

3+Share[®] Version 1.6

Release Guide

3+Share® Version 1.6 Release Guide

**For 3Com User Group Information
1-800-NET-3Com**

**Manual Part No. 4703-03
Published April 1990. Printed in the U.S.A.**

3Com Corporation
3165 Kifer Road
Santa Clara
California
95052-8145

© 3Com Corporation, 1990. All rights reserved. No part of this manual may be reproduced in any form or by any means or used to make any derivative work (such as translation, transformation, or adaptation) without permission from 3Com Corporation.

3Com Corporation reserves the right to revise this publication and to make changes in content from time to time without obligation on the part of 3Com Corporation to provide notification of such revision or change.

3Com Corporation provides this guide without warranty of any kind, either implied or expressed, including, but not limited to, the implied warranties of merchantability and fitness for a particular purpose. 3Com may make improvements or changes in the product(s) and/or the program(s) described in this manual at any time.

Use, duplication, or disclosure by the government shall be expressly subject to restrictions as set forth in subparagraph (c) (1) (ii) for restricted Rights in Technical Data and Computer Software clause at 252.227-7013 of the DOD FAR Supp.

3Com, 3+, 3+Backup, 3+Mail, 3+Menus, 3+Remote, 3+Route, 3+Share, 3Server3, 3Station, MultiConnect, EtherLink, EtherLink Plus, EtherLink II, TokenLink, and TokenLink Plus are all registered trademarks of 3Com Corporation. 3+Open, 3+NetConnect, and 3+Start are trademarks of 3Com Corporation.

Microsoft Word and MS-DOS are registered trademarks of Microsoft Corporation. IBM is a registered trademark of International Business Machines Corporation. PS/2 is a trademark of International Business Machines Corporation. Hayes is a registered trademark of Hayes Microcomputer Corporation. Compaq and Deskpro are trademarks of Compaq Computer Corporation. Microcom is a trademark of Microcom Corporation. Aldus and PageMaker are registered trademarks of Aldus Corporation. AST is a trademark of AST Research. Apple, AppleTalk, LocalTalk, AppleShare, MultiFinder, LaserWriter, and Macintosh are registered trademarks of Apple Computer, Incorporated.

This manual was produced using Microsoft Word on a 3Com 3+ network.

Contents

Introduction 1

General Installation 2

3+ System Tapes 2

Using Nonalphabetic Characters with 3+Name and 3+Share 2

Maximum Storage Capacity 2

RAM Disks on a 3Station® Netstation 3

Invalid Drive Numbers in 3OPT Display 3

The 3+Start™ Supplement for the 3S/400 3

Maximum 24 Disk Partitions Available 3

MAKEDISK Supports DOS 3.X and 4.X Redirectors 3

Using MAKEDISK to Create a DOS 4.0 Netstation Startup Diskette 4

3Com Server Installation 5

Naming a Server with International Characters 5

Com Port 3 on 3Com 3S/5XX Servers Cannot Be Used 5

Using IBM Token-Ring Network 16/4 Adapters and 3ComEMM
in 3Com 3S/4XX and 3S/5XX Servers 5

Using 3DISK to Remove Drive C: 5

Hardware Information File Problem 6

3Server3® Server with Locator 7

Number of DOS Volumes 7

Using a Compaq™ 386/20 for a Console Connection to a 3Com
3Server3 Server 7

Repartitioning the Hard Disk on a 3Com Server 8

PC Server Installation 9

- Creating the First PC Netstation Startup Disk 9
- New ETH523.SYS Driver Parameter 10
- EtherLink Adapter in a PC Server 11
- Loading Extra Services on a 386 PC Server 11
- 3ComEMM Memory Management Program 12
- Using PC Servers with the IBM Token-Ring Network 16/4 Adapter with 3CommEMM 13
- High Memory Information Available from 3ComEMM 13
- Communications with a PC Server 13
- Support Added for Port #2 on IBM Dual Asynch/A Adapter 14
- CIO SYS Buffer Pool Allocation on PC Servers 14

Token Ring Installation 15

- Token Ring Drivers for a 3+ Network or Mixed 3+ and 3+Open™ Network 15
- 3Com TokenLink 15
- All IBM Token Ring Adapters Including the IBM Token-Ring Network 16/4 Adapter 16
- Token Connection on a 3Server3 Server 17
- Quick Installation on a Token Ring Network 18
- TokenLink Plus® Adapter in all PC Servers 18
- TokenLink Adapter in Netstations 19

LocalTalk™ 20

- Adjusting Server Parameters for LocalTalk 20
- New Single Port Switch 20
- Serial Ports COM2 and COM3 on 3S/4XX and 3S/5XX Servers 21
- Serial Ports COM4 and COM5 on a 3Server3 Server 21
- LocalTalk as a Secondary Network for PC Servers 21

General Network Administration 27

- Network Administrator Can Now Define Print Queue Drive 27
- Print Queue Hold and Defer Options 27
- International Characters in Sharenames 27
- Server Naming Problems 28
- Server-Users and Sharenames with the /PRIV Attribute 28
- Redefining the Network Address When You Replace a Network Adapter 28
- Default Drive for 3S XCREATE 30

3+NetDOS Program 31

- Checking Out an MS-DOS® License 31
- Inserting a Blank, Formatted Diskette 31
- Storing all System Files on One 3-1/2-Inch Disk 31
- Length Limit on Directory Paths 31
- Mixing Different Versions of MS-DOS 31
- Recovering from an Error 32

3+Remote®, 3+Route®, and 3+NetConnect Services 33

- 3+Remote and NetBIOS 33
- 3+Route and 3+Backup® 33
- 3+NetConnect, 3+Route, and 3+Remote Parameters 33
- Disabling the 3+NetConnect Service 34
- Checking the 3+NetConnect Network Number 34
- Supported 3+NetConnect Configurations 34
- DOS-Only NetConnect Incompatible with 3Station Netstation 37

3+Backup Service 38

- CIOSYS Data Area Requirement for 3+Backup 38
- CIOSYS EMS Requirement for 3+Backup 38
- Restoring Partition C: of a Server 38
- Backup Disk Space Considerations 38
- Off-Line Backup Caution 39
- Backing Up and Restoring the \3PLUS\3BACKUP Directory 39
- Backup and Restore Log 40
- Restoring 3+Menus 40
- 3+Backup and LinkPlus Optimizer Incompatibility 40
- 3+Backup Requires Network Administrator's Home Server 40

3+Menus® 41

- New Features 41
- Parameters 44
 - SLASHKEY 45
- Main Menu Capability Parameters 45
 - COMMANDS 45
 - MENUDEMO 46
 - MENUDOS 46
 - MENUFILE 47

MENULOGINTEXT	48
MENULOGOUT	48
MENULPTS	49
MENUMAINTEXT	50
MENUSRVS	50
Banner Screen Parameters	51
COMMENT	51
COMPANY	51
MENUBANNER	52
PRODUCT	52
3+Menus Reference Guide Updates	53
APPEND Command	53
Circular Menus References	53
Quitting 3+Menus	53
Logging Out from a DOS 4 Netstation	54
Specifying a Menu Task Item	55
Using Memory Resident Programs	56
3+ Users	57
Canadian/French Keyboard	57
Compaq Portable or Deskpro Computers	57
Listing Users Linked to a Printer	57
NetBIOS Changes	58
Locator Heartbeat Period	58
Locator Retry Count	59
NetBIOS /C Switch	59
NetBIOS /M Switch	60
Clarification of Network Retrying Message	60
3+ for Macintosh Users	61
Printing from PageMaker® 3.0	61
Minimal Startup Disk Configurations	61
Accessing the Network via a Modem Connection	62

Modems 64

Installing Internal Modems on a Token Ring Network 64

3+Route on Token Ring 64

Mixing Hayes® and Microcom™ Modems 64

Changing the Baud Rate on a Microcom Modem 65

3+Monitor 65

OS/2 Presentation Manager Clients and 3+Servers 65

Introduction

This document provides information related to the 3+® version 1.6 network software. Read this information carefully before installing or using 3+ software.

The abbreviated titles for the guides referenced in these release notes are:

3Server/500	<i>3Server/500 Network Server Guide</i>
3Server386	<i>3Server386 Guide</i>
Admin	<i>3+ Administrator's Guide</i>
Install	<i>3+ Installation and Setup Guide</i>
NetBIOS	<i>NetBIOS Supplement</i>
NetDOS	<i>3+NetDOS Installation Guide</i>
QInstall	<i>3Server3 and 3Server386 Quick Installation Guide</i>
Start	<i>3+Start Supplement for the 3S/400</i>
Tape	<i>3+ Tape Installation Guide</i>
TokenLink	<i>TokenLink Installation Guide</i>
Tuning	<i>3+ Network Tuning Guide</i>

General Installation

The release notes in this section describe installation and configuration information that applies to both 3Com and PC servers. For information specific to 3Com or PC servers, see the appropriate section later in these release notes.

3+ System Tapes

Tape, p. 1-4

The 3+ software package for a 3Com server may contain only one *3+System Tape* instead of two tapes, as documented in the *3+ Tape Installation Guide*.

Using Nonalphabetic Characters with 3+Name and 3+Share

Using certain nonalphabetic characters in user and share folder names can result in irregular handling of folders and user names. For example, if a cent sign (¢) or a yen symbol (¥) are entered as part of a user name, and another name is added with a different symbol in the relative location, (fred¥ and fred\$), the Name service will interpret the fred\$ as a duplicate of fred¥ and refuse to add it.

In other cases, if a shared folder is created with a name containing one of the problematic international characters, and a user tries to link to the folder, a new folder will be created that does not contain the folders and files of the original. For example, if the file ¥revenue is created as a shared file, the user would actually link to a file called revenue. The folder revenue would not contain the files found in ¥revenue, and the user would have no way of accessing the files and folders found in ¥revenue.

Maximum Storage Capacity

The 3+ network operating system can support up to 4096 MB (4 GB) of hard disk storage on a server. If a server exceeds this amount, the 3INS and 3OPT utility programs will instruct you to reduce it.

RAM Disks on a 3Station® Netstation

Start, p. 3-16

If you use DRIVER.LOD and RAMDrive to create a RAM disk in the memory of a 3Station netstation, the first parameter of the command must be a dummy parameter. For example:

```
device = driver.lod ramdrive x 256 512 64 /e
```

Invalid Drive Numbers in 3OPT Display

You may experience a problem with one of the screen displays of the 3OPT program if the server has multiple external drives. When you select the CIOSYS option of 3OPT and then Network Drives, 3OPT displays a list of all the partitions on the server and the physical drive on which each partition resides. On a server with multiple external hard disks, the disk drive numbers may be wrong. If they are incorrect, you can change them using the + and - keys. The server will operate normally even if you do not make the correction, but you may lose some performance in the speed of the server.

The 3+Start™ Supplement for the 3S/400

Start

The *3+Start Supplement for the 3S/400* applies to all 3+ servers.

Maximum 24 Disk Partitions Available

The maximum number of disk partitions possible with 3+ software is 24, which reflects drives C: through Z:.

MAKEDISK Supports DOS 3.X and 4.X Redirectors

Install, p. 9-4

The MAKEDISK program now supports DOS version 3.X and 4.X redirectors. When you run MAKEDISK, a message screen now asks for which version of DOS you are using to build the boot diskette.

Using MAKEDISK to Create a DOS 4.0 Netstation Startup Diskette

Install, Chap. 9

To create a DOS 4.0 netstation startup diskette with the MAKEDISK utility and the full NetBIOS option, you must use a diskette with at least 720K available.

3Com Server Installation

The following notes discuss installation and configuration information specific to 3Com servers. For general server information or for information specific to PC servers, see the appropriate notes in this section.

Naming a Server with International Characters

Since the LCD on a 3Com server is not designed to display international characters, 3Com recommends that you use only the English alphabet (A through Z) and/or numbers when naming a server. If you do use international characters, the LCD either will not display the name or will display the name incorrectly. However, this will not affect the operation of the server.

Com Port 3 on 3Com 3S/5XX Servers Cannot Be Used

Because the 3Com 3S/5XX servers do not have the proper connector on the back panel, you cannot use Com port 3, although it appears as configurable when you run the installation.

Using IBM Token-Ring Network 16/4 Adapters and 3ComEMM in 3Com 3S/4XX and 3S/5XX Servers

The IBM Token-Ring Network 16/4 adapter is not supported in a 3Com 3S/4XX server, but it is supported in a 3S/5XX server.

Using 3DISK to Remove Drive C:

An anomaly exists in the 3DISK utility that only becomes apparent when you have used the utility to remove drive C:. When you do this, the default installation drive becomes drive A:. When you then attempt to install 3+ software, the installation program tries to install the software on drive A: and may damage the installation disk and prevent installation of the software on the server. To avoid this, make sure that after you remove drive C: you replace it before you exit the 3DISK utility or attempt to install any software.

Hardware Information File Problem

If you run 3INS on a 3Server server when the attached netstation's drive C: is linked to the root directory of the server's drive C:, the HWINFO.CFG file that is created will, incorrectly, reflect the configuration of the netstation rather than the server. To prevent this, run 3INS using 3C rather than 3F to make the links, or link to the server's drive C: root directory with a drive other than C:.

3Server3® Server with Locator

A 3Server3 server with the Locator service may hang if you reset it at the same time as you reset a netstation that uses the full implementation of NetBIOS. The server will stop, and the message "Loading Locator" or "Loading Share" will appear on the LCD. To remedy the problem, turn off or reset the netstation.

Number of DOS Volumes

If you have five or more 150 MB disk drives attached to the server and each contains the default format of 512 bytes per sector and 4 sectors per cluster, the system will have more than the maximum allowable number of DOS volumes. Up to 24 volumes are allowed (one each for drives C: through Z:). When you display the configuration through the 3DISK386 "Show DOS volumes" option, any volumes after the 24th (drive Z:) are listed as question marks (?).

When five or more disk drives are attached to the server, or the number of DOS volumes exceeds 24, format one or more disk drives to have fewer, larger volumes than the defaults create.

Using a Compaq™ 386/20 for a Console Connection to a 3Com 3Server3 Server

When using a Compaq 386/20 (or a similarly fast PC) for a console connection to a 3Com 3Server3 server, you may occasionally lose the connection. If this occurs, use a slower PC to establish the console connection. If another PC is not available, edit the server's CONFIG.SYS file on the *System Software diskette #1*, changing the PRO.SYS line as follows:

For Ethernet networks:

```
device = c:\3drivers\pro.sys 20 4 4
```

For token ring networks:

```
device = c:\3drivers\pro.sys 14 2 8
```

Repartitioning the Hard Disk on a 3Com Server

If you repartition the hard disk or disk expansion unit on a 3Com server, you must save the CIOSYS values with the 3OPT program. Otherwise, the server may display the error message "Interrupt - 6" on the LCD. To save the new CIOSYS values, do the following:

- 1. Start the 3OPT program with the server in the off-line mode.**

See the *3+ Network Tuning Guide* for instructions.

- 2. From the 3OPT Main Menu screen, select the CIOSYS option by highlighting it with the selection bar and typing C.**
- 3. With the CIOSYS menu on the screen, press [Ctrl]+A to save the current values. Check CIOSYS disk drive buffer pools to verify parameters.**

No changes should be required, but it is a good idea to check to make sure there is memory left and that all disk drive buffer pools contain at least eight buffers.

- 4. At the 3OPT Main Menu, type S for Save.**

You may now reset the server for normal operation.

PC Server Installation

The following notes discuss installation and configuration information specific to PC servers. For general server information or for information specific to 3Com servers, see the appropriate notes in this section.

Creating the First PC Netstation Startup Disk

Install, p.10-4

The procedure for creating a netstation startup diskette will not work if you installed a PC server. The procedure instructs you to use the *Quick Installation Workstation* diskette for a new network. However, this diskette is not included in the PC server version of 3+Share version 1.6 (3C2000J).

To create the *first* PC netstation startup disk on a PC server, do the following:

1. After you install the 3+ software on the PC server, the server menu appears:

1. Start up as a dedicated server.
2. Start as a workstation
3. Run the 3INS program
4. Run the 3OPT program
5. Exit to DOS

This is the server menu for a dedicated PC server. If you designated the PC as a concurrent server, the menu will include an additional option for running the server in the concurrent mode.

2. Select option 5, Exit to DOS.
3. Change to drive C:.
4. Change to the \APPS subdirectory with the DOS CD command. Type:

```
\cd \apps
```

5. Perform the MAKEDISK procedure.

Refer to the *3+ Installation and Setup Guide* for information on the MAKEDISK procedure. You may run the MAKEDISK program as many times as necessary to create your startup disks.

6. Reset the server and wait for the server menu to appear.

7. Select the option to start the PC as a network server.

Future PC startup disks can be created by following the procedure in Chapter 10 of the *3+ Installation and Setup Guide*.

New ETH523.SYS Driver Parameter

An optional parameter for EtherLink®/MC adapters in PC servers has been added for the ETH523.SYS and 2ETH523.SYS drivers. If there is more than one EtherLink/MC adapter in a system, this parameter allows you to specify which adapter will be used by ETH523.SYS as the primary adapter, and which will be used by 2ETH523.SYS as the secondary adapter.

To use the parameter, modify the appropriate device= line of the CONFIG.SYS file as follows:

```
device=eth23.sys /slot:3  
device=2eth523.sys /slot:4
```

where 3 is the number of the MicroChannel slot where the EtherLink/MC adapter is installed. Valid slots values are 1 through 8.

When no slot is specified, the drivers will search all available MicroChannel slots, beginning with slot 1, and will use the first EtherLink/MC adapter found as the primary adapter and the second as the secondary adapter.

If an invalid slot or a slot that does not contain an enabled EtherLink/MC adapter is specified, the parameter is ignored and the available MicroChannel slots are searched just as if no parameter had been specified.

This new parameter is useful when:

- The primary adapter in a 3+NetConnect™ server is in a higher numbered slot than the secondary adapter.
- The secondary adapter in a 3+NetConnect server is an EtherLink/MC adapter, but the primary adapter is a different type of adapter. In this case, if you did not specify slots for the primary and secondary adapters, the EtherLink/MC adapter would be used as the primary adapter and the software would assume that there was no secondary adapter.
- You want to specify which adapter is referenced by the ETH523.SYS or 2ETH523.SYS driver.

EtherLink Adapter in a PC Server

For best performance and reliability, 3Com recommends the EtherLink II® or EtherLink Plus® adapter, instead of the standard EtherLink adapter, for all PC servers on an Ethernet network. This recommendation is particularly important if you have Macintosh computers on the Ethernet network that will be accessing the server frequently.

Loading Extra Services on a 386 PC Server

By properly configuring a 386 PC server, space can be made to load one additional service. For example, 3+Name, 3+Share, 3+Mail®, and Macintosh services can be loaded simultaneously. This is true only for 386 PC servers, and will not work for 286-based PC servers. This does not apply to dedicated 3Com servers such as the 3Server386 server.

To configure a 386 PC server for maximum capacity, you need:

- Either a monochrome (non-graphics) video adapter requiring 4K memory or a CGA adapter requiring 16K memory.
- A minimum of 1 MB of memory available.

Along with these requirements, you must answer yes when prompted about 3ComEMM support during the installation procedure.

3ComEMM Memory Management Program

Install, p. 13-6

The following items discuss the 3ComEMM Memory Management Program:

- The LIM 4.0 driver that you received with this release of 3+ software is the only LIM driver that is fully supported. This driver is supported only on PC 386-based computers adapted as network servers.
- The effectiveness of the 3ComEMM memory management program on a PC 386-based server may be jeopardized by certain types of video cards in the server. Some video cards require more memory than others; the more memory required by the card, the less memory available for 3ComEMM to allocate to 3+ services. To optimize the services loaded into high memory on these systems, 3Com recommends that you use a monochrome card and monitor with a PC 386 server.
- If you intend to use an IBM® PS/2® Model 70 or 80 computer with an IBM Fixed Disk Adapter as a server, or any computer with a 386SX CPU or an extended BIOS data area (including the Compaq 386/20e), ask your network supplier for a supplemental driver called XBIOS.SYS. This file is supplied on the 3+ *Installation #2* diskette in the \386PS subdirectory. You must copy this driver to the C:\3drivers directory on the PC server and add a line to the CONFIG.SYS file ahead of the 3ComEMM line that reads:

```
device=c:\3drivers\XBIOS.SYS
```

The 3ComEMM program alone is not supported on a FDC-based PS/2. If you are uncertain as to the type of disk adapter in the unit, use the Reference Disk included with the computer to view the system configuration.

- The 3ComEMM program is not supported on a Honeywell 386-based computer with a token ring adapter.

Using PC Servers with the IBM Token-Ring Network 16/4 Adapter with 3ComEMM

The IBM Token-Ring Network 16/4 Adapter and IBM Token-Ring Network 16/4 Adapter/A adapters occupy the same high memory used by 3ComEMM. However, the installation procedure cannot identify either adapter, so you must edit the CONFIG.SYS file for 3ComEMM to include the line `RAM=xxx-yyyy` where `xxx` and `yyyy` represent the address settings used for either adapter. To obtain these address settings, refer to the manual accompanying each adapter.

High Memory Information Available from 3ComEMM

When you boot a PC server (386 only) that has 3ComEMM installed, the initial display shows how much high memory is available. To view this, as soon as the 3ComEMM window is displayed press the Pause key (right-hand key, top row of keys). Press any other key to continue.

Communications with a PC Server

If netstations are unable to communicate with a new PC server even though the server started up properly, check to see that the settings on the network adapter in the server match the settings in its CONFIG.SYS file. For instructions on the network adapter settings, refer to the adapter guide. For instructions on the CONFIG.SYS file, refer to the *3+ Administrator Guide*.

Support Added for Port #2 on IBM Dual Asynch/A Adapter

You can now use both ports on the IBM Dual Asynch/A adapter. However, only one IBM Dual Asynch/A adapter per server is supported. On an IM PS/2 (models 50, 55, 60, 70, and 80), a total of three Com ports are available.

CIOSYS Buffer Pool Allocation on PC Servers

If your PC server has disk partitions with different cluster sizes, the buffer values need to be updated following initial installation or reinstallation of 3+ software. Follow these steps to update buffer values:

1. **Start the 3OPT program with the server in the off-line mode.**

See the *3+ Network Tuning Guide* for instructions.

2. **From the 3OPT Main Menu screen, select the CIOSYS option by highlighting it with the selection bar and typing C.**

3. **Select the CIOSYS buffers option.**

4. **Check the parameters for each disk drive buffer pool.**

Each disk drive buffer pool must have no fewer than 8 buffers per pool. Sixteen is preferable if the server has sufficient memory. Change the values for any buffer pool that does not meet this requirement.

5. **Press [Ctrl]+A twice to save the changed values.**

6. **At the 3OPT Main Menu, type S to save the configuration.**

7. **Type Q to quit the 3OPT program.**

You may now reboot the server.

Token Ring Installation

This section contains release notes specific to a token ring network.

Token Ring Drivers for a 3+ Network or Mixed 3+ and 3+Open™ Network

Install, p. 2-3, 2-4

Task 2 in the *3+ Tape Installation Guide* is incorrect. The task documents the procedure for converting the installation disks for a token ring network.

3Com has added a new series of token ring drivers called B drivers. These drivers are designed primarily for 3+ servers on mixed networks of 3+ and 3+Open servers, but they will work even if there are no 3+Open servers. If you use the B version of the device driver on any netstation or server, then all network servers and netstations on the network must also use the appropriate B driver.

Below are the procedures for converting the installation disks for a token ring network. Perform the steps that correspond to the type of token ring adapter in the new server.

The README.DOC file on the *System Software #2* diskette also contains information on this procedure.

If you are using the 3-1/2-inch installation diskettes, you can skip the first step, since all of the token ring files are contained on the *System Software* disk. However, you must still perform step 2 to give the appropriate CONFIG file the new name of CONFIG.SYS.

3Com TokenLink

If your network has 3+ servers only:

1. Copy the TOK603.SYS file from the *System Software #2* diskette to the *System Software #1* diskette. For example:

```
copy a:tok603.sys b:
```

2. Copy the CONFIG.TOK file from the *System Software #2* diskette to the *System Software #1* diskette. When you copy the file, rename it CONFIG.SYS. For example:

```
copy a:config.tok b:config.sys
```

If your network has both 3+ and 3+Open servers:

1. Copy the TOK603B.SYS file from the *System Software #2* diskette to the *System Software #1* diskette. For example:

```
copy a:tok603b.sys b:
```

2. Copy the CONFIG.TKB file from the *System Software #2* diskette to the *System Software #1* diskette. When you copy the file, rename it CONFIG.SYS. For example:

```
copy a:config.tkb b:config.sys
```

All IBM Token Ring Adapters Including the IBM Token-Ring Network 16/4 Adapter

If your network has 3+ servers only:

1. Copy the TOKIBM.SYS file from the *System Software #2* diskette to the *System Software #1* diskette. For example:

```
copy a:tokibm.sys b:
```

2. Copy the CONFIG.IBM file from the *System Software #2* diskette to the *System Software #1* diskette. When you copy the file, rename it CONFIG.SYS. For example:

```
copy a:config.ibm b:config.sys
```

If your network has both 3+ and 3+Open servers:

1. Copy the TOKIBMB.SYS file from the *System Software #2* diskette to the *System Software #1* diskette. For example:

```
copy a:tokibmb.sys b:
```

2. Copy the CONFIG.IBB file from the *System Software #2* diskette to the *System Software #1* diskette. When you copy the file, rename it CONFIG.SYS. For example:

```
copy a:config.ibb b:config.sys
```

Token Connection on a 3Server3 Server

If your network has 3+ servers only:

1. Rename the CONFIG.TOK file on the *System Software #1* diskette to CONFIG.SYS by copying it. For example:

```
copy config.tok config.sys
```

If your network has both 3+ and 3+Open servers:

1. Copy the TOK1060B.SYS file from the *System Software #2* diskette to the *System Software #1* diskette. For example:

```
copy a:tok1060b.sys b:
```

2. Rename the CONFIG.TOK file on the *System Software #1* diskette to CONFIG.SYS by copying it. For example:

```
copy a:config.tok b:config.sys
```

3. Edit the new CONFIG.SYS file on the *System Software #1* diskette to call the TOK1060B.SYS driver.

The line you need to edit reads:

```
device=eth.sys
```

Edit the line to read:

```
device=tok1060.sys
```

NOTE: When operating in a mixed 3+ and 3+Open network on token ring cable, all 3+ TOK drivers must be the B version. Edit the CONFIG.SYS files on the affected PCs to show this change and copy the appropriate B driver into the directory indicated in the CONFIG.SYS file.

Quick Installation on a Token Ring Network

Running the Quick Installation program on a server connected to a token ring network may produce one of the following error messages on the server's LCD at the end of the procedure:

Interrupt - F (on a 3Server3 server)

or

Sync ILoop Test Failed (on a 3Server386 server)

The error message may also appear when you reset the server from a netstation, such as after running SETUP. To recover from the error, reset the server. It will start up and operate normally.

TokenLink Plus® Adapter in all PC Servers

For best performance and reliability, 3Com recommends the TokenLink Plus adapter, rather than the standard TokenLink adapter, for all PC servers on a token ring network.

TokenLink Adapter in Netstations

TokenLink, p. 4-5

When you use a 3C connection from a netstation with a TokenLink adapter installed in a 16-bit expansion slot, you must edit the CONFIG.SYS file on the netstation startup disk. Change the default DMA channel setting of 1 to 3 to make the 3C connection work properly. If you copy files from the disk to the server using a netstation containing a TokenLink adapter that is using DMA channel 1, the copied files will be incomplete or damaged. (The files on the diskette will be unharmed.)

NOTE: *If the TokenLink adapter is installed in an 8-bit expansion slot, no special action is necessary.*

Use a text editor to change the following statement in the CONFIG.SYS file of the netstation startup diskette:

```
device=tok603.sys , , 3
```

This statement keeps the TokenLink adapter's default values intact for the interrupt level (3) and I/O base address (300), but changes the DMA channel setting to 3. See the *TokenLink Installation Guide* for more information on changing the hardware settings for this board.

CAUTION: *Before resetting the netstation with the updated CONFIG.SYS file, make sure no other expansion board installed in the netstation uses DMA channel 3. If there is such a board installed, either use a netstation that has no conflicting expansion board (and change the first netstation's CONFIG.SYS file back to its previous state), or remove the conflicting board when using the CONFIG.SYS file that specifies DMA channel 3 for the TokenLink board.*

LocalTalk™

This section contains release notes specific to the installation and configuration of a LocalTalk network (3+ for Macintosh).

Adjusting Server Parameters for LocalTalk

If a 3+ server has Ethernet and a secondary LocalTalk via 3+NetConnect, 3Com recommends that you make the following adjustments to the server parameters:

- The number of 3+NetConnect receive buffers should equal the number of LocalTalk buffers. 3+NetConnect receive buffers is set with the 3OPT program. The number of LocalTalk buffers is controlled by the line 2APPLE.SYS or 2APPLE38.SYS in the server's CONFIG.SYS file.
- The number of 3+NetConnect receive buffers should equal or be greater than the number of 3+Share receive buffers. The 3+Share receive buffers parameter is set with 3OPT.

For simplicity, you may want to make all three parameters, 3+NetConnect receive buffers, LocalTalk buffers, and 3+Share receive buffers, the same value. 3Com recommends setting the parameters to 8.

New Single Port Switch

A new parameter has been added to the APPLE.SYS and APPLE386.SYS drivers for 3Com servers. If the serial ports on the server are not being used, you can increase the efficiency of LocalTalk by using this parameter.

To implement this single port switch, modify the appropriate line in the server's CONFIG.SYS file as follows:

```
2apple.sys /s
```

or

```
2apple38.sys /s
```

Serial Ports COM2 and COM3 on 3S/4XX and 3S/5XX Servers

If you connect a LocalTalk network to a 3S/4XX or 3S/5XX server via 3+NetConnect, you cannot use serial ports COM2 and COM3 on the server. If you need additional serial ports, you can install a serial adapter (for example, the AST FourPort XN serial board). Be sure not to configure the new ports as COM2 and COM3.

Serial Ports COM4 and COM5 on a 3Server3 Server

If you connect a LocalTalk network to a 3Server3 server that has a Port Expansion Board, you cannot use serial ports COM4 and COM5 on the server.

LocalTalk as a Secondary Network for PC Servers

The 1.6 release of 3+ software supports LocalTalk secondary networks on 286/386 PC/AT servers using AT buses. An Apple® LocalTalk PC adapter (formerly called the AppleTalk® PC adapter) is required. The Apple LocalTalk PC adapter is supported only in dedicated servers, and not in concurrent servers.

***NOTE:** Only AppleShare® PC version 1.2 software is supported with this adapter on a 3+ network. The drivers necessary to support a LocalTalk adapter in a PC server are contained on the AppleShare PC disk. Make sure to use the version 1.2 documentation that accompanies the software. This software and documentation can be purchased from your Apple reseller. Software and documentation shipped earlier with the LocalTalk PC adapter will not work with 3+Share software.*

To install the AppleShare PC software, follow these steps:

- 1. Make a note of the switch and jumper settings for adapters in the PC you will use as a server.**

Adjustments may need to be made to the LocalTalk PC adapter or other adapters in the system to avoid conflicts. Refer to the documentation you received with each adapter for information on how to adjust the switches and jumpers.

2. **Install 3+Share, 3+Share for Macintosh, and 3+NetConnect on the PC server.**

Follow the instructions in the *3+ Installation and Setup Guide* to install 3+Share, 3+Share for Macintosh, and 3+NetConnect. When configuring 3+NetConnect, select LocalTalk as the secondary network.

3. **From the DOS prompt on the server, copy C:\AUTOEXEC.BAT to C:\AUTOEXEC.3CM. Type:**

```
copy c:\autoexec.bat c:\autoexec.3cm
```

The installation program provided with the AppleShare PC software will modify the AUTOEXEC.BAT file. You will restore the original AUTOEXEC.BAT file (now saved as AUTOEXEC.3CM) later in this procedure.

4. **Create a subdirectory called APPLE in the 3PLUS directory on drive C:. Type:**

```
md c:\3plus\apple
```

This new subdirectory will be used during the AppleShare PC software installation.

5. **Insert the AppleShare PC diskette containing the installation program into drive A:, make A: the current drive, and run the INSTALL program.**

After inserting the correct diskette, type:

```
a:  
install
```

6. **When prompted for the location to install the software, type C.**

7. When prompted to confirm the location, type N for no.

You must respond with no since you need to provide the entire path, which you could not do in step 6.

8. When prompted, enter the entire path of where to install the software.
Type:

`c:\3plus\apple`

9. Type Y for yes in response to the confirmation prompt.

Follow the instructions displayed on the screen. No optional features will be used on the server, so select the default values when prompted.

The AppleShare PC software will be installed in the directory you created in step 4.

10. When the installation process is complete, you must copy four files (LSL.COM, LTALKP.COM, ATALK.COM, and NET.CFG) to the 3PLUS directory.

To copy the files, type:

```
copy c:\3plus\apple\lsl.com c:\3plus
copy c:\3plus\apple\ltalkp.com c:\3plus
copy c:\3plus\apple\atalk.com c:\3plus
copy c:\3plus\apple\net.cfg c:\3plus
```

NOTE: Future versions of AppleShare PC software (beyond version 1.2) may contain the file LTALK.COM. This file should be compatible with 3+Share and can be used in place of LTALKP.COM, if desired. However, LTALK.COM has not been extensively tested. If any problems are encountered when using LTALK.COM, replace it with LTALKP.COM.

11. Delete the directory C:\3PLUS\APPLE and its contents.

The files needed by 3+Share have been copied to the C:\3PLUS directory, so the C:\3PLUS\APPLE directory and its extra files are no longer needed. To delete the directory and its contents, carefully type the following. Typing errors can cause loss of a directory and its files.

```
del c:\3plus\apple\*.*
rd c:\3plus\apple
```

12. Restore the original AUTOEXEC.BAT file onto the modified AUTOEXEC.BAT file, which was modified by the AppleShare PC software installation, and delete the temporary AUTOEXEC.3CM file. Type:

```
copy c:\autoexec.3cm c:\autoexec.bat
del c:\autoexec.3cm
```

13. Modify the C:\3PLUS\NET.CFG file, adjusting the MemPool parameter to 2K and making any DMA and PORT changes required by your server's hardware configuration.

The file C:\3PLUS\NET.CFG, created by the AppleShare PC software installation program, is a text file that provides configuration information to the AppleShare PC software.

The default NET.CFG file should look similar to this:

```
# LocalTalk only NET.CFG
#
# NET.CFG Configuration file for the
# Link Support Layer and drivers
#
Link Support
  Buffers 8 603
  MemPool 19k

Protocol AppleTalk
  Default LTALK$

Link Driver LTALK$
  DMA #1 1
  PORT #1 240 8
  Node Address 49
```

The values in this default file are designed for use with an AppleShare PC user netstation. A 3Com 3+Share PC server requires only 2K for the MemPool. Use a text editor (either EDLIN from a DOS system disk, or MED from the APPS directory on a 3+Share server) to change the MemPool parameter from 19K to 2K.

Refer to the notes you made in step 1 regarding the switch and jumper settings in the server PC. Using the text editor, change the DMA and PORT settings as necessary to conform to the system's hardware configuration.

If you installed LTALKP.COM in step 7, the switch settings for interrupt do not need to be set because LTALKP.COM does not use the interrupt. If you installed LTALK.COM from a version of AppleShare PC later than 1.2, the interrupt switch settings do need to be set because LTALK.COM uses the interrupt. Refer to Apple documentation for more information.

Example

The following NET.CFG file is for a Compaq 386/20 server with an EtherLink II adapter set to the factory defaults. Notice the change in the MemPool parameter and the DMA address.

```
# LocalTalk only NET.CFG
#
# NET.CFG Configuration file for the
# Link Support Layer and drivers
#
Link Support
  Buffers 8 603
  MemPool 2k

Protocol AppleTalk
  Default LTALK$

Link Driver LTALK$
  DMA #1 3
  PORT #1 240 8
  Node Address 49
```

In this configuration, testing has shown that the LocalTalk PC adapter card can be configured with switches 2, 4, 6, and 8 in the ON position.

***NOTE:** Increasing the Link Support Buffers above 8 on a fast PC (such as a Compaq 386/20) does not significantly improve performance. On a slower PC, increasing the Link Support Buffers may improve performance. Such buffer use is not included in the memory usage amounts displayed with 3OPT. Extra memory should be reserved.*

14. Reset the PC server.

When you reset the PC server, two informational screens will be presented. The first screen provides general information on the NET.CFG file and a warning about parameter and board conflicts. The second screen displays the NET.CFG file with the current settings. After this screen, you will see messages indicating that the AppleShare PC software is being loaded and the AppleShare PC adapter is being initialized.

***NOTE:** If there is a conflict between adapters in the system, the software may stop loading at this point. If this occurs, recheck the adapter switch and jumper settings and modify the C:\3PLUS\NET.CFG file as necessary to resolve the conflict. The NET.CFG file must be modified from DOS. To exit the startup screen and return to DOS, press [Ctrl]+C. Once the conflicts have been resolved, reset the server.*

You can now access your 3+Share server from Macintosh netstations via LocalTalk cable.

General Network Administration

Network Administrator Can Now Define Print Queue Drive

Admin, p. 7-124

An enhancement to 3+Print now allows you to define the drive and path on the server where you want the print queue to reside.

To define the drive and path, run 3OPT and select Share to change. If the queue is on drive C:, then it must reside in C:\3PLUS\3SHARE. On any other drive, the queue must be in a single-level subdirectory, for instance, D:\PRINT or E:\PUBLISH.

Print Queue Hold and Defer Options

Admin, p. 7-133

Below are revised descriptions for the 3PSET /HOLD and /DEFER options:

<i>hold</i>	Holds the printing of all jobs sent to the printer until you issue either the 3P UNLINK or the 3P SET HOLD=OFF command.
<i>DEFER</i>	Defers printing of all spooled files from the time when you issue the command until you release each spooled file using the 3P SET command and either the RELEASE or the DEFER=OFF option.

International Characters in Sharenames

Creating user names or sharenames with a non-English keyboard, or by entering non-English characters in some way, may result in a user name or sharename that cannot be correctly mapped among upper- and lowercase and other international symbols. As a result, that user name or sharename may be inaccessible. To avoid these problems, 3Com recommends that you not use international characters or a non-English keyboard.

Additional suggestions for using international characters in sharenames are:

1. Use capital letters only.
2. Do not use monetary symbols.

Server Naming Problems

You can create a server name that begins with blank spaces, but the resulting named server will be inaccessible. Therefore, do not create such server names. If such a server name has been created, use the following procedure to correct the problem:

1. Use 3C to establish a remote console connection.
2. Edit the server name in the S_NAME file located in C:\3PLUS to remove the leading spaces.

Server-Users and Sharenames with the /PRIV Attribute

Server-users should never create sharenames that have the /PRIV attribute. The resulting sharename cannot be accessed by anyone, since sharenames created by server-users do not have the owner field listed in the share list.

Redefining the Network Address When You Replace a Network Adapter

If you replace a 3Com network adapter in your server with a new one, the network address on the new adapter will also be new. Therefore, you must change the network address for the server in the Name service. To change the network address, use one of the following procedures:

If the server is *not* the Name server:

1. Log in as the Admin.

2. Type:

```
3N DEL \\server
```

where \\server is the name of the server with the new adapter.

You will see a confirmation message for deleting the server.

3. Type Y for yes and press [Return].

4. Replace the network adapter.

5. Reboot the server.

The Name service automatically updates the proper file with the new network address for the server.

If the server *is* the Name server:

This procedure assumes that you have already replaced the network adapter.

1. Turn on the server.

You will get an error message "Name Server initialization failed" on the netstation, and an "ST: Name failure" message on the LCD of the server indicating that the Name server did not initialize properly.

2. Log in as the Admin.

3. Type:

3N DEL \\server

where *\\server* is the name of the Name server with the new adapter.

You will see a confirmation message for deleting the server.

4. Type Y for yes and press [Return].

5. Reboot the server.

Default Drive for 3S XCREATE

Start, p. A-18

The 3S XCREATE command no longer defaults to drive A:, but prompts you for the drive letter.

3+NetDOS Program

Checking Out an MS-DOS® License

NetDOS, pp. 2-3, 2-6

The reference to the *MS-DOS Supplemental* diskette in the *3+NetDOS Installation Guide* should read *3+NetDOS Supplemental* diskette.

Inserting a Blank, Formatted Diskette

NetDOS, p. 2.6

When you insert the newly formatted diskette into the drive, check to be sure that the diskette is not write-protected and that it is properly inserted in the drive. If 3+NetDOS encounters a problem with the diskette, you may have to repeat the procedure.

Storing all System Files on One 3-1/2-Inch Disk

NetDOS, p. 2-7

When you check out a 3-1/2-inch system disk with 3+NetDOS, all of the system files can be placed on one disk rather than two. To do so, press [Return] without changing the disk when 3+NetDOS prompts you for the second diskette.

Length Limit on Directory Paths

Do not create paths over 63 characters in length. Paths longer than this can cause problems for some MS-DOS utilities, such as XCOPY.

Mixing Different Versions of MS-DOS

Do not mix different versions of MS-DOS. For example, using MS-DOS 3.2 utilities on a netstation booted with MS-DOS 3.3 will result in the error message:

Incorrect DOS version

Recovering from an Error

If 3+NetDOS experiences an error when you check out a license (for example, a faulty disk drive), select the abort option and repeat the procedure. If the number of available licenses is reduced by one even though you aborted the operation, edit the NETDOS.USR file in the 3+NetDOS directory with a word processor or text editor and increase the "Available Licenses" line by one.

3+Remote®, 3+Route®, and 3+NetConnect Services

This section contains general release notes on the 3+Remote, 3+Route, and 3+NetConnect services.

3+Remote and NetBIOS

To minimize phone charges when using 3+Remote PC, NetBIOS defers phone dialing until the latest possible time. Unless a NetBIOS application requires a specific netstation name, leave the SETNAME parameters in the AUTOEXEC.BAT file as \$\$3COM\$\$\$. Otherwise, when the deferred phone connection is finally attempted, NetBIOS may display "Name conflict detected."

SETNAME normally requires access to the Locator when the netstation boots. 3Com uses a proprietary form of the ADD NAME command that does not access the Locator (and thereby check for the uniqueness of the netstation's name) until some other access is required. This ensures that 3+Remote users do not incur phone charges by just starting up their machines. The message "Name conflict detected" may be displayed if the name specified by SETNAME is not unique. To avoid this problem, make sure your local or remote netstation has a unique name by always using the default \$\$3COM\$\$\$ name (which uses the network adapter address as the station name).

3+Route and 3+Backup®

A 3+Route service may experience difficulty on a server that also has 3+Backup. The problem can occur when 3+Route is set to operate at 2400 baud and 3+Backup is in the process of backing up or restoring files. The service may occasionally drop a phone line and have to redial. This may result in dropped links for the users. This problem does not occur when the service runs at the higher baud rate of 9600 baud.

3+NetConnect, 3+Route, and 3+Remote Parameters

Check all 3+NetConnect, 3+Route, and 3+Remote parameters using 3OPT to make sure that they are set to nonzero values.

Disabling the 3+NetConnect Service

You cannot disable the 3+NetConnect service with the 3INS program as you can with other services. If you want to remove the service, you may do so with 3INS.

Checking the 3+NetConnect Network Number

After installing the 3+NetConnect service in 3Com or PC servers, be sure to run 3OPT and check that the NetConnect network number is not zero or blank, with no value specified. If this is the case, enter a network number that is unique to the network. Details on choosing and entering a network number can be found in the *3+ Installation and Setup Guide*.

Supported 3+NetConnect Configurations

The following combinations of adapters for primary and secondary networks are the only configurations supported with 3+NetConnect on the four types of servers.

3Server/5XX Server

Primary	Secondary
Ethernet on motherboard	EtherLink EtherLink II TokenLink® LocalTalk on motherboard
TokenLink	Ethernet on motherboard TokenLink* LocalTalk on motherboard**
IBM Token-Ring Network	Ethernet on motherboard EtherLink EtherLink II TokenLink LocalTalk on motherboard

IBM Token-Ring*
Network 16/4**

**Ethernet on motherboard
TokenLink
LocalTalk on motherboard**

*** The primary TokenLink adapter must use DMA channel 7 and the secondary TokenLink adapter must use DMA channel 0.**

**** The TokenLink adapter must use DMA channel 7 when LocalTalk is the secondary adapter.**

***** The IBM Token-Ring Network 16/4 adapter can be set to either 16 Mbps or 4 Mbps. If set to 16 Mbps, all netstations and servers on the same token ring network must be set to the same setting. If you use NetConnect under a heavy load with the IBM Token-Ring Network 16/4 adapter set to 16 Mbps, you may see some error messages that indicate links have been dropped.**

3Server386 Server

**Primary
Ethernet on motherboard**

**Secondary
EtherLink
EtherLink II
TokenLink
LocalTalk on motherboard**

TokenLink

**Ethernet on motherboard
TokenLink *
LocalTalk on motherboard ****

*** The primary TokenLink adapter must use DMA channel 7 and the secondary TokenLink adapter must use DMA channel 0.**

**** The TokenLink adapter must use DMA channel 7 when LocalTalk is the secondary adapter.**

3Server3 Server

Without Any Board

Primary	Secondary
Ethernet on motherboard	LocalTalk on motherboard

With Token Connection Board

Primary	Secondary
Ethernet on motherboard	Token Connection Board
Ethernet on motherboard	LocalTalk on Token Connection Board
Token Connection Board	LocalTalk on Token Connection Board
Token Connection Board	Ethernet on motherboard

With Port Expansion Board

Primary	Secondary
Ethernet on motherboard	LocalTalk on Port Expansion Board

PC Server

Primary	Secondary
EtherLink II	EtherLink
	EtherLink II
	EtherLink Plus
	TokenLink
	TokenLink Plus*
	Apple LocalTalk PC card

EtherLink Plus	EtherLink
	EtherLink II
	EtherLink Plus
	TokenLink
	TokenLink Plus*
	Apple LocalTalk PC card

TokenLink Plus	EtherLink EtherLink II EtherLink Plus TokenLink TokenLink Plus* Apple LocalTalk PC card
IBM Token-Ring ** Network 16/4	EtherLink EtherLink II EtherLink Plus TokenLink TokenLink Plus* Apple LocalTalk PC card
EtherLink/MC	EtherLink/MC

* Must use DMA = 5

** The IBM Token-Ring 16/4 Network adapter can be set to either 16 Mbps or 4 Mbps. If set to 16 Mbps, all netstations and servers on the same token ring network must be set to the same setting. If you use NetConnect under a heavy load with the IBM Token-Ring 16/4 Network adapter set to 16 Mbps, you may see some error messages that indicate links have been dropped.

DOS-Only NetConnect Incompatible with 3Station Netstation

Since a 3Station netstation cannot have a second network adapter installed to use 3+NetConnect, do not install 3+NetConnect on a 3Station netstation, even though it is possible to do so. If you do so, the 3Station netstation will not boot correctly.

3+Backup Service

This section contains general release notes on the 3+Backup service.

CIOSYS Data Area Requirement for 3+Backup

3+Backup may fail if the CIOSYS data area is less than 4K.

CIOSYS EMS Requirement for 3+Backup

3+Backup will fail and display the "Other operation in progress" message if the difference between the total size of the File Allocation Tables and buffer pools and the total EMS available is less than 64K.

Restoring Partition C: of a Server

When restoring files to partition C: of an installed 3+Share server without reformatting the partition first, 3Com recommends that you restore individual directories rather than the entire partition. Otherwise, 3+ network server files could be overwritten with earlier versions and cause problems for users.

Backup Disk Space Considerations

When backing up 3+ 1.5.1 software, be sure to have at least 1/2 MB of disk space free in partition C: on the server beyond what is needed for tape logs. The 3+ 1.5.1 restore process creates temporary files in the C:\3PLUS\3BACKUP directory that require this disk space.

Tape logs can require 5 MB or more of disk space if you have large amounts to backup. Be sure you have enough room in partition C: to accommodate such large files.

Off-Line Backup Caution

When performing an off-line backup, if a message is displayed indicating that a directory is corrupted or has bad attributes, ignore the warning and continue the backup. In an earlier release, the archive attribute was set by CIO SYS for directories when modification dates were changed by 3+ for Macintosh. This was fixed in 3+ version 1.3.1 software. However, directories created prior to 1.3.1 may cause off-line backup to display a warning.

You can avoid these messages by performing these steps on an Apple computer:

1. Create a new folder next to the problem folder.
2. Open the problem folder and select all of the contents.
3. Drag the contents into the new folder.
4. Put the name of the problem folder on the clipboard.
5. Confirm that the problem folder is empty and delete it.
6. Paste the name in the clipboard over the new folder name.

You cannot perform these steps using a PC. Complete Macintosh files cannot be copied using the DOS COPY command.

Backing Up and Restoring the \3PLUS\3BACKUP Directory

Off-line backup and restore ignores the \3PLUS\3BACKUP directory on a server. This directory includes the file AUTOTIMS, which contains the automatic backup schedule for 3+Backup on the server. To ensure that the directory is properly backed up and restored in off-line mode, create a new directory and copy the contents of \3PLUS\3BACKUP to the new directory before doing a backup. Be sure to allow enough disk space in partition C: for log and temporary files.

Backup and Restore Log

Backup and restore now produce an enhanced log that includes Macintosh file and folder names with corresponding DOS file directory names for every directory that contains Macintosh information. The Macintosh names are in the logs with Macintosh ASCII character codes.

If you are using a PC-based system to view a log, some characters in the Macintosh name column may not be represented because of differences in the IBM and the Macintosh Extended ASCII character sets. If it is important to find a file with a name containing characters unique to the Macintosh character set, view the log from a Macintosh text editor.

Restoring 3+Menus

If a directory or partition contains 3+Menus, do not attempt to restore the directory or partition while someone is accessing 3+Menus. Data is not endangered, but the process will hang.

3+Backup and LinkPlus Optimizer Incompatibility

The backup and restore functions of 3+Backup work smoothly with the LinkPlus Optimizer, but other functions do not. For instance, creating a tape directory results in a display of multiple identical error messages, the process terminates, and the main menu redispays. Because not all functions are available from these netstations, 3Com recommends that you use a non-LinkPlus Optimizer netstation with 3+Backup. You may find it worthwhile to create a special boot diskette to use only when you run 3+Backup.

3+Backup Requires Network Administrator's Home Server

As the network administrator, you cannot run 3+Backup when your home server is unavailable. You must log in as a user with Admin privileges whose home server is on-line. You can then operate 3+Backup.

3+Menus®

The 1.3 release of 3+Menus contains several new features for running application menus, a set of command line parameters for customizing the 3+Menus environment, and a set of sample menu files.

New Features

1. Fast Reload from Menus

To run a menu task item, you can now specify that 3+Menus should remain in memory while running the desired batch file, program, or command. This means that the return to 3+Menus after the task item is completed is nearly instantaneous, since the user interface part of the program need not reload and reinitialize. This option is beneficial when the task item does not take large amounts of memory to run. The option is a new field to fill in on the Menu Task Item form.

2. Password Blanking

In all forms that contain fields for entering passwords, 3+Menus now uses non-display video attributes for those fields. This means not only that the typing of passwords will not be visible, but also that on some monitors, particularly color monitors, the cursor itself will not be visible. When you are filling in a form and the cursor disappears, check for password fields. To confirm that the cursor is in that field, just move to another field and back again. To correct a partially entered, but invisible password, use the [F5] key to blank the entire field, then reenter. (The cursor keys work, but you may not be able to determine where you are in the password string.)

3. Drive Letter Selection

When the current window is the drives window, typing a drive letter immediately opens that drive's root directory, just like first letter selection works for menu selections. Remember the precedent of selection: if the command bar is up, the letter C will Close the window (the command bar is accessed first), but otherwise it opens drive C:.

4. DOS Exits

The meanings of [F5] and [Shift]+[F5] have been reversed: [F5] now loads DOS with all of 3+Menus code still resident, and [Shift]+[F5] takes 3+Menus out of memory first. Use [Shift]+[F5] only for operations in DOS that consume too much memory for 3+Menus to remain resident. Otherwise, [F5] is superior, since there is no reload time for 3+Menus.

When exiting to DOS, the default drive is now always set to the drive and directory that were current when 3+Menus was run. This prevents 3+Menus exiting to a previously linked drive that is no longer linked, and from trying other operations to an invalid drive.

5. Altered Access Rights

After 3+Menus is installed, or after any reload of the code, change the attribute for the executable files:

```
ATTRIB +r EM.EXE
ATTRIB +r MENUS.EXE
```

This permits a network administrator to run the 3+Menus code from a write-only sharename while other users are linked to a read-only sharename containing the same copy of code. This change makes it possible to alter any public .MNI files that exist on the same sharename as the code, even with users linked to the public sharename.

To get the same effect, copy the .EXE files to a private location and run 3+Menus from there.

6. PROFILE.SYS Location

To simplify the determination of command line parameters, 3+Menus no longer tries to find a file named PROFILE.SYS in the current directory. Therefore, set 3+Menus parameters on the command line OR put them into a file pointed to by the DOS environment variable PROFILE (SET PROFILE=D:\filename.ext).

7. Logout

When logging out of 3+Menus, there is one fewer confirmation message between the request to log out and the action.

8. Status Key

When you press [F3] to get current user status, you now also get the currently running version of 3+Menus.

9. Comments in PROFILE.SYS

3+Menus now ignores any entry in the PROFILE.SYS file that begins with the # character. The sample PROFILE.SYS file provided contains examples of this. The # character can be anywhere on the line before a valid keyword parameter. Once a keyword parameter is recognized on a line, the remainder of the line, including any #, is accepted as a parameter specification.

10. Menu Window Size

The size of menu windows has been expanded to permit 15 visible menu items, an increase from the earlier 13.

11. Sample Menus

3Com provides several sample .MNI files customized to be main menus:

NETMAIN.MNI	for network administrators
USERMAIN.MNI	for standard users
MAINMENU.MNI	is a copy of NETMAIN.MNI for ease in installing servers

Parameters

There are twelve new command line parameters that allow you to customize your individual use of 3+Menus. The best location for them is in a PROFILE.SYS file, pointed to by the string in the DOS variable PROFILE (SET PROFILE=D:\path\filename.ext). You can override any particular setting on the command line (for example, MENUS /LOGOUT=OFF). See the *3+Menus Reference Guide* for a full description of the precedence of parameters. Most of the parameters are intended to be set for groups, networks, and entire sites, facilitated by using shared templates for PROFILE.SYS.

For easy classification, the total collection of 3+Menus parameters is divided into three categories:

- User environment. These control which Main menu the user will access, how the display is set, and other features.
- Main menu capability. These control the user access to network-level features that are normally reserved for network administrators or advanced users.
- Banner screen. The banner screen displays when anyone starts 3+Menus. You can define parameters to alter the product name, company identification, and other components.

User environment parameters documented in the *3+Menus Reference Guide* are:

ATTRIBUTES	individual settings for video attributes
COMMANDS	controlling the behavior of the command bar
DISPLAYTYPE	pre-set video attributes for multiple monitors
EDIT	path\filename of the editor for editing files
MAINMENU	path\filename of the Main menu file
NAME	user's name, used as default for LOGIN option
SERVERFILE	path\name of the file containing available servers
ZOOM	whether windows should burst open or grow open

There is an additional user environment parameter for version 1.6 that is documented in Appendix A of the *3+ Administrator's Guide*:

SLASHKEY

Character to substitute for the slash key to access the command bar.

Format

SLASHKEY=*key*

Example

SLASHKEY=+

Main Menu Capability Parameters

These parameters all interact with the setting of the COMMANDS parameter. In all cases, if any of the parameters are specified, their meaning overrides the setting of COMMANDS. If an individual parameter is not set, its default behavior is determined by the COMMANDS setting, whose default is SLASH. The COMMANDS parameter is described next.

COMMANDS

Controls when the command bar is present at the top of the screen.

Format

COMMANDS=ON|SLASH|OFF

Variables

ON The command bar is present at all times, [F5] and [Shift]+[F5] are enabled, and all standard menu items appear.

SLASH	The command bar is displayed when the user presses the slash [/] key, [F5] and [Shift]+[F5] are enabled, and all standard menu items appear.
OFF	The user cannot use the command bar, cannot use [F5] to exit to DOS, cannot use the standard menu items, and cannot quit 3+Menus.

Remarks

The default is COMMANDS=SLASH.

MENUDEMO

Enables/disables a demonstration mode for 3+Menus.

Format

MENUDEMO=ON|OFF

Variables

ON	Enables a demonstration mode for 3+Menus, allows all of 3+Menus capabilities to be demonstrated using the *.DIR files on the distribution diskette, rather than live lists generated by the network. You can get the flavor of 3+ without having a network. Even if you have a network, shared resources will still be the frozen dummy values. Only existing links to sharenames will yield real network values in the Directories and Files window.
OFF	3+Menus is in "live" mode.

Remarks

The default is OFF.

MENUDOS

Allows and disallows access to COMMAND.COM through 3+Menus.

Format

MENUDOS=ON|OFF

Variables

ON Enables [F5] and [Shift]+[F5] allowing the user to access DOS through the menus.

OFF Prevents the user from accessing DOS from 3+Menus.

Remarks

The default value is implied by the value of the COMMANDS parameter. This parameter overrides the action of the COMMANDS parameter.

MENUEFILE

Allows and disallows access to the Directory and Files main menu selection.

Format

MENUEFILE=ON|OFF|*text*

Example

MENUEFILE=Your Directories

Variables

ON Allows the user to access the Directories and Files standard menu selection.

OFF Prevents the user from accessing the Directories and Files standard menu selection.

text Allows the user to access the Directories and Files standard menu selection with the *text* appearing on the Main Menu in place of the Directories and Files menu selection.

Remarks

The default value is implied by the value of the COMMANDS parameter. This parameter overrides the action of the COMMANDS parameter.

MENULOGINTEXT

String to replace the Log In string.

Format

MENULOGINTEXT=*text*

Example

MENULOGINTEXT=On the Network

Variable

text Replaces the Login Main menu selection when the user has logged out of 3+Menus and has run 3+Menus locally.

Remarks

If **MENULOGOUT** has been specified, its value determines if Log In/Log Out appears on the Main menu. If **MENULOGOUT** has not been specified, but **MENULOGINTEXT** has, it is equivalent to setting **MENULOGOUT**=ON.

The default value is implied by the value of the **COMMANDS** parameter. This parameter overrides the action of the **COMMANDS** parameter.

MENULOGOUT

Allows and disallows access to the Log Out Main menu selection.

Format

MENULOGOUT=ON|OFF|*text*

Example

MENULOGOUT=Off the Network

Variables

ON The user can access the Log Out standard Main menu selection.

OFF The Log Out standard Main menu item is not displayed.

text Allows the user to access the Log Out standard Main menu selection, with the text appearing on the Main menu in place of the Log Out Main menu selection.

Remarks

The default value is implied by the value of the COMMANDS parameter. This parameter overrides the action of the COMMANDS parameter.

MENULPTS

Allows/disallows access to the Printer Connections Main menu selection.

Format

MENULPTS=ON|OFF|*text*

Example

MENULPTS=Printing

Variables

ON The user can access the Printer Connections standard Main menu selection.

OFF The Printer Connections standard Main menu item is not displayed.

text Allows the user to access the Printer Connections standard Main menu selection, with the text appearing on the Main menu in place of the Printer Connections Main menu selection.

Remarks

The default value is implied by the value of the COMMANDS parameter. This parameter overrides the action of the COMMANDS parameter.

MENUMAINTEXT

String to display as the Main menu window label.

Format

MAINMENUTEXT=*text*

Example

MAINMENUTEXT=Your Menu

Variable

text The text appears on the Main menu as the window label.

MENUSRVS

Allows and disallows access to the Shared Resources main menu selection.

Format

MENUSRVS=ON|OFF|*text*

Example

MENUSRVS=Sharenames

Variables

ON The user can access the Shared Resources standard main menu selection.

OFF The Shared Resources standard main menu item is not displayed.

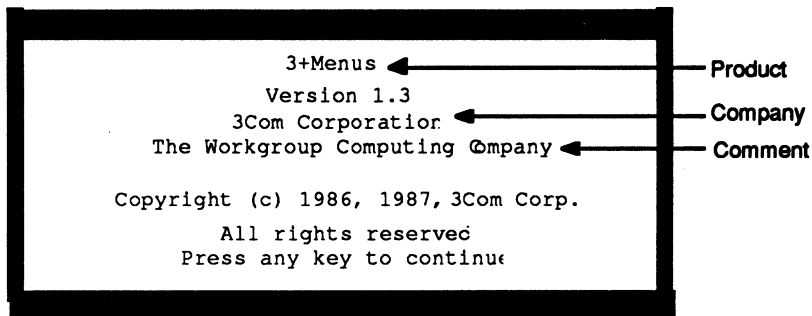
text Allows the user to access the Shared Resources standard main menu selection, with the text appearing on the main menu in place of the Shared Resources main menu selection.

Remarks

The default value is implied by the value of the COMMANDS parameter. This parameter overrides the action of the COMMANDS parameter.

Banner Screen Parameters

The banner screen appears when you start 3+Menus.



COMMENT

A string that replaces the comment in the banner page when 3+Menus initializes.

Format

COMMENT=*text*

Example

COMMENT=Supplies Unlimited

Remarks

The default value is 3S/400 for the 3Server386 server. Otherwise, it is The Workgroup Computing Company. If COMPANY has been specified but COMMENT has not, then the default becomes a string of blanks.

COMPANY

A string that replaces the company name in the banner page when 3+Menus initializes.

Format

COMPANY=*companyname*

Example

COMPANY=Wilkins Supply Company

Remarks

The default value is 3Com Corporation.

MENUBANNER

Allows/disallows the display of the banner page.

Format

MENUBANNER=ON|OFF

Variables

ON Displays the banner screen.

OFF Does not display the banner screen.

Remarks

The default is ON.

PRODUCT

String to replace the product name on the banner page.

Format

PRODUCT=*productname*

Example

PRODUCT=New Menus

Remarks

The default value is 3+Menus.

3+Menus Reference Guide Updates

APPEND Command

Page 1-9

The APPEND command is on the *3+Share User #1* diskette. (You can also use DOS 3.x version of APPEND.COM).

Circular Menu References

Page 5-10

With 3+Menus, any submenu can point to any other menu in your 3+Menus system. This makes recursive (circular) menu references possible. While occasionally useful, this is not a good practice, and should be avoided. To break a recursive menu reference, modify the file name in one of the submenus. Select the desired menu item and change (/Modify Change) the name of the file referenced in the Menu File field. Two or more menus may reference a common submenu as long as the references are not circular.

Quitting 3+Menus

Pages 2-2, 2-26

When the 3+Menus program is on a network drive and you log out using the Log Out item (on the Main Menu), 3+Menus exits to DOS. The drive you specified on the Log Out form is the default drive. For example, if you chose A: as the default drive, the A> prompt appears. There are two cases, however, in which logging out using the Log Out item can produce the message:

```
Not ready error reading drive E:  
Abort, Retry, Ignore?
```

Case 1: If you are using 3+Menus on a network drive, and start it from a batch file that is also on a network drive, when you log out you will break the link to the batch file's network drive.

This means COMMAND.COM cannot return to the batch file. To keep the link to the batch file's drive, either the 3+Menus program or the batch file that starts the 3+Menus program must reside on a local drive, a RAM disk, or a 3+Start volume.

Case 2: If you are using 3+Menus on a local drive, but you start it from a batch file on a network drive, you can log out, and 3+Menus continues to run. (This lets you run local applications from the 3+Menus interface while not logged in to the network.) Before you quit 3+Menus, however, you must log in again and reestablish the links to the sharename containing the batch file that started 3+Menus.

Logging Out from a DOS 4 Netstation

Pages 2-24, 5-13 to 5-18

If network users have netstations running DOS 4, you must modify the Main Menu to include a new task item for DOS 4 logout as described in the procedure below. This modification is not necessary for netstations running versions of DOS earlier than 4.

NOTE: When a user uses this task item, 3+Menus attempts to reload and several messages appear. The final message is "DOS cannot run menus." Ignore this message. The user is then returned to the DOS prompt.

- 1. Activate the Main Menu.**
- 2. Select the position in the menu where you want this task item to appear.**
- 3. Choose /Modify Add Task.**

The first page of the Task Item form is displayed.

4. Type the Menu Item Name:

DOS 4 Logout

5. Type the File Location:

x:\

where x is the name of the default drive linked to the \APPS sharename.

6. Type the Run File or Command filename:

LOGOUT.EXE

7. For the Run File Type, press [Return] to choose Program.

8. Type the Startup Run Location:

y:

where y: is the drive to go to after logout is complete.

9. For the Pause after Run? item, press [Return] to select No.

10. For the Keep menus program in memory while running? item, press [Return] to select No.

11. Press [Ctrl]+[Enter] to save this new item and exit.

Specifying a Menu Task Item

Page 5-15

When choosing Run File or Command on a Task Item form, you do not need to include an extension. If you include an extension, make sure the extension is correct and that it matches the Run File Type.

For example, specifying the batch file BATCHFIL.BAT, but giving it a Run File Type of *program*, causes an error because 3+Menus treats the batch file as if it were a program.

Using Memory Resident Programs

Page 2-2

With 3+Menus, terminate and stay resident programs (such as 3+Mail Minder) must be loaded before you run MENUS.

3+ Users

This section contains general user and netstation release notes.

Canadian/French Keyboard

A PC netstation with a Canadian/French keyboard must use the French software driver. The Canadian/French software driver is not supported by 3+ software.

Compaq Portable or Deskpro Computers

For proper operation, a Compaq 8088-based Portable™ or 8086-based Deskpro™ requires ROM Revision J. To find out what Compaq ROM you have:

1. Start your Compaq using the Compaq diagnostics diskette.
2. Type:

`test`
3. Choose option 5, ROMREV.

The version of your ROM is displayed. ROM upgrades are available from your Compaq dealer.

Listing Users Linked to a Printer

Admin, p. 4-4

The List Users Linked to a Printer menu selection produces an error message:

***Unknown value: \LASERJET /LINK
and does not produce the desired list. To see the list, modify the form by typing the printer name after the server name on the same line and deleting the second line. This is not a permanent solution.

If you use this selection frequently, change the task item form following instructions in Chapter 5 of the *3+Menus Reference Guide*. Put the server and printer names on the same line.

NetBIOS Changes

NetBIOS table 3-1, pages 3-2 through 3-3

Two NetBIOS configuration parameters have been added as described in the table below.

Name	Range	Default	Memory Required
Locator Heartbeat Period /B	15 - 2000 seconds	15 seconds	None
Locator Retry Count /F	1 - 32 cycles	1	None

The following sections describe the parameters in more detail.

Locator Heartbeat Period

Range: 15 - 2000 seconds

Default: 15

Switch: /B

A NetBIOS netstation reports to the Locator every 15 seconds by default to verify that it is still up and running. If it does not report in for twice that period (30 seconds or 2 times the heartbeat period), the locator considers the netstation inoperable and notifies other netstations on the network of the nodes that are considered dead. If this happens, the user may see error messages such as "Name not found" or similar messages from NetBIOS-based applications.

On a network with more than 1,000 netstations, the Locator can become overloaded. In this situation, you should extend the heartbeat period to 30 seconds or higher. If your network has more than 1,000 netstations, you should experiment with the heartbeat period parameter until you find the setting that works for your network.

For this to work properly, all NetBIOS netstations must have an increased heartbeat period. Changing the heartbeat period for only a few netstations will not make enough difference to benefit the locator.

Locator Retry Count

Range: 1 to 32

Default: 1

Switch: /F

If the NetBIOS netstation does not receive an acknowledgment from the Locator of its heartbeat within 1/2 second, it retries 8 times before considering the Locator inoperable and sending a broadcast to find the Locator. This parameter lets you adjust the number of 8 packet retries that are attempted before the broadcast message is sent. For example, if you use the setting of /F2, then two groups of 8 retries (a total of 16) will be attempted before sending the broadcast message. In addition, to avoid overloading the locator further, the retry frequency has been reduced to once per second instead of twice per second.

NetBIOS /C Switch

Tuning, part III, p. 4-14

Unless you are running only 3+ services, use the /C switch on the NetBIOS line of the AUTOEXEC.BAT file. NetBIOS assumes that timeout errors on SEND and RECEIVE, as well as Locator operations that do not complete, are the result of physical network problems.

To avoid terminating sessions because of such problems, NetBIOS displays one of the following messages:

Network Retrying ...

Locator Not Responding

Locator in Reload

You can wait for the network problem to go away or you can return the timeout error to the application immediately by pressing [Ctrl]+[Break].

When a NetBIOS application relies on getting these timeout errors as a normal part of its operation, using the NetBIOS /C switch returns the timeout error to the application immediately without displaying a message.

NetBIOS /M Switch

Tuning, part III, p. 4-14

Netstations that use the IBM Asynchronous Communications Server and the IBM PC LAN program require the NetBIOS /M switch. Other applications may require that netstations use the NetBIOS /M to run properly in the 3+ environment.

Clarification of Network Retrying Message

When network use is heavy, users may receive the message "Network Retrying...Retry can be stopped by pressing <CTRL><BREAK>." Pressing [Ctrl]+[Break] may break server links. Caution users to give the server the opportunity to complete the requested task and the message will disappear. If the message is displayed for more than one minute, then the probable causes are a non-operational server, cabling problems, or repeater problems.

3+ for Macintosh Users

This section contains general release notes for the 3+ for Macintosh service.

Printing from PageMaker® 3.0

PageMaker 3.0 will not download the Aldus® Prep file if it senses that it is printing to a network spooler. To print in PageMaker 3.0, the user must do one of the following:

1. Use only the Apple driver when printing.
2. Use the Aldus driver, but turn on the check box to download the Aldus Prep file temporarily.

To access this option, hold down the [Option] key while clicking the OK button in the print dialog box.

NOTE: These options were recommended for previous versions of PageMaker, but are now mandatory for printing in PageMaker 3.0.

Minimal Startup Disk Configurations

Macintosh programs that are Init resources, such as virus detection programs, must be installed on your startup disk; they cannot be run from the Home Folder after switch launching.

To free space on your Macintosh startup disk, you can remove the following files from your startup disk and copy them into the System Folder in your network Home Folder.

MultiFinder™
Mouse
Keyboard
DA Handler
3+ Icon Giver

The recommended minimum files for a Macintosh startup disk are:

System files

(containing only those system fonts that cannot be deleted using
Font/DA Mover)

Chooser

Control Panel

Finder

3+File

3+Print

3+Prep

(this is created when you save your startup configuration)

General

EtherTalk or EtherLink/SE and Network

(only if you are using Ethernet)

Other Init resources as space allows

(such as SoundMaster or Suitcase)

NetSwitch or NetSwitch MF

Accessing the Network via a Modem Connection

A LocalTalk connection can transmit data over 100 times faster than a 2400 baud modem connection. This difference in speed creates limitations in the performance of any network connection over a modem. Using a 9600 baud or faster modem results in a noticeable difference in performance. 3Com recommends you use at least a 2400 baud modem.

You should not open an application residing on a network server across a modem connection. Access over a modem connection is better suited to small file transfers or the sending or receiving of mail using 3+Mail. Usually, copying a document from a remote network server to a local disk, modifying it, and then copying it back to the remote server is faster than attempting to modify it directly across a modem connection.

If you are using third party dial-in software that makes the modem connection via the Control Panel, you should make the connection before you attempt to log into 3+. You must not boot with the EtherLink AppleTalk device chosen before choosing a Dial-up AppleTalk device in the Control Panel's network control panel.

If you are linking to 3+ volumes across a modem connection, do not use MultiFinder. MultiFinder polls all mounted volumes on frequently, resulting in poor performance. Finder, on the other hand, polls volumes less often. Since the communications link is unreliable, you may see a message box saying that "the file server is not responding. Retrying..." You should check to see if your modem connection is up. If it is, you should wait a few minutes to see if the client software can reestablish the session with the server.

When running 3+NetAccess or 3+Mail for Macintosh, you may occasionally see messages stating that the Name server or the Mail server is not responding. In this situation, you should check to see if your modem link is up and retry the operation.

Unlink volumes before you hang up the modem or power off the Macintosh. You can unlink volumes by logging off or by dragging the volume icons into the trash. If you fail to do so, you may be unable to link to your folders the next time you attempt to do so.

If you are using an AppleTalk bridging or routing product, you must upgrade all 3+ servers that will be used to communicate with 3+ version 1.5 or later. If you need to communicate through a 3+NetConnect node that is running 3+ version 1.3.1, you should replace the IDP.SYS file on that node with the IDP.SYS file from the 3+ version 1.6 3+ *Installation #3* diskette.

Modems

Installing Internal Modems on a Token Ring Network

If you install an internal modem in a server, set the modem switch to COM2. This sets the modem to use interrupt level 3. If you have any other adapters using this interrupt, either reconfigure them or remove them. (Three is the default interrupt setting for 3Com's Ethernet and token ring adapters, but does not conflict with the Ethernet on the 3Server3 and 3Server386 motherboard.)

3+Route on Token Ring

When running 3+Route on a token ring network, you may occasionally experience loss of modem connections. This typically occurs on COM2 or COM3 while operating under heavy loads and at rates of 9600 baud or higher. If this occurs, move the high-speed modem to COM1 or to an asynchronous I/O port on an expansion board.

Mixing Hayes® and Microcom™ Modems

If your server has a Microcom modem configured in SX mode, only PCs or other servers that are using Microcom modems in SX mode can communicate with each other.

If you need to use Hayes and Microcom modems on the same network, you may configure your Microcom AX1200 or AX2400 for Hayes compatibility rather than SX mode. See Appendix B of the *3+ Installation and Setup Guide* for detailed information.

Changing the Baud Rate on a Microcom Modem

To adjust the baud rate on a Microcom modem, change the modem's rear switches to the desired baud rate and then reset the modem. If it fails to hang up correctly after this procedure, follow the directions in the Microcom manual to change the modem back to its default settings. Then adjust the rear switches once again and reset the modem. If the modem is installed on a server, run the 3INS program and adjust the port settings to the new baud rate; then reset the server.

3+Monitor

3+Monitor has been added to 3+ version 1.6 in order to give 3+ networks the NetMap broadcast capability. These broadcasts are used by 3Com bridges and routers to enhance their operation.

OS/2 Presentation Manager Clients and 3+ Servers

There is a problem using the Presentation Manager File system to graphically represent the file structure on a 3+ server. This function will cause a 3+ server to fail if the NETWKSTA.SYS file on the Presentation manager is 06/02/89 or later.

If a tree structured or normal directory of the drive linked to a 3+ server is needed, then use the TREE or DIR command from the command line prompt.

3+ Share[®] for PC Server Version 1.6 (3C2000J) Software and Documentation

IMPORTANT: Please take a moment to check that you have received the following software and documentation in your 3+ Share for PC Server package. If you have not received all of the items listed below, please contact your local 3Com network reseller.

Read First Envelope

1. Pack List
2. Card: Owner Registration
3. Card: License Agreement (Workstation)
4. Card: Warranty Statement
5. Card: Command Reference, p/n: 1693-xx
6. 3+Documentation Roadmap 1.3.1, p/n: 4464-xx
7. Release Notes 3+Mail Version 1.3.2, p/n: 2431-xx

Software Diskettes

1. 3+Installation #1, 5.25" & 3.5" p/n: 3394-xx & 3396-xx
2. 3+Installation #2, 5.25" p/n: 3398-xx
3. 3+Installation #2/3, 3.5" p/n: 3400-xx
4. 3+Installation #4, 5.25" & 3.5" p/n: 4404-xx & 4406-xx
5. 3+Share User #1, 5.25" & 3.5" p/n: 4408-xx & 4410-xx
6. 3+Share User #2, 5.25" & 3.5" p/n: 4412-xx & 4414-xx
7. 3+Menu/Server, 5.25" & 3.5" p/n: 4416-xx & 4418-xx
8. 3+Reinstallation, 5.25" & 3.5" p/n: 4440-xx & 4442-xx
9. 3+Installation #3, 5.25" p/n: 4617-xx
10. 3+Macintosh™ Service, 5.25" & 3.5" p/n: 4619-xx & 4621-xx
11. LocalTalk™ NetConnect, 5.25" & 3.5" p/n: 4649-xx & 4652-xx
12. 3+NetAccess (formerly 3+ Share Administrator), 3.5" p/n: 4660-xx
13. 3+Share User, 3.5" p/n: 4662-xx
14. File & Print, 5.25" & 3.5" p/n: 3386-xx & 3388-xx
15. 3+Name, 5.25" & 3.5" p/n: 3390-xx & 3392-xx
16. 3+Mail User #1, 5.25" p/n: 1725-xx
17. 3+Mail Server, 5.25" p/n: 1968-xx & 3345-xx
18. 3+Mail User #1/2, 3.5", p/n: 3335-xx
19. 3+Mail User #2, 5.25" p/n: 4514-xx

Documentation

1. 3+Share User Guide, p/n: 1694-xx
2. 3+Menus Reference Manual, p/n: 1963-xx
3. 3+Administrator Guide Vol I 1.3, p/n: 2788-xx
4. 3+Administrator Guide for Macintosh, p/n: 3283-xx
5. 3+Share for Macintosh User Guide, p/n: 3286-xx
6. 3+Network Tuning Guide, p/n: 3367-xx
7. 3+Installation and Setup Guide, p/n: 4137-xx
8. 3+Administrator Guide Vol II 1.3, p/n: 4471-xx
9. 3+Error Messages, p/n: 4472-xx
10. 3+Share Version 1.6 Release Guide, p/n: 4703-xx
11. Mail User Guide - For 3+ and 3+Open, p/n: 4871-xx