Multiple
Server
Update
Guide

CORVUS

Multiple Server
Update Guide

TABLE OF CONTENTS

HOW TO USE
THIS GUIDE

This guide explains how to update an existing Omninet™ local area network using Constellation II software to accept more than one disk server and disk system or OmniDrive™ mass storage system. The disk servers must have ROM version DSD9B or later. Contact the Corvus Customer Service Department for further information.

Adding another disk server and disk system or OmniDrive means having multiple servers on the network. Both systems have disk servers: the disk system needs an external disk server to communicate on the network and OmniDrive has its server built in.

Throughout this guide the term server refers to either the combination of a disk server and disk system or an OmniDrive.

Adding multiple servers to a network with one computer type requires checking the Omninet address, setting the bias switch and merging user tables. Updating a network with more than one computer type requires the above procedures plus matching the boot files. Adding a new computer type as well as additional servers involves all the above procedures, but matching the boot files may require several extra steps.

First finish the system generation guide for the particular computer and operating system being used, then turn to this guide.

Start at the section "Setting the Switches" to check the Omninet addresses and set the bias switches properly.

All users will go to the section "Merging the User Tables" to create matching user tables. The tables of users in the CORVUS volumes on all servers on the network must be identical for users to boot.

Users adding a new server to a network with utility servers or more than one computer type also will go to the section "Updating the Boot Files." Each utility server or computer type, with several exceptions, has its own boot file in the CORVUS volume. The types of boot files in the CORVUS volumes on all servers on the network must be identical.

A section on volume mounting with multiple servers concludes this guide.

SETTING THE SWITCHES

Before connecting the new server to the network, make sure all servers have unique addresses and their bias switches are set properly. The first server on the network must have the bias on, and all other servers must have the bias off. Follow the steps below to check the addresses and set the bias properly.

1. Locate the switches on the disk server or OmniDrive.

Remove the cover of the disk server to reveal the switches. For instructions, see the installation guide used to set up the disk server. The OmniDrive switches are visible on the back of the drive.
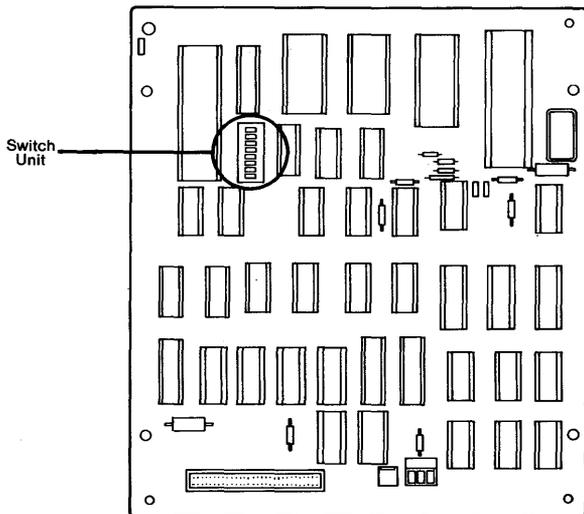
Disk Server
Circuit Board
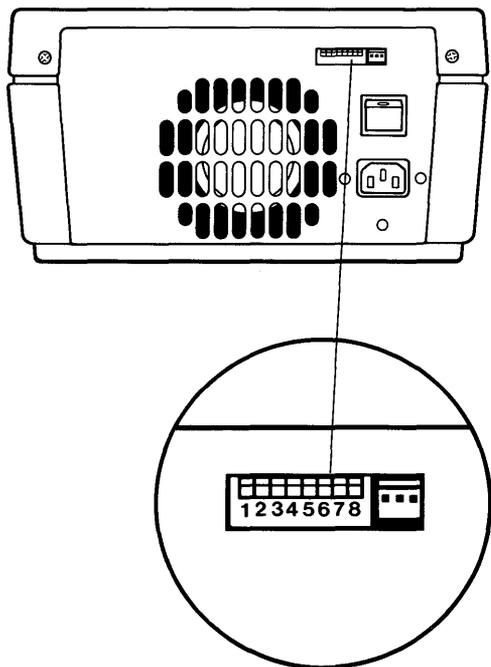
OmniDrive Back Panel

2. Check the Omninet address.

The first six switches are used for the
Omninet address. Switches 7 and 8 are not
used for the address. The first server on the
network may have been set to address 0, but
additional servers must have their own
addresses.

Make sure each server has a unique address. For a disk server, use the chart labeled "Disk Server Addresses and Switch Settings." For an OmniDrive, use the chart labeled "OmniDrive Addresses and Switch Settings." Be sure to use the right chart.

Address	Switch Setting						Address	Switch Setting					
	1	2	3	4	5	6		1	2	3	4	5	6
0	▲	▲	▲	▲	▲	▲	32	▲	▲	▲	▲	▲	•
1	•	▲	▲	▲	▲	▲	33	•	▲	▲	▲	▲	•
2	▲	•	▲	▲	▲	▲	34	▲	•	▲	▲	▲	•
3	•	•	▲	▲	▲	▲	35	•	•	▲	▲	▲	•
4	▲	▲	•	▲	▲	▲	36	▲	▲	•	▲	▲	•
5	•	▲	•	▲	▲	▲	37	•	▲	•	▲	▲	•
6	▲	•	•	▲	▲	▲	38	▲	•	•	▲	▲	•
7	•	•	•	▲	▲	▲	39	•	•	•	▲	▲	•
8	▲	▲	▲	•	▲	▲	40	▲	▲	▲	•	▲	•
9	•	▲	▲	•	▲	▲	41	•	▲	▲	•	▲	•
10	▲	•	▲	•	▲	▲	42	▲	•	▲	•	▲	•
11	•	•	▲	•	▲	▲	43	•	•	▲	•	▲	•
12	▲	▲	•	•	▲	▲	44	▲	▲	•	•	▲	•
13	•	▲	•	•	▲	▲	45	•	▲	•	•	▲	•
14	▲	•	•	•	▲	▲	46	▲	•	•	•	▲	•
15	•	•	•	•	▲	▲	47	•	•	•	•	▲	•
16	▲	▲	▲	▲	•	▲	48	▲	▲	▲	▲	•	•
17	•	▲	▲	▲	•	▲	49	•	▲	▲	▲	•	•
18	▲	•	▲	▲	•	▲	50	▲	•	▲	▲	•	•
19	•	•	▲	▲	•	▲	51	•	•	▲	▲	•	•
20	▲	▲	•	▲	•	▲	52	▲	▲	•	▲	•	•
21	•	▲	•	▲	•	▲	53	•	▲	•	▲	•	•
22	▲	•	•	▲	•	▲	54	▲	•	•	▲	•	•
23	•	•	•	▲	•	▲	55	•	•	•	▲	•	•
24	▲	▲	▲	•	•	▲	56	▲	▲	▲	•	•	•
25	•	▲	▲	•	•	▲	57	•	▲	▲	•	•	•
26	▲	•	▲	•	•	▲	58	▲	•	▲	•	•	•
27	•	•	▲	•	•	▲	59	•	•	▲	•	•	•
28	▲	▲	•	•	•	▲	60	▲	▲	•	•	•	•
29	•	▲	•	•	•	▲	61	•	▲	•	•	•	•
30	▲	•	•	•	•	▲	62	▲	•	•	•	•	•
31	•	•	•	•	•	▲	63	•	•	•	•	•	•
	1	2	3	4	5	6		1	2	3	4	5	6
Address	Switch Setting						Address	Switch Setting					

▲ = switch up
• = switch down

*Disk Server Addresses
and Switch Settings*

5

Address	Switch Setting							Address	Switch Setting					
	1	2	3	4	5	6			1	2	3	4	5	6
0	•	•	•	•	•	•		32	•	•	•	•	•	▲
1	▲	•	•	•	•	•		33	▲	•	•	•	•	▲
2	•	▲	•	•	•	•		34	•	▲	•	•	•	▲
3	▲	▲	•	•	•	•		35	▲	▲	•	•	•	▲
4	•	•	▲	•	•	•		36	•	•	▲	•	•	▲
5	▲	•	▲	•	•	•		37	▲	•	▲	•	•	▲
6	•	▲	▲	•	•	•		38	•	▲	▲	•	•	▲
7	▲	▲	▲	•	•	•		39	▲	▲	▲	•	•	▲
8	•	•	•	▲	•	•		40	•	•	•	▲	•	▲
9	▲	•	•	▲	•	•		41	▲	•	•	▲	•	▲
10	•	▲	•	▲	•	•		42	•	▲	•	▲	•	▲
11	▲	▲	•	▲	•	•		43	▲	▲	•	▲	•	▲
12	•	•	▲	▲	•	•		44	•	•	▲	▲	•	▲
13	▲	•	▲	▲	•	•		45	▲	•	▲	▲	•	▲
14	•	▲	▲	▲	•	•		46	•	▲	▲	▲	•	▲
15	▲	▲	▲	▲	•	•		47	▲	▲	▲	▲	•	▲
16	•	•	•	•	▲	•		48	•	•	•	•	▲	▲
17	▲	•	•	•	▲	•		49	▲	•	•	•	▲	▲
18	•	▲	•	•	▲	•		50	•	▲	•	•	▲	▲
19	▲	▲	•	•	▲	•		51	▲	▲	•	•	▲	▲
20	•	•	▲	•	▲	•		52	•	•	▲	•	▲	▲
21	▲	•	▲	•	▲	•		53	▲	•	▲	•	▲	▲
22	•	▲	▲	•	▲	•		54	•	▲	▲	•	▲	▲
23	▲	▲	▲	•	▲	•		55	▲	▲	▲	•	▲	▲
24	•	•	•	▲	▲	•		56	•	•	•	▲	▲	▲
25	▲	•	•	▲	▲	•		57	▲	•	•	▲	▲	▲
26	•	▲	•	▲	▲	•		58	•	▲	•	▲	▲	▲
27	▲	▲	•	▲	▲	•		59	▲	▲	•	▲	▲	▲
28	•	•	▲	▲	▲	•		60	•	•	▲	▲	▲	▲
29	▲	•	▲	▲	▲	•		61	▲	•	▲	▲	▲	▲
30	•	▲	▲	▲	▲	•		62	•	▲	▲	▲	▲	▲
31	▲	▲	▲	▲	▲	•		63	▲	▲	▲	▲	▲	▲
	1	2	3	4	5	6			1	2	3	4	5	6
Address	Switch Setting							Address	Switch Setting					

▲ = switch up
• = switch down

OmniDrive Addresses
and Switch Settings

6

3. Check the bias switch on the first server.

On a disk server, switch 7 is the bias switch. If a disk server was the first server on the network, make sure its switch 7 is set ON to set the bias on.
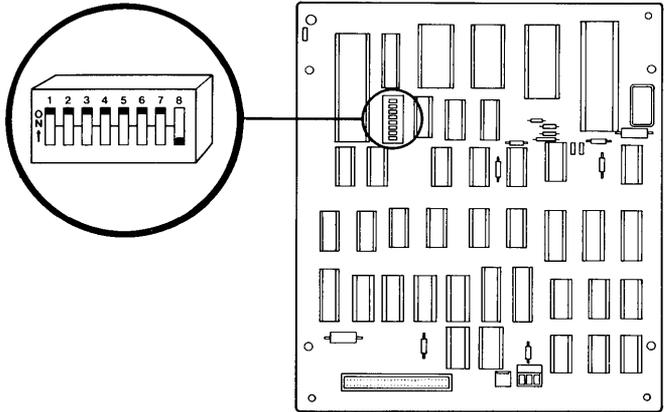
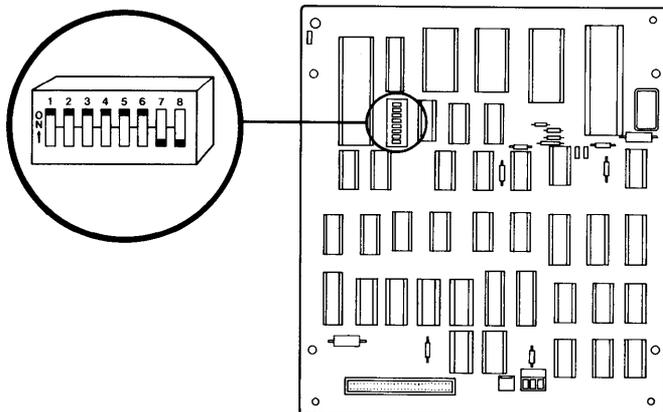*First Disk Server Bias Switch Setting*

On an OmniDrive, switch 8 is the bias switch.
If an OmniDrive was the first server on the
network, make sure its switch 8 is set DOWN
to set the bias on.
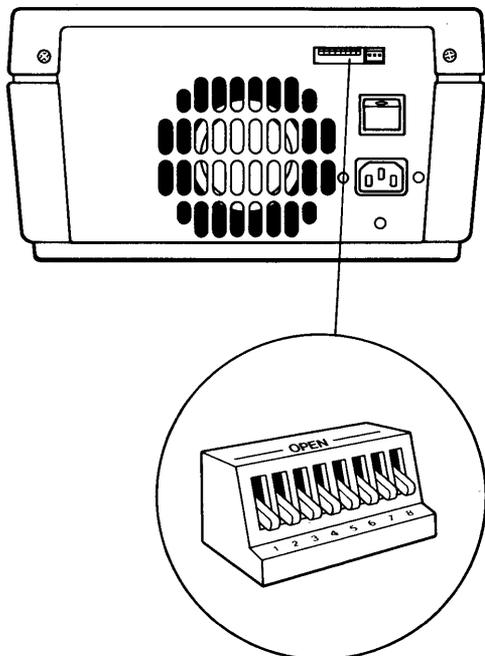
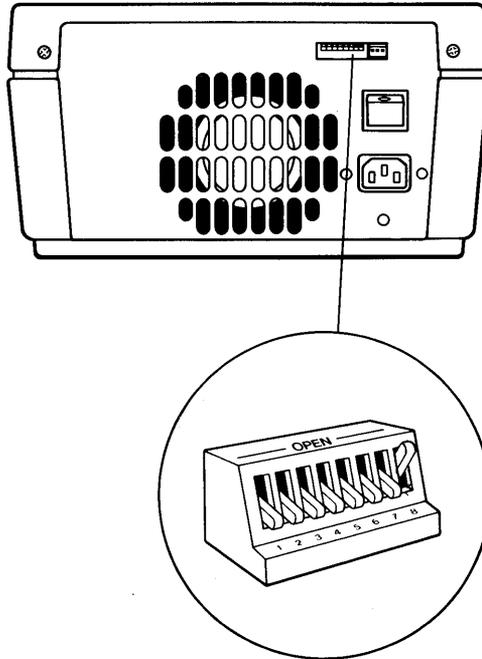*First OmniDrive Bias Switch Setting*

4. Check the bias switch on the new server.

If a disk server was just added to the network, make sure switch 7 is set OFF to set the bias off. All additional servers should have the bias off.

New Disk Server Bias Switch Setting

If an OmniDrive was just added to the network, make sure switch 8 is set UP to set the bias off. All additional servers should have the bias off.

New OmniDrive Bias Switch Setting

Go to the next section, "Merging the User Tables," to create matching user tables.

MERGING THE
USER TABLES

Merging user tables requires complete control of the
network. Make sure that no one is trying to use the
network when following the steps below. Turn off all
existing mass storage systems.

Connect the new system just generated, and the new
computer, if any, to the existing network. Follow the
appropriate steps in the setup instructions for the
system and the installation guide for the computer.

Use this section to merge the user tables. Make sure the
new server is turned on and the existing servers are left
turned off until instructed to turn them on.

1. Log on as system manager.

Log on at the computer used to generate the
new system just connected. The system
manager's log-on name and password are in
the system manager guide for the computer.
If the screen doesn't already display the
Constellation II main menu, enter
Constellation II.

2. Turn on the existing servers.

If you have The Bank™ mass storage system,
do not turn it on. After turning the servers on,
wait until only the red indicator light labeled
READY is lit on all drives before performing
the next step.
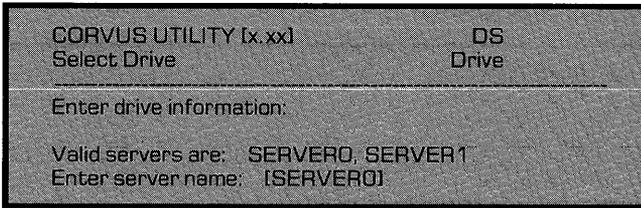
11

3. Select the drive management option.

Press D

The screen displays the drive management main menu.

4. Select the new server.

Press S

The screen display is similar to:

```
CORVUS UTILITY [x.xx]                    DS
Select Drive                             Drive
─────────────────────────────────────────────
Enter drive information:

Valid servers are:  SERVER0, SERVER1
Enter server name:  [SERVER0]
```

Type the server name, drive name and password for the new server and **press** [RETURN].

The screen displays the drive management main menu again.

5. Select the user manager.

Press U

The screen displays the user manager main menu.

6. Select the merge user tables option.

Press M

After a moment, the screen display is similar to:

```
User Manager [x.xx]          DS SERVER1
Merge User Tables            Drive DRIVE1
─────────────────────────────────────────
Press <BREAK> to terminate merge.
Looking at server SERVER0
User APCPMUSER added
User APDOSUSER added
User APMGR added
User APPASUSER added
User SERVER1 added
All servers updated.
─────────────────────────────────────────
Press <SPACE> to continue
```

The program automatically checks all the servers on the network and displays a similar list for each. Accept the suggested responses until all servers are updated.

Press [SPACE] , then return to the drive management main menu.

7. Repeat the steps for an existing server.

Repeat steps 4 through 6 above, selecting an existing server in step 4. It is necessary to repeat the procedure only once, no matter how many servers or computer types existed previously, because the existing user tables had to match for the network to work.

8. Exit Constellation II.

When finished merging the user tables, exit Constellation II completely.

Users adding the new server to a network that only has one computer type and no utility servers are done. Go to the appropriate system manager guide to create users and volumes and grant access.

Users adding the new server to a network that has utility servers or more than one computer type must go to the next section, "Updating the Boot Files."

UPDATING THE BOOT FILES

Updating boot files requires complete control of the network. Make sure that no one is trying to use the network when following the steps below.

Users adding the new server to a network that has utility servers must first go to the subsection "Utility Servers." Multiple server networks that are using a utility server to despool files to a printer must have the PIPES volume on the disk system at Omninet address 0. The utility server cannot despool files from servers other than server 0.

Users adding the new server to a network that has more than one computer type must also complete the subsection "Existing Computers."

Users adding the new server and a new computer type to an existing network of one or more computer types must also complete the subsection "New Computers."

UTILITY SERVERS

Follow the steps below to add the utility server boot files to the new server.

1. Turn off the new server.

Turn off the system just generated.

2. Log on as system manager.

Log on at the computer used to establish utility server service initially.

If the screen doesn't already display the Constellation II main menu, enter the Constellation II program.

3. Turn on the new server.

After turning the server on, wait until only the drive's red indicator light labeled READY is lit before performing the next step.

4. Select the drive management option.

Press D

The screen displays the drive management main menu.
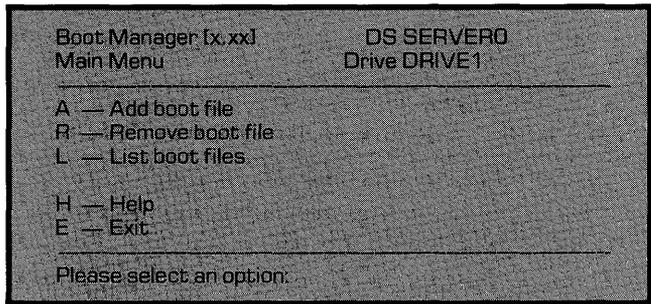
5. Select the server at Omninet address 0.

Press S

Type the server name, drive name and password for the server and **press** ⌷RETURN⌷ .

6. Select the boot manager.

Press B

Some computers may unmount a volume and require **pressing** [SPACE] before continuing the program.
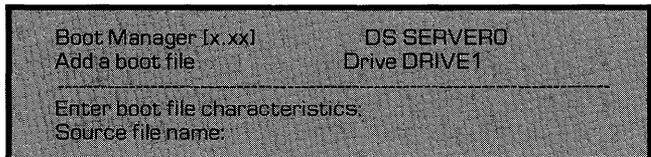
The screen displays the boot manager main menu:

```
Boot Manager [x.xx]        OS SERVER0
Main Menu                  Drive DRIVE1
─────────────────────────────────────────
A — Add boot file
R — Remove boot file
L — List boot files

H — Help
E — Exit
─────────────────────────────────────────
Please select an option:
```

7. Select add a boot file.

Press A

The screen displays:

```
Boot Manager [x.xx]        OS SERVER0
Add a boot file            Drive DRIVE1
─────────────────────────────────────────
Enter boot file characteristics:
Source file name:
```
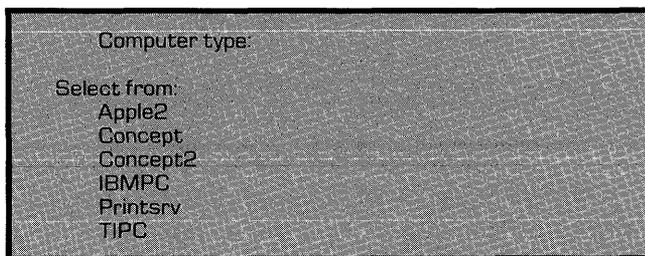
8. Enter the boot file name.

The file name is BOOT.PRINTSRV and the type is a printer server, or Printsrv.

The boot file can be found in the PSERVER volume. The system manager should already have access to the PSERVER volume. On a Corvus Concept™ personal workstation, **type** the name using the format "/PSERVER/filename" to specify the source file name and **press** [RETURN] . On all other computers, **type** the name using the format "PSERVER:filename" and **press** [RETURN] .

The screen display is similar to:

```
Computer type:

Select from:
      Apple2
      Concept
      Concept2
      IBMPC
      Printsrv
      TIPC
```

9. Enter the computer type.

Type PRINTSRV and **press** [RETURN] .
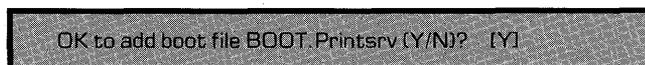
The screen display is similar to:

```
OK to add boot file BOOT.Printsrv (Y/N)?   [Y]
```

10. Add the boot file.

Press $\boxed{\text{RETURN}}$

The screen display is similar to:

```
Mounting volume CORVUS on unit 20

Copying file . . . . . . . . .
2 blocks written to file BOOT.Printsrv

Update all servers?  [Y]
```

All existing servers must have the proper files
for the network to function. Update all
servers to ensure that the file is on all servers.

Press $\boxed{\text{RETURN}}$

Once all servers are updated, **press** $\boxed{\text{SPACE}}$
twice, then exit Constellation II.

11. Repeat the steps for all types.

Repeat steps 1 through 11 for each different utility server type on the network.

Users with only one computer type and one or more utility servers are done once the utility server boot files have been added. Go to the appropriate system manager guide to create users and volumes and grant access.

Users with more than one computer type, and those having added a new computer type other than the Zenith Z-100™ or the DEC Rainbow 100,™ must go to the next section, "Existing Computers," once all utility server boot files have been added.

Users having added a new computer type to a network currently using only the Zenith Z-100 or the DEC Rainbow 100 must skip to the subsection "New Computers" to add the new boot file to the existing servers.

DEC Rainbow 100™ is a trademark of Digital Equipment Corporation.
Zenith Z-100™ is a trademark of Zenith Data Systems.

EXISTING COMPUTERS

Follow the steps below to add all the existing boot files to the new server. The procedure described in this section will be repeated for each computer type, except the Zenith Z-100 and the DEC Rainbow 100, on the network. The Rainbow 100 and the Z-100 do not use boot files.

1. Turn off the new server.

Turn off the system just generated.

2. Log on as system manager.

Log on at a computer that already works with the network.

If the screen doesn't already display the Constellation II main menu, enter the Constellation II program.

3. Turn on the new server.

Turn on the system just generated. After turning the server on, wait until only the drive's red indicator light labeled READY is lit before performing the next step.

4. Select the drive management option.

Press D

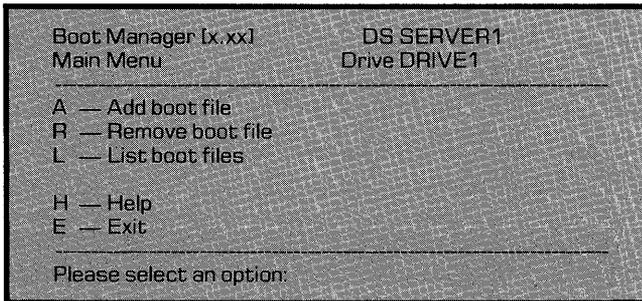The screen displays the drive management main menu.

5. Select the new server.

Press S

Type the server name, drive name and password for the new server and **press** [RETURN] .

6. Select the boot manager.

Press B

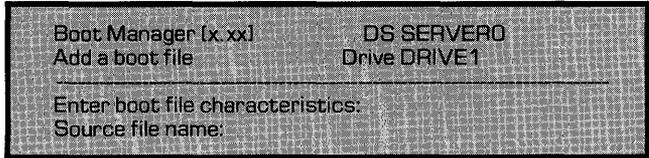Some computers may unmount a volume and require **pressing** [SPACE] before continuing the program.

The screen displays the boot manager main menu:

```
Boot Manager [x.xx]            DS SERVER1
Main Menu                      Drive DRIVE1
────────────────────────────────────────────
A — Add boot file
R — Remove boot file
L — List boot files

H — Help
E — Exit
────────────────────────────────────────────
Please select an option:
```

7. Select add a boot file.

Press A

The screen displays:

```
Boot Manager [x.xx]              DS SERVER0
Add a boot file                  Drive DRIVE1
─────────────────────────────────────────
Enter boot file characteristics:
Source file name:
```

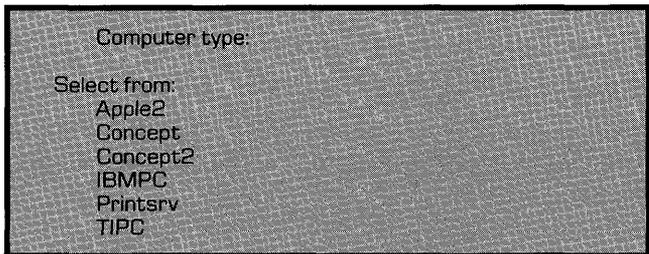# 8. Enter the boot file name.

The following chart shows the various computer types and boot file names:

Computer Type	File Name
Corvus Concept	BOOT.CONCEPT
Apple II	BOOT.APPLE2
Corvus Concept+	BOOT.CONCEPT2
IBM PC	BOOT.IBMPC
TI Professional	BOOT.TIPC

Type the file name for the computer currently being used and **press** [RETURN] .

The screen display is similar to:

```
Computer type:

Select from:
    Apple2
    Concept
    Concept2
    IBMPC
    Printsrv
    TIPC
```

9. Enter the computer type.

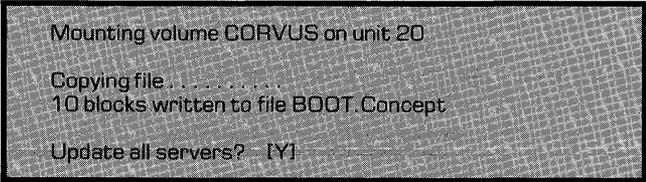**Type** the correct name and **press** RETURN .

The screen display is similar to:

> OK to add boot file BOOT.Concept (Y/N) [Y]

10. Add the boot file.

Press RETURN

The screen display is similar to:

> Mounting volume CORVUS on unit 20
>
> Copying file . . . .
> 10 blocks written to file BOOT.Concept
>
> Update all servers? [Y]

All existing servers must have the proper files for the network to function. Update all servers to ensure that the file is on all servers.

Press RETURN

Once all servers are updated, **press** SPACE twice, then exit Constellation II.

11. Repeat the steps for all types.

Repeat steps 1 through 11 for every different existing computer type on the network, except the DEC Rainbow 100 and Zenith Z-100.

If the new system was generated using a new computer type other than the DEC Rainbow 100 or Zenith Z-100, go to the next subsection, "New Computers," once all existing boot files match. Otherwise, go to the appropriate system manager guide to create users and volumes and grant access.

NEW COMPUTERS

Complete the steps below to add the new computer's boot file to the existing servers.

1. Turn off the existing servers.

Turn off all the existing servers, but leave the new server on.

2. Log on as system manager.

Log on at the new computer.

If the screen doesn't already display the Constellation II main menu, enter the Constellation II program.

3. Turn on the existing servers.

Do not turn on The Bank mass storage system. Turn on all the existing servers. After turning the servers on, wait until only the red

4. Select the drive management option.

Press D

The screen displays the drive management main menu.

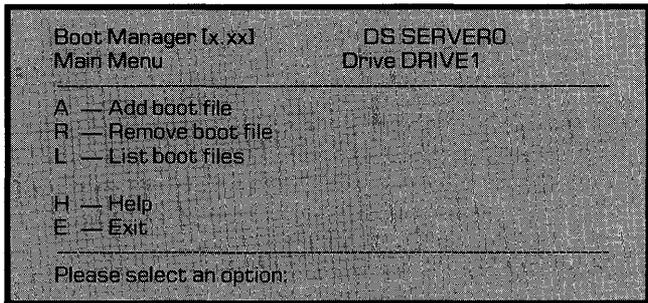## 5. Select one of the existing servers.

Press S

Type the server name, drive name and password for one of the existing servers and **press** ⌈RETURN⌋ .

6. Select the boot manager.

Press B

Some computers may unmount a volume and require **pressing** ⟨SPACE⟩ before continuing the program.
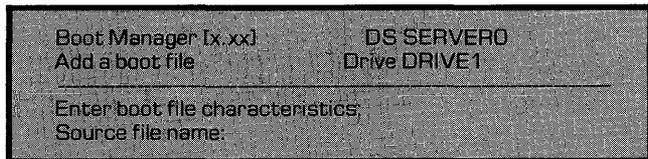
The screen displays the boot manager main menu:

```
Boot Manager [x.xx]          DS SERVER0
Main Menu                    Drive DRIVE1
─────────────────────────────────────────
A — Add boot file
R — Remove boot file
L — List boot files

H — Help
E — Exit
─────────────────────────────────────────
Please select an option:
```

7. Select add a boot file.

Press A

The screen displays:

```
Boot Manager [x.xx]          DS SERVER0
Add a boot file              Drive DRIVE1
─────────────────────────────────────────
Enter boot file characteristics:
Source file name:
```
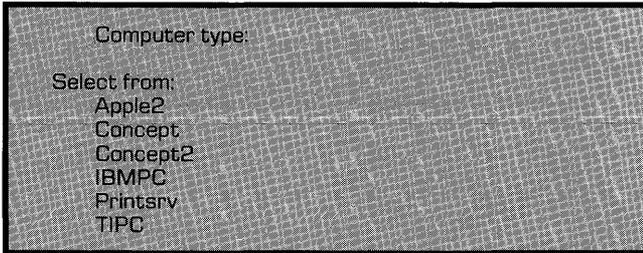
8. Enter the boot file name.

The following chart shows the various computer types and boot file names:

Computer Type	File Name
Corvus Concept	BOOT.CONCEPT
Apple II	BOOT.APPLE2
Corvus Concept +	BOOT.CONCEPT2
IBM PC	BOOT.IBMPC
TI Professional	BOOT.TIPC

Type the file name for the computer currently being used and **press** [RETURN] .

The screen display is similar to:

```
Computer type:

Select from:
    Apple2
    Concept
    Concept2
    IBMPC
    Printsrv
    TIPC
```

9. Enter the computer type.

Type the correct name and **press** [RETURN] .

The screen display is similar to:

```
OK to add boot file BOOT.Apple2 ?   (Y/N) [Y]
```

10. Add the boot file.

Press [RETURN]

The screen display is similar to:

```
Mounting volume CORVUS on unit 20

Copying file . . . . . . . .
10 blocks written to file BOOT.Apple2

Update all servers?   [Y]
```

All existing servers must have the proper files for the network to function. Update all servers to ensure that the file is on all servers.

Press [RETURN]

Once all servers are updated, **press** [SPACE] twice, then exit Constellation II.

Go to the appropriate system manager guide to create volumes and users and grant access. The next section, "Volume Mounting Information," contains information that pertains to using a multiple server network. Refer to the section after the network is operational.

VOLUME MOUNTING INFORMATION

Different computer types and operating systems handle volume mounting differently on a multiple server network.

The home disk server is the key to volume mounting on a multiple server network. The home disk server is specified when creating the user account. The home disk server contains the user's boot information as well as other volumes.

Volumes on the home disk server that are designated as mounted are mounted automatically at boot time. When Constellation II mounts volumes on a multiple server network, volumes on other servers may or may not be mounted, depending on computer type and operating system. Volumes on The Bank are never mounted automatically. Volumes can also be mounted

after booting with the mount manager program. The table below outlines the conditions for mounting on a multiple server network.

CONDITIONS FOR VOLUME MOUNTING

COMPUTER TYPE	OPERATING SYSTEM	HOME DISK SERVER	OTHER SERVERS	THE BANK
Corvus Concept	CCOS	automatic	automatic	manual
Apple II	DOS 3.3	automatic	automatic	manual
	Pascal	automatic	automatic	manual
	CP/M-80	automatic	manual	manual
DEC Rainbow 100	CP/M-86	automatic	manual	
	MSDOS 2.x	automatic	manual	
TI Professional	MSDOS 1.25	automatic	none	none
	MSDOS 2.x	automatic	manual	manual
Zenith Z-100	CP/M-85	automatic	manual	
	MSDOS 2.x	automatic	manual	

LEGEND

Automatic—Volumes mounted at boot time

Manual   —Volumes mounted with the mount manager program

None   —Volumes cannot be mounted