installation Manual	GA40-0101
File Server User's Manual	SC40-0200
File Server Apple //	
Pascal User's Guide	SC40-0501
File Server Apple //	
DOS User's Guide	SC40-0502
File Server Apple //	
CP/M User's Guide	SC40-0503
File Server Apple ///	
SOS User's Guide	SC40-0504
File Server IBM PC	
DOS User's Guide	SC40-0505
File Server IBM PC	
UCSD p-System User's Guide	SC40-0506
File Server Installation and Operation Manual	SC40-0900
PLAN 4000 System Service Manual	LA40-0401
Print Server User's Manual	SC40-0201
Print Server Installation and Operation Manual	SC40-0301
Messenger User's Manual	SH40-0204
Messenger Installation and Operation Manual	SH40-0304

SECRET

SECRET

SECRET

SECRET

SECRET

SECRET

SECRET

SECRET

SECRET

Reader Comment Form

This manual is one in a series that describes the use of the PLAN 4000 system.

You are encouraged to use this form to communicate to Nestar any problems or suggestions associated with the system. We would like your comments on improving the system itself, as well as on this documentation. Possible topics for comment are: clarity, accuracy, completeness, organization, coding, retrieval and legibility.

No postage stamp is necessary if mailed within the U.S.A.

Nestar installation location:

Submitter's name :

Address :

Description of problem or suggestion:

Please mail this form to :

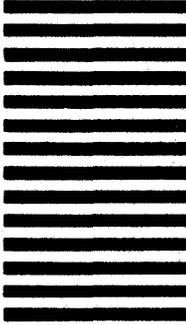
Nestar Systems, Incorporated
2585 E. Bayshore Road
Palo Alto, California 94303
Attn: PUBLICATIONS DEPT.



No Postage
Necessary
If Mailed
In The
United States

BUSINESS REPLY CARD
First-Class Permit No. 2391 Palo Alto, CA

POSTAGE WILL BE PAID BY ADDRESSEE



NESTAR SYSTEMS INCORPORATED

2585 East Bayshore Road
Palo Alto, California 94303

Faint, mostly illegible text, likely bleed-through from the reverse side of the card. Some words like "NESTAR" and "SYSTEMS" are faintly visible.

Fold here

Please do not staple

Tape