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* CORVUS SYSTEMS

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NETWORK STATION
USER GUIDE

Apple III

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NETWORK STATION
USER GUIDE

Apple III

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**GETTING
STARTED**

This guide explains how to use the Apple (R) III computer as a network station on an Omninet (TM) local area network. It explains several programs Corvus supplies that simplify using your computer on the network. In particular, this guide describes how to use volumes, which are your storage areas on the network disk system. It also discusses how to send, receive and print files, and how to back up volumes on diskettes.

HOW THIS GUIDE IS ORGANIZED

Chapter 1 tells how to log on with a user name and password to gain access to the Corvus network disk system.

Chapter 2 describes the spool and despool programs. This chapter shows how to print a file on a network printer and send files to other network users. It also shows how to check for transmitted files and how to receive files.

Chapter 3 describes how to back up a volume to floppy diskettes. The chapter shows how to save an entire volume on diskettes and restore an entire volume from diskettes.

USAGE

Throughout this guide, the word *type* means to enter two or more characters or keyboard symbols on the computer keyboard. Type all words, symbols, spaces and punctuation to the right of the word *type* exactly as shown. Do not add or leave out punctuation marks at the end of the statement.

Examples:

Type .D1/COPY/=

Type DESPOOL

Throughout this guide, *press* means to enter a single character or keytop symbol on the computer keyboard. When a keytop symbol appears, press the key to which it refers. Do not type out each letter of the word in the keytop symbol.

Examples:

Press Y

Press [RETURN]

When the commands *press* and *type* appears in a sentence or paragraph, type the information indicated.

Example:

Type a user name and **press** [RETURN].

The terms *boot* and *reboot* refer to loading and reloading the operating system into a computer.

The term *session* refers to the time from booting until rebooting or turning off the computer.

Throughout this guide, press [ESC] in response to any question on the screen to return to the menu one level above.

HARDWARE REQUIRED

To use the programs described in this guide, you must have an Apple III computer with at least 256 kilobytes of memory.

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LOG		
ON		1

The first step in using a Corvus disk drive with the Apple III is to log on to the system. Once you are logged on, you can use information stored on the OmniDrive (TM) network disk system. The storage space on the OmniDrive is divided into a series of defined areas called volumes. Before you can use a volume, the volume must be formatted for the Apple SOS operating system. The steps below show how to log on, and list your accessible volumes, and identify what volumes must be formatted.

1. **Insert the Corvus boot diskette.**

Insert the Corvus boot diskette for the Apple III in the floppy drive. See the system manager if you do not have a boot diskette.

2. **Turn on the computer.**

After a moment, the screen displays:

```

*
*
CORVUS SYSTEMS
CONSTITUTION II
*
V x.xx (01)
*
*
```

PLEASE ENTER YOUR NAME: _

This display appears each time the computer boots. The number in parentheses is the server number for the disk drive from which the Apple III will receive boot information.

3. Log on to the system with a user name and password.

If the user name and password are unknown, see the system manager.

Enter a user name and password when the log-on display appears. For example, if the user name is KAREN,

Type KAREN

Press [RETURN]

The screen displays:

PLEASE ENTER YOUR PASSWORD:

The password prompt only appears if a password is assigned to the user name. If, for example, the user name KAREN is assigned the password BONJOUR,

Type BONJOUR

Press [RETURN]

After the password is entered, the message "LOOKING FOR USER'S HOME DISK SERVER" may appear. After a few minutes, the Pascal command line appears from which different programs are executed.

The system manager has already given you access to certain volumes so that you can use information in the volume or store your work. Volumes are like floppy diskettes in that they contain information such as text, data or programs. The major difference between volumes and floppy diskettes is that volumes can store much more information than a floppy diskette. Read the steps below to learn what volumes have been assigned to your user name.

4. **Insert the utilities diskette in the computer.**

Remove the Corvus boot diskette and insert the Apple III utilities diskette in the internal floppy drive.

5. **Execute the startup file.**

From the Pascal Command line,

Press X

When the prompt EXECUTE WHICH FILE appears,

Type .D1/SYSTEM.STARTUP.

Press [RETURN]

The screen displays the Apple III utilities main menu.

6. List the volumes.

From the utilities main menu, press D to enter the Device Handling Commands Menu. Once this menu has displayed on the screen, press L. The screen prompts where to send the output; accept the suggested response, "Console," by pressing [RETURN]. The screen display is similar to:

```
-----  
Device Name      Volume Name  
.CONSOLE  
.D1              /UTILITIES  
.D2              (no directory)  
.C1              /A3UTIL  
.C2              /A3VOL1  
.C3              (no directory)  
.C4              /C4 NOT MOUNTED  
.C5              /C5 NOT MOUNTED  
.C6              /C6 NOT MOUNTED  
-----
```

All Corvus volumes are mounted on the units "C#." The volumes A3UTIL and A3VOL1 are ready to be used. The volumes that have "no directory" in place of the volume name must be formatted. When the system manager assigns a volume to a unit number, it is a mounted volume. But before the volume can be used it must be formatted for the Apple SOS operating system. Use the Apple SOS format program to format volumes. For more information on listing and formatting volumes, see the *Apple III Owner's Guide*.

SPOOLING AND		
DESPOOLING		2

Usually several computers on a network share access to one printer. To print a file with a printer attached to another computer or utility server, the file must be sent to a special area on the Corvus disk drive called the pipes area. The pipes area also allows users to exchange information electronically.

The pipes area acts as a transfer station for information sent between different users and devices on the network. From the pipes area, information can be printed by a network printer or retrieved by another network user.

The spool program is used to send, or spool, files to the pipes area. The spool program places each file in a special structure called a pipe. A pipe is similar to a file in that it holds information.

Pipes are identified by three characteristics: a name, a number, and the amount of information it contains. The spool program places each spooled file in its own pipe, and assigns a number to each pipe. Since several pipes may be sent to the same pipe name, pipe numbers are used to identify them in the pipes area.

The pipe name determines the destination of a file after it leaves the pipes area. The system manager assigns a unique pipe name to each printer on the network. To print a file to a particular network printer, enter the pipe name associated with the printer. The system manager should have a list of the pipe names. To send a file to another user on the network you will need to enter a unique pipe name.

The pipe remains in the pipes area until it is retrieved by a user or network device. The despool program is used to retrieve files from the pipes area. When a file is sent to be printed, another computer or utility server runs the despool program and searches the pipes area for pipes with the name associated with that printer. When the computer or

utility server finds a pipe with the correct name, the file is despoiled to the attached printer where it is printed.

If a file is sent from one network user to another, the user receiving the file uses the despool program to retrieve the file from the pipes area. The user must know the correct pipe name to retrieve the spooled file. Once a pipe is despoiled, it disappears from the pipes area.

This chapter explains how to use the spool program to print files with a network printer, and how to send files to other users. The chapter also describes how to use the despool program to retrieve pipes that were sent by another user.

ENTERING THE SPOOL PROGRAM

The first step in printing is to specify how the information will appear in print. Some text may require formatting by a text editor or word processor before the text can be printed. Once the text is formatted, save it in a file. Now the file is ready to spool.

The screen should be displaying the Pascal command line.

Press X

When the prompt EXECUTE WHICH FILE? appears,

Type /A3UTIL/SPOOL

Press [RETURN]

A3UTIL is the volume containing the spool program.

The screen displays:

```
-----  
SPOOL [x.xx]: CORVUS SPOOL PROGRAM  
(C) COPYRIGHT 1984 CORVUS SYSTEMS, INC.
```

```
SEARCHING FOR NETWORK PIPES AREAS  
-----
```

Next, the screen displays the spool program menu.

SPOOL [x.xx]: CORVUS SPOOL PROGRAM [x.xx]
(C) COPYRIGHT 1984 CORVUS SYSTEMS, INC.

SPOOLING TO SLOT 4, SERVER SERVER0
VALID OPTIONS ARE:

S - START SPOOLING
T - TEXT FILE YES
I - INCLUDE FILE {\$I
N - NEW PAGE..... {\$P
P - SPOOL PIPE NAME PRINTER

M - FILE MESSAGE.....
E - STRIP ENHANCEMENTS .. YES
Q - QUIT

A - SET ALTERNATE SLOT
C - CURRENT PIPE STATUS

SELECT OPTION:

If there is only one pipes area on the network, the set alternate slot option does not appear.

SPOOL OPTIONS

Note that the spool program menu consists of a number of options. These options perform the following functions:

- o Determine the destination of the file
- o Indicate the type of file being spooled
- o Format the way text appears in the printed file

The spool program automatically assigns a default value for each option. For most options, you may find that these default values will meet your needs.

In case you need to change the value of an option, simply press the letter that corresponds to the option. A prompt will request the new value. Enter the new value and press [RETURN]. The new value displays in the spool program menu.

Several options apply only to special circumstances: the set alternate slot option is used only if you have access to more than one pipes area. Take a few moments to review the following descriptions of the options on the spool program menu. Keep in mind that you may not need to use some of these options, since the default values may be adequate and not need to be changed.

- o *Start Spooling* sends the file to the pipes area. After all other options are set to the appropriate values, use this option to begin spooling the file to the pipes area.
- o *Text File* indicates if a text or data file is being spooled. The default value YES is for text files. Most files that will be printed are text files; for most cases, YES is the correct value for this option. Note that the include file, new page, and strip enhancements options are only available for text files.

To spool a data file, press T to change the value of the option to NO. NO indicates a data file which does not require formatting and can be spooled as is. Several options disappear from the menu when the data file type is selected.

- o *Include File* inserts additional files into a file. These files are then included as part of the original file when it is spooled.

In the original text file, place the include file symbol at the location where the additional file should be inserted. Enter the name of the file to be inserted after the include file symbol. For example, using the default include file symbol {\$1, the following line inserts the file named STATS.TEXT:

```
{ $1 STATS.TEXT
```

When the original file is spooled, the contents of the file STATS.TEXT will be inserted beginning where the line is placed.

Do not place any other text or commands on the same line as the symbol and the file name in the original file. If an include symbol is not followed by a file name, an error message displays, and the file continues printing. This option is only available for text files.

- o *New Page* causes the printer to begin printing on a new page. Wherever the printer finds the new page symbol in the text, the printer skips to the top of the next page and resumes printing. The default value is {\$P. This option is only applicable to files that will be printed.

The new page symbol should match the symbol or characters used by your word processor or text editor to begin printing on a new page. The symbol itself is not printed.

- o *Spool Pipe Name* selects the pipe name to which the file is spooled. The pipe name determines the destination of a pipe after it leaves the pipes area. The default value is PRINTER. In most cases, the pipe name PRINTER sends files to the most commonly used network printer.

To print a file on another network printer, change the pipe name using this option. The appropriate pipe name directs a file to a specific printer on the network. See your system manager for a list of pipe names for the printers on your network.

The pipe name must be changed to send a file to another user. Do not use a pipe name associated with a network printer since the file will be automatically printed. Use this option to enter a unique pipe name of up to eight letters. Be sure to tell the user receiving the file the correct pipe name.

- o *File Message* prints a message on the first page of the printed file. A message can be up to 80 characters. There is no default message. This option is only applicable to files sent to network printers.
- o *Strip Enhancements* determines if text enhancements, such as bold face or underline, are displayed in the spooled file. The default value YES removes all existing enhancements from the text, and prints the file without them.

NO prints the file with text enhancements. Note that the destination printer should have the capability to print enhanced characters. This option is only available for text files.

- o *Quit* exits the spool program and returns you to the Pascal command line.
- o *Set Alternate Slot* allows files to be spooled to any available server on the network. For more information, see the section "Spooling on Multiple Server Networks."
- o *Current Pipe Status* lists all pipes in the pipes area with the same pipe name. Use this option to see the number of pipes waiting to be printed. Each pipe can be identified by its pipe number and the number of blocks it contains.

USING THE SPOOL PROGRAM

The next section of this chapter contains a sample sessions showing how to send files to the pipes area. When spooling your own files, enter different pipe and file names, or change the values for different options.

The sample session assumes that you have already entered the spool program and that the spool program menu is displaying on the screen.

In this sample session, assume you are spooling a text file to a letter-quality printer assigned the pipe name LETTER. First, use the pipe name option to change the pipe name. Also assume that the new page symbol must be changed using the new page option. After new values are set for these two options, use the start spooling option to send the file to the pipes area.

1. **Change the pipe name.**

Select the pipe name option from the spool program menu.

Press P

The screen displays:

ENTER NEW PIPE NAME:

Now enter the new pipe name. Since you want to print the file using the printer assigned the pipe name LETTER,

Type LETTER

Press [RETURN]

The pipe name LETTER now displays in the menu next to the pipe name option.

2. **Change the new page symbol.**

Select the new page option.

Press N

The screen displays:

SET TO BLANK TO TURN OFF NEW PAGE PAGE CHECK

ENTER NEW PAGE PREFIX:

Assume that the text editor uses the symbol /PG to begin a new page of text. To enter this symbol,

Type /PG

Press [RETURN]

Since all the spool program options are now set to the appropriate values, you are ready to spool the file to the pipes area.

3. **Send the file to the pipes area.**

Select the start spooling option.

Press S

The screen displays:

```
-----  
ENTER TEXT FILE NAME [.TEXT] :  
-----
```

The prompt requests the name of the file that will be printed.

4. **Enter the file name.**

For this example, the name of the file is BUDGET.TEXT. To spool this file,

Type BUDGET.TEXT

Press [RETURN]

The program now starts spooling the file to the pipes area. While the file is being spooled, a series of dots appears across the screen. When the file is finished spooling, the screen display is similar to:

```
-----  
SPOOLING BUDGET.TEXT TO PIPE PRINTER [1]
```

```
.....  
50 BLOCKS WRITTEN TO PIPE PRINTER [1]
```

```
ENTER TEXT FILE NAME [.TEXT]:  
-----
```

The file has now been sent to the pipes area. Note that the screen displays the size of the file being spooled and the pipe number in which the file was placed. In this instance, the file BUDGET.TEXT contains 50 blocks of information and was placed in pipe 1. This information may be used to identify the pipe while it is in the pipes area.

The number of files waiting to be printed determines the amount of time before the file is printed. If the printout does not appear make sure that you entered the correct pipe name and try spooling the file again. See the system manager, if the file is not printed.

5. Spool another file or exit.

More than one file can be sent to the same pipe name. However in the next part of the sample session, a file will be sent to a different pipe name. Since no more files will be spooled to the current pipe name LETTER, exit the current prompt.

Press [ESC]

The screen displays the spool program menu.

In the next part of the sample session, a text file is sent to another network user. To send a file to a user, you must change the pipe name. Assume the user receiving the file is named Ken; name the pipe KEN accordingly. Be sure to tell the user receiving the file the correct pipe name.

6. Change the pipe name.

First, change the pipe name. Select the pipe name option from the menu.

Press P

The screen displays:

ENTER NEW PIPE NAME:

To send the file to the pipe name KEN,

Type KEN

Press [RETURN]

7. Send the file to the pipes area.

Since all options are now set to the appropriate values, you are ready to spool the file to the pipes area. Select the start spooling option from the spool program menu.

Press S

The screen displays:

ENTER TEXT FILE NAME [.TEXT] :

8. Enter the file name.

Enter the name of the file that will be printed. For this example, the name of the file is REPORT.TEXT.

Type REPORT.TEXT

Press [RETURN]

The program now starts spooling the file to the pipes area. When spooling is complete, the screen display is similar to:

SPOOLING REPORT.TEXT TO PIPE KEN [2]

.....
84 BLOCKS WRITTEN TO PIPE KEN [2]

ENTER TEXT FILE NAME [.TEXT]:

The file has been sent to the pipes area. It will remain until it is retrieved by the other user. Note that the file REPORT.TEXT contains 84 blocks of information, and was placed in pipe number 2. Use this information to identify the pipe while it is in the pipes area.

9. **Spool another file or exit.**

At this point you could spool another file to the same pipe name. Let's assume that Ken needs only the file REPORT.TEXT. Since no more files will be spooled to the current pipe name,

Press [ESC]

The screen displays the spool program menu. Exit the spool program.

Press Q

The Pascal command line displays. To find out how to retrieve a file from the pipes area, go to the section "The Despool Program."

SPOOLING ON A MULTIPLE SERVER NETWORK

To spool a file to a pipes area on another disk drive, use the set alternate slot option. Use this option to select the server associated with the destination disk drive. By selecting the server name, the file will be sent to the appropriate pipes area. Select the server before the file is actually spooled.

For example, assume that the current server is SERVER0, and that you would like to spool a file to the pipes area associated with SERVER1. Before you spool the file, the current server must be changed from SERVER0 to SERVER1. The procedure below shows how to change the current server.

The set alternate slot option appears only if there are multiple pipes areas on the same network.

From the spool program main menu,

Press A

The screen display is similar to:

SPOOLING TO SLOT 4, SERVER SERVER0

SPOOLING SLOTS AND SERVERS ARE:

- 1 - SLOT 4 SERVER SERVER0
- 2 - SLOT 4 SERVER SERVER1
- 3 - SLOT 4 SERVER SERVER2

Q - EXIT TO MAIN MENU

SELECT SPOOLING SLOT AND SERVER:

The names of the available servers are displayed.

To select a pipes area that is associated with a different server, press the number displayed before the appropriate slot and server. For example, to spool to the pipes area associated with SERVER1,

Press 2

The current server is changed to the specified server, and the spool program menu displays. The new server name is displayed near the top of the menu. During this session, all files that are spooled will go to the pipes area on the server just selected.

THE DESPOOL PROGRAM

When another user spools a file to you, the pipe containing the file remains in the pipes area until you retrieve it. Use the despool program to retrieve pipes from the pipes area. Once the pipe is despoiled, the pipe and its contents disappear from the pipes area.

There are basically three steps to retrieving a pipe from the pipes area. First, change the pipe name on the despool program menu to the pipe name to which the file was spooled. Second, make sure that pipes are actually waiting in the pipes area under the correct pipe name. Third, despool the pipe from the pipes area.

Pipes can have three destinations from the pipes area. The contents of the pipe can be: displayed on the computer screen; printed using a printer attached directly to the computer; or saved to a file on the disk drive.

ENTERING THE DESPOOL PROGRAM

To use the despool program, enter the following text at the Pascal command line.

Press X

When the message EXECUTE WHAT FILE? appears,

Type /A3UTIL/DESPOOL

Press [RETURN]

Volume A3UTIL contains the despool program.

The screen display is similar to:

DESPOOL [x.xx]: CORVUS DESPOOL PROGRAM
(C) COPYRIGHT 1984 CORVUS SYSTEMS, INC.

DESPOOLING FROM SLOT 4, SERVER SERVER0

VALID OPTIONS ARE:

- S - START DESPOOLING
- D - DESPOOL DEVICE PRINTER
- E - EXPAND TABS 8
- M - MAX LINES/PAGE 58
- P - DESPOOL PIPE NAME ... PRINTER

- L - INSERT LINE FEEDS ... YES
- Q - QUIT
- H - PRINT HEADER PAGE
- T - PRINT TRAILER PAGE

- A - SET ALTERNATE SLOT
- C - CURRENT PIPE STATUS

SELECT OPTION:

If there is no printer attached to the Apple III, the max lines/page, insert line feeds, print header page, and print trailer page options do not appear in the menu. If there is only one pipes area on the network, the set alternate slot option does not appear.

DESPOOL OPTIONS

Note that the despool program menu consists of several options. These options determine what pipe is despoiled, and the destination of the pipe when it is despoiled.

The despool program automatically assigns a default value to each option. You may find that these default values will meet your needs for most options.

To change the value of an option, simply press the letter which corresponds to the option. A prompt will request the new value. Enter the new value, and press [RETURN].

The new value is then displayed in the spool program menu.

The maxlines/page, insert line feeds, print trailer page, and print header page options are only available if a printer is attached directly to your computer. To find out more about these options, see your system manager.

The following is a description of the remaining options and their default settings.

- o *Start Despooling* retrieves the pipe from the pipes area. All other options should be set to the appropriate values before this option is used.
- o *Despool Device* selects the destination of the despoiled pipe. A pipe can be despoiled to one of three destinations: a file; the computer screen; or a printer attached directly to the computer.

The recommended choice is to despool the pipe to a file. A pipe that is despoiled to a file can be read at any time. Once a pipe is despoiled to the printer or screen, the information cannot be placed into a file.

- o *Expand Tabs* sets the tab column positions and causes the despool program to insert spaces until it reaches the next tab column. See the system manager for more information.
- o *Despool Pipe Name* changes the current pipe name. Use this option to set the pipe name to the same name to which the file was spooled. You must change the pipe name from the default value PRINTER.
- o *Set Alternate Slot* allows pipes to be despoiled from any available server on the network. For more information, see the section "Despooling on Multiple Server Networks" at the end of this chapter.
- o *Current Pipe Status* lists all pipes in the pipes area with the same pipe name. Each pipe can be identified by its pipe number and the number of blocks it contains.

CHECKING FOR PIPES

Before you try to retrieve pipes from the pipes area, make sure that pipes are waiting to be despoiled. First, set the pipe name. Next, use the current pipe status option to list all pipes with the same pipe name. Once you have verified that there are pipes waiting to be despoiled, you can retrieve the pipes from the pipes area.

The following sample session shows how to check for pipes with the pipe name KEN.

1. **Select the pipe name option.**

Press P

ENTER NEW PIPE NAME:

Enter the pipe name to which the file was spooled. For example, if another user had sent a file to you using the pipe name KEN,

Type KEN

Press [RETURN]

If the file was spooled to another server, use the set alternate slot option. The option is discussed in the section "Despooling on Multitple Server Networks."

2. **Display the pipes.**

Select the current pipe status option.

Press C

The screen display is similar to:

SERVER: SERVER0

2. KEN CLOSED ---- CONTAINS DATA 84 BLOCKS

PRESS <SPACE> TO CONTINUE

The screen displays all pipes in the pipes area with the same pipe name. For example, this shows that one pipe named KEN exists in the pipes area. The file is in pipe 2, and contains 84 blocks. The pipe is closed, and ready to be read. A pipe is opened when despooling begins.

3. Return to the despool program menu.

Press [SPACE]

The screen displays the despool program menu.

DESPOOLING PIPES

After setting the pipe name and checking that the pipe exists in the pipes area, select the destination for the pipe using the despool device option. It is recommended that you despool pipes to a file that will be saved on the disk drive. When ready, despool the pipe using the start despooling option. If you are despooling the pipe to a file, you are prompted for a file name to hold the contents of the pipe.

The following sample session shows how to despool a pipe to a file. Assume that the pipe name has already been changed from PRINTER to KEN.

1. Decide where to despool the file.

Select the despool device option.

Press D

The screen display is similar to:

VALID DESPOOLING DEVICES ARE:

C - OUTPUT TO CONSOLE
F - OUTPUT TO FILE
P - OUTPUT TO PRINTER

Q - EXIT TO MAIN MENU

SELECT DESPOOLING OUTPUT DEVICE:

The printer option does not appear unless a printer is attached directly to the Apple III. Remember that once a pipe is despoiled to the printer or screen, the information cannot be placed into a file. An error message will occur if you attempt to despool a data file to the console.

To despool the pipe to a file,

Press F

The despool menu is automatically displayed.

2. **Despool
the pipe.**

Select the start despooling option.

Press S

If the pipe is despoiled to a file, the screen display is similar to:

SERVER: SERVER 0

2. KEN OPEN READ CONTAINS 84 BLOCKS

DESPOOLING FROM PIPE KEN [2]

SPOOLED FILE NAME: REPORT.TEXT
ENTER FILE NAME TO DESPOOL TO:

Type the file name to which the file will be despoiled and press [RETURN]. For example, to despool the pipe to a file named RPT.TEXT,

Type RPT.TEXT

Press [RETURN]

If the destination file is located in another volume, precede the file name by the volume name. For example, type VOL1:RPT1.TXT. The despool program creates a file at the specified location and places the despoiled information in it.

After the pipe is despoiled, the screen display is similar to:

PIPE KEN [2] CONTAINED 84 BLOCKS

If there is more than one pipe with the same name, the despool program repeats the prompts for despooling the next pipe. If the pipe is despoiled to a file, a prompt requests the name of the next file to receive the contents of the pipe.

When all the pipes are despoiled, the screen display is similar to:

WAITING TO DESPOOL PIPE PAUL
PRESS ANY KEY TO CONTINUE ...

3. Return to the despool program menu.

Press any key.

The screen displays the despool program menu.

4. Exit the despool program.

Press Q

The Pascal command line appears.

DESPOOLING ON A MULTIPLE SERVER NETWORK

The set alternate slot option only appears if there are multiple pipes areas on the network.

Use the set alternate slot option to despool a file from a pipes area on another disk drive. By selecting the server name, the pipe will be retrieved from the appropriate pipes area. Select the server before the pipe is despoiled.

For example, assume that the current server is SERVER0, but the file was originally spooled to the pipes area on SERVER1. Before despooling the file, the current server must be changed from SERVER0 to SERVER1. The procedure below shows how to change the current server.

From the despool program menu,

Press A

The screen display is similar to:

DESPOOLING SLOTS AND SERVERS ARE:

- 1 - SLOT 4 SERVER SERVER0
- 2 - SLOT 4 SERVER SERVER1
- 3 - SLOT 4 SERVER SERVER2

- 4 - ALL OF THE ABOVE
- Q - EXIT TO MAIN MENU

SELECT DESPOOLING SLOT AND SERVER:

The available servers are displayed.

Press the number displayed before the appropriate slot and server. For example, to despool from the pipes area associated with SERVER1,

Press 2

Use the option ALL OF THE ABOVE to despool pipes from pipes areas on each of the displayed servers.

The current server is changed, and the despool program menu displays. The new server name is displayed near the top of the menu. During this session, all files will be despoiled from the pipes area on the server just selected.

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This chapter explains how to use the Corvus backup-to-floppy program to save an entire volume on diskettes. This chapter also explains how to restore a volume from diskettes.

The backup-to-floppy program requires the use of an Apple III with 256 kilobytes of memory. The program cannot be used with an Apple III with less memory.

Backing up a volume requires enough Apple SOS formatted diskettes to hold the information being backed up. The number of diskettes varies according to the size of the volume. Use the table below to estimate the number of diskettes needed to back up the volume.

Volume size in 512-byte blocks	512 blocks	1024 blocks	2048 blocks (1MB)	4096 blocks
Number of diskettes with 140KB floppy drive	2 diskettes	4 diskettes	8 diskettes	15 diskettes

For example, to backup an 1800-block volume with a 140KB floppy drive requires between four and eight diskettes. Estimate on the high side and format seven diskettes.

To find out the size of a volume, use the list volumes option from the backup-to-floppy menu.

After formatting enough diskettes with the Apple SOS format program, read through the following sections to find out how to back up, then restore, a volume.

ENTERING THE BACKUP-TO-FLOPPY PROGRAM

Boot the Apple III with your Corvus boot diskette and follow the steps below to enter the program. The Constellation II log-on display should be on the screen.

1. Log on with the user name A3BACKUP.

Type A3BACKUP

Press [RETURN]

After a minute, the screen displays:

```
-----  
CORVUS BACKUP-TO-FLOPPY UTILITY [x.xx]  
COPYRIGHT 1983, 1984 BY CORVUS SYSTEMS, INC.  
-----
```

PLEASE ENTER:

```
USER NAME: _  
PASSWORD:  _  
-----
```

2. Enter a user name and password.

If you are backing up or restoring volumes to which you have access, enter your user name. Otherwise, enter a user name for an account that does have access to the volumes that will be backed up.

Type the user name and press [RETURN].

Type the password and press [RETURN].

The screen displays the backup-to-floppy menu:

CORVUS BACKUP-TO-FLOPPY UTILITY [x.xx]
COPYRIGHT 1983, 1984 BY CORVUS SYSTEMS, INC.

B - BACKUP A VOLUME
R - RESTORE A VOLUME
I - IDENTIFY A DISKETTE
L - LIST VOLUMES
S - SET OPTIONS
E - EXIT

PLEASE SELECT AN OPTION: _

BACKUP OPTIONS

Note that the backup-to-floppy program menu consists of a number of options. These options perform the following functions:

- o List all volumes accessible to the user currently logged on
- o Set verification and password protection options
- o Back up the contents of a volume
- o Identify diskettes made during backup
- o Restore the contents of a volume

Each option is described below.

- o *Backup a Volume* backs up a volume. It requests the volume name and the current date. The program then requests the first formatted diskette. Because the

program uses the volume name and adds a -1 to refer to the first diskette, label your diskettes accordingly. For example, prior to backing up a volume called JACK, label the diskettes JACK-1, JACK-2, etc.

- o *Restore a Volume* restores a volume from backup diskettes. Although information is usually restored to the same volume, information may be restored to a different volume as long as both volumes are the same size. Note that you must have write access to the volume receiving the information. The restored volume will keep its original name. If the diskettes were password protected, the user name used to restore the volume must be the same as the name used to back up the volume.
- o *Identify a Diskette* checks backup diskettes for the volume name and date, user name and password, volume size, total number of diskettes, and the number of the current diskette. Use this option to check the volume size again or to identify the diskettes in case they are not properly labeled.
- o *List Volumes* lists all the volumes accessible to the user currently logged on. The listing shows the name, length, and write access of the volume. You cannot back up or restore a volume that does not appear in this list. Additionally, for a restoration, you must have write access to the volume.
- o *Set Options* allows you to verify the back up or restoration and protect your backup diskettes with a password. Verification checks the data as it is being written to make sure that it can be read. Although verification helps ensure accuracy, it doubles the amount of time needed for back up or restoration. Password protection writes a password on the backup diskette. The password must be entered before the volume can be restored from the diskette.

The default values are no for the verification and yes for the password. If these default values are not appropriate, change the values before you use the backup a volume option.

The step-by-step instructions below show how to back up and restore a volume using this program.

BACKING UP A VOLUME

This section shows the steps needed to back up a 1024-block volume called VOL13.

First make sure that enough diskettes are formatted with Apple SOS format program. Use the chart at the beginning of this chapter. After enough diskettes are formatted, enter the backup-to-floppy program and follow the steps below.

1. Check the verification and password protection options.

If the default values are desired, go to step 3.

If you want to verify the information during backup or protect the diskettes from unauthorized use, use the set options function. From the backup-to-floppy main menu,

Press S

The screen displays:

```
-----  
CORVUS BACKUP-TO-FLOPPY UTILITY [x.xx]  
SET OPTIONS  
-----
```

```
VERIFICATION (Y/N): N  
PASSWORD PROTECTION (Y/N): Y  
-----
```

To select an option, press Y or N as required, then press [RETURN].

After values for both options are entered, the screen displays:

OK TO SET OPTIONS (Y/N)? Y

2. Confirm the option selections.

To set the option selections,

Press [RETURN]

The screen displays:

OPTIONS SET.

PRESS <SPACE> TO CONTINUE.

Press [SPACE]

The screen displays the backup-to-floppy menu.

3. Decide which volume to back up.

Although VOL13 has already been mentioned as the volume to back up, list the volumes that can be backed up.

To see the list of volumes available for backing up,

Press L

The screen display is similar to:

CORVUS BACKUP-TO-FLOPPY UTILITY [x.xx]
LIST VOLUMES

VOLUME	LENGTH	UNIT	WRITE ACCESS
VOL13	1024	-	YES
JOHN	2048	-	YES
JACK	2048	-	YES

PRESS <SPACE> TO CONTINUE: _

Press [SPACE]

The backup-to-floppy menu reappears.

4. Select the backup option.

Press B

The screen displays:

CORVUS BACKUP-TO-FLOPPY UTILITY [x.xx]
BACKUP A VOLUME

PLEASE ENTER:

VOLUME NAME: _
DATE: _

5. Enter the volume name and the date.

In this example,

Type VOL13

Press [RETURN]

Type 1-04-84

Press [RETURN]

The screen display is similiar to:

```
-----
SEARCHING FOR VOLUME VOL13
FOUND VOLUME VOL13
INSERT FORMATTED VOL13-1 DISKETTE IN SLOT 4, DRIVE 1.
PRESS <SPACE> AFTER INSERTING DISKETTE. _
-----
```

6. Begin the backup process.

Label the first backup diskette to show the name of the volume followed by -1, for example, VOL13-1. Proper labeling helps keep the backup diskettes in proper sequence. Place the label on the diskette and insert the diskette in the diskette drive.

Press [SPACE]

The screen display is similar to:

```
-----
140KB
CREATING FLOPPY # 1
THIS BACKUP REQUIRES n DISKETTES.
-----
```

where n is the number of diskettes required to back up the volume.

Note the number of diskettes required, and make the appropriate labels. Place the labels on the

formatted diskettes. The program will request diskettes by name.

The program begins to copy data from the volume to the first backup diskette. As each block of data is copied, a dot appears on the screen. When the first diskette is full, the screen display is similiar to:

```
-----  
INSERT FORMATTED VOL13-2 DISKETTE IN DISKETTE DRIVE  
PRESS <SPACE> AFTER INSERTING DISKETTE. _
```

```
-----  
Place the diskette labeled VOL13-2 in the diskette  
drive.
```

Press [SPACE]

The backup process continues. The program requests the rest of the diskettes as required.

When all information has been stored on diskettes, the screen displays:

```
-----  
VOLUME BACKUP COMPLETE.
```

```
-----  
PRESS <SPACE> TO CONTINUE. _
```

```
-----  
Remove the last diskette used during backup.
```

Press [SPACE]

The screen displays the backup-to-floppy menu. The volume VOL13 has been backed up. Exit the program.

Now that VOL13 has been backed up, go to the next section to learn how to restore the volume.

RESTORING A VOLUME

In this example, volume VOL13 on the disk system has been damaged and requires restoration. Use the backup diskettes and restore the volume.

Since the information will be restored to the volume from which it came, enter the same user name used to make the backup. The screen displays the backup-to-floppy menu.

1. Set the verification option.

Only the verification option can be selected for restoration, since the password protection is determined during backup.

To restore the information without verification, go to step 3.

To verify information during restoration,

Press S

The screen displays:

```
-----  
CORVUS BACKUP-TO-FLOPPY UTILITY [x.xx]  
SET OPTIONS  
-----
```

```
VERIFICATION (Y/N): N  
PASSWORD PROTECTION (Y/N): Y  
-----
```

Press Y

Press [RETURN]

Since the password protection option does not apply to restoration,

Press [RETURN]

The screen displays:

OK TO SET OPTIONS (Y/N)? Y

2. **Confirm the option selections.**

To confirm the options,

Press [RETURN]

The screen displays:

OPTIONS SET.

PRESS <SPACE> TO CONTINUE.

Press [SPACE]

The screen displays the backup-to-floppy menu.

3. **Check the contents of the diskettes.**

To verify that the proper information is restored to the volume, select the identify option. This option also provides the sequence of the floppies in case backup diskettes were accidentally mixed up.

Press I

The screen displays:

```
CORVUS BACKUP-TO-FLOPPY UTILITY [x.xx]
IDENTIFY A DISKETTE
```

```
INSERT DISKETTE IN INTERNAL FLOPPY DRIVE
PRESS <SPACE> AFTER INSERTING DISKETTE._
```

**4. Insert the first
diskette in drive 1.**

Place the first diskette created during the backup process, VOL13-1, in diskette drive 1.

Press [SPACE]

The screen display is similar to:

```
CORVUS BACKUP-TO-FLOPPY UTILITY [x.xx]
IDENTIFY A DISKETTE
```

```
VOLUME BACKED UP: VOL13
DATE OF BACKUP: 1-04-84
USER NAME: PAUL (PROTECTED)
SIZE OF VOLUME (BLOCKS): 1024
TOTAL NUMBER OF DISKETTES: 4
NUMBER OF THIS DISKETTE: 1
```

```
PRESS <SPACE> TO CONTINUE. _
```

If the diskette contains the desired volume, note the size of the volume. If it does not, check another diskette. In either case,

Press [SPACE]

The screen displays the backup-to-floppy menu.

5. Check the restoration volume name.

Press L

The screen display is similar to:

```
-----  
CORVUS BACKUP-TO-FLOPPY UTILITY [x.xx]  
LIST VOLUMES  
-----  
VOLUME          LENGTH    UNIT    WRITE ACCESS  
VOL13           1024     10      YES  
JOHN            2048     11      YES  
JACK            2048     12      YES  
-----  
PRESS <SPACE> TO CONTINUE. _
```

If write access is available for the user, and the length of the volume is equal to the length of the volume to be restored from diskette,

Press [SPACE]

The screen displays the backup-to-floppy menu.

6. Restore the information to the volume.

Press R

The screen displays:

CORVUS BACKUP-TO-FLOPPY UTILITY [x.xx]
RESTORE A VOLUME

PLEASE ENTER:

VOLUME TO BE RESTORED: _

VOLUME NAME ON FLOPPY: _

Type VOL13

Press [RETURN]

If the backup diskettes are protected, the current user name and password must be identical to the name and password used during the back up.

If all security checks are passed, the screen display is similar to:

SEARCHING FOR VOLUME VOL13
FOUND VOLUME VOL13
INSERT VOL13-1 DISKETTE IN SLOT 4, DRIVE 1.
PRESS <SPACE> AFTER INSERTING DISKETTE. _

140KB

Place the first backup diskette into the diskette drive.

Press [SPACE]

Restoration begins. As each block of data is copied from the diskette drive to the hard disk volume, a dot appears on the screen. After the first diskette is copied, the screen display is similar to:

INSERT VOL13-2 DISKETTE IN DRIVE 1.
PRESS <SPACE> AFTER INSERTING DISKETTE. _

7. Place the requested diskette in the diskette drive.

Remove the first diskette and insert the requested diskette.

Press [SPACE]

Restoration continues. The program will request each diskette in the order created during the back up.

When all information has been restored, the screen displays:

VOLUME RESTORATION COMPLETE.

PRESS <SPACE> TO CONTINUE.

Remove the last diskette used during restoration.

Press [SPACE]

The screen displays the backup-to-floppy main menu. The contents of VOL13 has been successfully restored. Exit the program.

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