

# OPTI-NET<sup>®</sup>

For Programmer's Library

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Administrator's Guide

# **OPTI-NET**

*Version 1.10M*

## **Administrator's Guide**

## **OPTI-NET<sup>(R)</sup> Administrator's Guide, Version 1.10M**

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# Table of Contents

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## Chapter 1

Using OPTI-NET—An Introduction .....	1-1
Configuring an Optical Storage Network .....	1-1
Choosing the Network .....	1-1
Designating the Server .....	1-2
Choosing the CD-ROM Drives .....	1-2
Accessing Drives Through MS-DOS .....	1-3
Accessing Drives Through Physical Reads .....	1-3
Using Both Methods of Access .....	1-4
Adding User Stations .....	1-4
Operating the Server .....	1-4
Using CD-ROM Discs on the Network .....	1-4
Using a Disc “As Is” .....	1-5
Adding or Modifying Software .....	1-5

## Chapter 2

Installing OPTI-NET .....	2-1
Getting Started .....	2-1
System Requirements .....	2-1
Installing OPTI-NET .....	2-2
Starting the Install Program .....	2-3
Install Program .....	2-4
Specifying the Destination Path .....	2-5
Choosing the Station Type .....	2-5

Installing a User Station .....	2-5
Specifying a Unique User Name .....	2-6
Specifying the Data Base Size .....	2-6
Verifying the Configuration .....	2-6
Revising the User Station Configuration .....	2-7
Change User Name .....	2-7
Change Size of Largest Data Base .....	2-8
Installing the Revised Configuration on the User Station .....	2-8
Installing a Server Station .....	2-8
Adding a Device Driver .....	2-9
Specifying Device Driver Parameters .....	2-9
Verifying the Configuration .....	2-10
Revising the Server Station Configuration .....	2-10
Add a Device Driver .....	2-11
Specifying Device Driver Parameters .....	2-11
Delete a Device Driver .....	2-11
Change Device Driver Parameters .....	2-12
Installing the Revised Configuration on the Server Station .....	2-12

### Chapter 3

Running OPTI-NET on the Server .....	3-1
Running OPTI-NET as a Standalone Program .....	3-1
Running OPTI-NET as a TSR Program .....	3-3
Running Another Program .....	3-4
Running OPTI-NET Again .....	3-5
Switching Modes .....	3-5
Switching to Administrator Mode .....	3-5
Switching to Monitor Mode .....	3-6
Returning to Data Base Service Mode on a Dedicated Server .....	3-7
Returning to Data Base Service Mode on a Concurrent Server .....	3-7
Exiting Administrator Mode and Quitting OPTI-NET .....	3-8

## Chapter 4

Checking and Changing Configuration Parameters .....	4-1
Displaying the Current Configuration Parameters .....	4-1
Moving the Highlight Bar .....	4-2
Changing Software Caching Values .....	4-3
Changing the Hotkey Definition .....	4-3
Changing the Server Number .....	4-3
Saving the Changes .....	4-3
Returning to the Administrator Mode Menu .....	4-3

## Chapter 5

Checking and Changing Data Base Access .....	5-1
Displaying the Current Data Base Access .....	5-1
Adding a Data Base .....	5-2
Removing a Data Base .....	5-3
Mounting a Data Base .....	5-4
Dismounting a Data Base .....	5-5
Saving the Changes .....	5-5
Returning to the Administrator Mode Menu .....	5-6

## Chapter 6

Checking Network Status .....	6-1
Displaying Current Network Status .....	6-1
Returning to the Administrator Mode Menu .....	6-3

## Chapter 7

Checking Drives Usage .....	7-1
Displaying Current Drives Usage .....	7-1
Returning to the Administrator Mode Menu .....	7-2

## Chapter 8

Accessing a Data Base from a User Station .....	8-1
Initiating a Session .....	8-1
Opening a Data Base .....	8-2
Closing a Data Base .....	8-3
Ending a Session .....	8-3
OPL.BAT .....	8-4
Appendix A Glossary .....	A-1
Appendix B Server Messages .....	B-1
Appendix C User Station Messages .....	C-1
Appendix D CD-ROM Device Drivers Installation	
Specifications .....	D-1
Copying Device Drivers .....	D-1
Modifying the CONFIG.SYS file .....	D-3
Using Sony CD-ROM Drivers .....	D-3
Using Philips CD-ROM Drivers .....	D-5
Using Hitachi and Amdek CD-ROM Drivers .....	D-6
Appendix E OPTI-NET Installation Specifications .....	E-1
Copying the Server Files .....	E-2
Modifying the Server CONFIG.SYS File .....	E-2
Copying the User Station Files .....	E-3
Modifying the User Station CONFIG.SYS File .....	E-3
Appendix F Microsoft Extensions Installation	
Specifications .....	F-1
Copying the Microsoft Extensions Executable File .....	F-2
Modifying the CONFIG.SYS File .....	F-2
Modifying the AUTOEXEC.BAT File .....	F-2
Appendix G Sample Files .....	G-1
Index	

## Preface

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You have purchased OPTI-NET (R), version 1.10M. Your OPTI-NET package includes the following:

- A diskette labeled OPTI-NET, version 1.10M
- One copy of the OPTI-NET Administrator's Guide
- The OPTI-NET software license

## ABOUT OPTI-NET

OPTI-NET version 1.10M is a program that lets users share Microsoft Programmer's Library version 1.1 on CD-ROM disc over a network, just as they share a file on a hard disk over a network. Three users can access the CD-ROM drive through MS-DOS (R) using the Microsoft (R) MS-DOS CD-ROM Extensions or through physical reads from the Microsoft Programmer's Library disc.

OPTI-NET version 1.10M provides access solely to the Microsoft Programmer's Library data base. If you want to access multiple data bases, you must purchase the full version of OPTI-NET.

## ABOUT THIS ADMINISTRATOR'S GUIDE

This Administrator's Guide explains how to install and use OPTI-NET. It contains eight chapters and seven appendices.

Chapter 1 is an introduction to OPTI-NET.

Chapter 2 explains how to install OPTI-NET.

Chapter 3 explains how to run OPTI-NET on the server.



Chapter 4 explains how to check and change the configuration parameters of the optical storage network.

Chapter 5 explains how to check and change user station access to data bases on the optical storage network.

Chapter 6 explains how to check the status of the network.

Chapter 7 explains how to check data bases and CD-ROM drives in use on the network.

Chapter 8 explains how to access a data base from a user station. The explanation of the OPL.BAT file to start Programmer's Library from a batch file is explained.

Appendix A is a glossary.

Appendix B is a list of server messages, their causes, and the actions required to clear them.

Appendix C is a list of user station messages, their causes, and the actions required to clear them.

Appendix D contains instructions and specifications for manually installing CD-ROM device drivers.

Appendix E contains instructions and specifications for manually installing OPTI-NET.

Appendix F contains instructions and specifications for manually installing the Microsoft Extensions for use with OPTI-NET.

Appendix G contains sample files.

## Chapter 1

### Using OPTI-NET—An Introduction

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OPTI-NET is an optical storage Local Area Network (LAN) management program. It is software that is installed on top of an operational network that fully supports NETBIOS.

OPTI-NET lets users share data bases on CD-ROM discs over a network like they share files on hard disks on that network. Users can access the CD-ROM drives through MS-DOS using the Microsoft MS-DOS CD-ROM Extensions or through physical reads from the discs.

This chapter explains the following:

- how an optical storage network is configured
- how the server operates
- what kinds of CD-ROM discs you can use on an optical storage network

### **CONFIGURING AN OPTICAL STORAGE NETWORK**

An optical storage network is a network that supports optical disc drives as storage devices. Currently OPTI-NET supports an optical storage network configured with CD-ROM drives.

### **Choosing the Network**

OPTI-NET runs on top of any network that fully supports NETBIOS. The NETBIOS support may be provided by the network hardware or software or both.

NETBIOS support maximizes the compatibility of OPTI-NET with the products of many hardware manufacturers and software vendors, who have adopted NETBIOS as their standard network interface.

OPTI-NET has been fully tested on the following networks:

- IBM (R) Token-Ring
- IBM PC Network Baseband
- IBM PC Network Broadband
- 3Com (R) Ethernet (R)
- Novell (R) NetWare (R)

## **Designating the Server**

Each optical storage network must have at least one server. The server is the computer configured with the CD-ROM drives and running OPTI-NET. It may or may not be the same computer used as the network file server.

The server may be a dedicated server, running OPTI-NET as a standalone program, or it may be a concurrent server, running OPTI-NET in the background as a Terminate-and-Stay-Resident (TSR) program.

OPTI-NET supports multiple optical servers (up to nine) on the same network. (The user on a non-dedicated server can access only the server on which it is running.)

Memory caching is supported with both expanded memory (EMS) and system memory. The size of the caching buffer can be defined and, if using EMS, it can be shared with other applications.

## **Choosing the CD-ROM Drives**

OPTI-NET supports up to 32 CD-ROM drives configured on the server. Users on the optical storage network can access different CD-ROM drives, or all users can access the same CD-ROM drive.

Version 1.10M supports one server (server number 1) with one CD-ROM drive. The server can have up to 3 simultaneous users. The full version of OPTI-NET (1.10) supports 9 servers with a maximum of 100 users per server.

You can configure CD-ROM drives on the server for access through MS-DOS using the Microsoft Extensions or through physical reads from the discs.

OPTI-NET supports any CD-ROM drive distributed with a device driver compatible with the Microsoft Extensions. For example, OPTI-NET supports the following CD-ROM drives:

Online's Multi-drive Optical Storage Units

Amdek Laserdrive-1

Hitachi CDR-1502S, CDR-1503S

Philips CM 100, CM 110

Sony CDU-100

Sony CDU-5002

As CD-ROM drive manufacturers continue to offer new drives, OPTI-NET will support new drives distributed with the Microsoft Extensions.

With the proper controller cards and drivers, you can configure any combination of the CD-ROM drives listed above, to a maximum of 32 drives per server. The actual number you can configure is limited by the method of access to the CD-ROM discs, the number of slots available for CD-ROM drive controller cards, and the maximum number of drives supported by each CD-ROM controller card.

## Accessing Drives Through MS-DOS

You can configure up to 24 CD-ROM drives on the server for access through MS-DOS using the Microsoft Extensions. MS-DOS assigns each drive a letter from C through Z. (MS-DOS reserves the letters A and B for diskette drives.)

If you are configuring only CD-ROM drives on the server, all 24 drive letters are available; if you have hard disk drives configured on the user station, the number of drive letters available is 24 minus the number of hard disk drives. (For example, if you have two hard disk drives configured on the user station, you can configure 24 minus 2, or 22 CD-ROM drives.)

## Accessing Drives Through Physical Reads

You can configure up to 32 CD-ROM drives on the server for access through physical reads from the discs.

## Using Both Methods of Access

You can configure CD-ROM drives for both logical and physical access on the same network server. However, you cannot configure more than 24 drives for logical access or more than 32 drives total.

## Adding User Stations

A user station is a computer that accesses the CD-ROM drives configured on the server.

Currently version 1.10M allows a maximum of 3 user stations simultaneous access to data bases on an optical storage network.

The number of users accessing one CD-ROM disc affects the performance of OPTI-NET relatively little. Because the data base application software runs on each user station, the time spent calling the network is small compared to the time spent processing at the user station. You can maximize OPTI-NET performance by using software caching with expanded memory or system memory on the server.

## OPERATING THE SERVER

The server operates in three modes: Data Base Service mode, Administrator mode, and Monitor mode.

In Data Base Service mode, the server processes requests from the user stations for access to optical disc drives. Requests for access to the drives are processed, allowing user stations to read data from the discs.

In Administrator mode, the server blocks all optical storage network activity and allows you to change the configuration of the network. Requests for access to the optical disc drives are queued but are not processed.

In Monitor mode, OPTI-NET monitors the server and the network.

## USING CD-ROM DISCS ON THE NETWORK

You can use CD-ROM discs created in any format on the network. You can use CD-ROM discs created in different formats on the same network concurrently.

As the network administrator, it is your responsibility to obtain a license from the data base publisher to use a CD-ROM disc on the network. Many existing licenses allow the use of a CD-ROM disc on a single machine only. If you use a CD-ROM disc on a network without acquiring a specific license to do so, you may be in violation of your existing license and subject to the liabilities that apply.

### **Using a Disc “As Is”**

If a CD-ROM disc has been created in the High Sierra format and the application software for the disc supports the Microsoft Extensions, you can use the disc on the network as is.

**Note:** Ask the data base publisher if the disc has been created in the High Sierra format and if the application software supports the Microsoft Extensions when you obtain the license to use the disc on the network.

### **Adding or Modifying Software**

If a CD-ROM disc has not been created in the High Sierra format or the application software for the disc does not support the Microsoft Extensions, you cannot use the disc on the network as is.

You must either install a special device driver on each user station or convert the physical reads from the CD-ROM disc to calls compatible with those used by the Microsoft Extensions.



## Chapter 2

### Installing OPTI-NET

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This chapter is a detailed guide to installing OPTI-NET. This chapter explains:

- what you need before you begin the Install program
- how to start the Install program
- how to install a user station
- how to install a server station (dedicated and non-dedicated)

### GETTING STARTED

Your OPTI-NET package should include the following:

- a diskette labeled OPTI-NET, version 1.10M
- the OPTI-NET software license
- the *OPTI-NET Administrator's Guide*

### SYSTEM REQUIREMENTS

Before starting the OPTI-NET Install program, make sure you have the following:

- An operational network that fully supports NETBIOS. The NETBIOS support may be provided by the network hardware or software or both.



- All designated servers configured with CD-ROM drives and the appropriate controller cards. You may have as many as nine optical servers on the same network. Version 1.10M allows one optical server per network.

All CD-ROM drives should have a device driver compatible with the Microsoft<sup>(R)</sup> MS-DOS<sup>(R)</sup> CD-ROM Extensions.

**Note:** One of your designated optical servers may or may not be the same computer used as the network file server. The memory required to operate as a network file server, however, may make this computer a better OPTI-NET user station.

- At least one user station. OPTI-NET 1.10M supports a maximum of 3 simultaneous users per optical server.
- One copy of the CD-ROM disc(s) and the data base application software for each data base to be accessed over the network. The Microsoft Programmer's Library disc(s) for the data base must be licensed for use on a network.
- MS-DOS 3.1 or later installed on all server and user stations.
- The Microsoft Extensions installed on all user and non-dedicated server stations.

## INSTALLING OPTI-NET

The OPTI-NET distribution diskette that came with your package contains the Install program. This Install program copies the OPTI-NET files to a bootable diskette or hard disk.

A dedicated server uses the following OPTI-NET files:

- OPTINET.EXE, the network management program;
- OPTINET.CFG, the optical storage network configuration file; and
- NETSRV.SYS, the server driver.

A non-dedicated server uses these files:

- OPTINET.EXE, the network management program;
- OPTINET.CFG, the optical storage network configuration file;
- NETSRV.SYS, the server driver;
- ONET.EXE, the utility used to initiate and end an optical storage network session at the user station and to open and close a data base;
- MSCDEX.EXE, the Microsoft Extensions executable file.

A user station uses the following files:

- NETUSR.SYS, the user station driver;
- ONET.EXE, the utility used to initiate and end an optical storage network session at the user station and to open and close a data base.
- MSCDEX.EXE, the Microsoft Extensions executable file.

The Install program also modifies the CONFIG.SYS and AUTOEXEC.BAT files to recognize the CD-ROM drives on the network.

## Starting the Install Program

Follow these steps to start the OPTI-NET Install program for either a user or a server station:

1. If you do not wish to run the Install program from the distribution diskette, copy its contents to a directory on your hard disk or a public directory on the network.
2. If you want to use the Install program to install CD-ROM device drivers on the optical server or the Microsoft Extensions on the user stations or on a non-dedicated server, copy the applicable files to the directory from which you are running the Install program.
3. At your install directory, type **install** or **INSTALL** and press **Enter**. The Introduction screen appears.

When the Introduction Screen appears, you are ready to use the Install program. Completing the installation is as simple as following the instructions on the screens and providing appropriate responses to complete the installation.

## **Install Program**

To aid in your understanding of the installation process, the following sections step you through the screens that appear during the installation process for both the user and the server stations. You will notice that the titles of these sections correspond with the titles of the screens.

There are two Introduction screens. In the first screen, you are reminded that the applicable files for your CD-ROM device drivers and the Microsoft Extensions must be in the directory in which you are installing OPTI-NET. If they aren't, press **Esc** to exit the Install program and then copy the required files to the current directory. Follow the steps above to start the Install program again.

The second Introduction screen describes some of the keys available for your use during the Install program. Provide your responses during the Install program using the following keys:

<b><u>Key Name</u></b>	<b><u>Action</u></b>
BACKSPACE	Erases the character to the left (used in fields of more than one character)
DEL	Deletes a character (used in fields of more than one character)
DOWN ARROW	Moves highlighting down
ENTER	Selects highlighted choice
ESC	Allows you to cancel the entire installation process at any time
INS	Inserts one blank space (used in fields of more than one character)
LEFT ARROW	Moves to left one character at a time (used in fields of more than one character)

RIGHT ARROW	Moves to right one character at a time (used in fields of more than one character)
UP ARROW	Moves highlighting up

## Specifying the Destination Path

You must specify the drive and directory that will contain the OPTI-NET files. C:\OPTINET is the default path for a hard disk system. A:\OPTINET is the default path for a machine that uses diskettes only. If you wish to accept your system's default, press **Enter**.

If you have more than one hard disk drive, you may want to install OPTI-NET on other than the "C" hard disk. To do this, type in your path selection, such as D:\OPTINET, and press **Enter**.

## Choosing the Station Type

There are three station types: a user, a dedicated server, and a non-dedicated server. Server stations manage the CD-ROM drives on the network. The user station runs the applications software that uses CD-ROM drives on the network.

**Note:** You cannot change your station type without re-running the Install program to revise your configuration.

Determine which station type you want to install. Press **Enter** to accept the default **User Station** that is already highlighted on your screen or arrow down to select Dedicated server or Non-dedicated server and press **Enter** to install one of these server stations.

The Install program differs slightly for each station type. If you chose to install a user station, follow the steps outlined below. If you chose to install a dedicated or a non-dedicated server, specific instructions for installing these station types are provided later in this chapter.

## Installing a User Station

To install a user station, accept the default **User Station** in the Choosing the Station Type screen's option box and press **Enter**.

The Install program modifies the user station CONFIG.SYS and AUTOEXEC.BAT files to recognize the optical storage network and the CD-ROM drives accessible to the user station. For this reason, a message appears on the screen to alert you of that fact.

Press **Enter** to continue the Install program.

## Specifying a Unique User Name

The Install program asks you for a unique user station name. Type in the name you wish to use and press **Enter**. You may also leave the name field empty for auto-name operation.

You may change the user station name later in the Install program when you are given the option to revise your configuration.

## Specifying the Data Base Size

The size of a data base is equal to the number of CD-ROM discs that make up the data base. The maximum number of CD-ROM discs that may make up a data base is eight.

Type in the size of the largest data base to be accessed by this user station and press **Enter** or simply press **Enter** to accept the default. The Microsoft Programmer's Library data base consists of one CD-ROM disc.

**Note:** Each time you switch a data base, the same drive letters are used. In this way, drive letters are not wasted as the number of physical drives on the server (and memory buffers for the Microsoft Extensions). There are drive letters only for the maximum number of drives needed at one time.

You may change the size of the largest data base later in the Install program when you are given the option to revise your configuration.

## Verifying the Configuration

The user station configuration you have specified so far appears on the screen.

If all of the information you see is correct, highlight **Install this configuration** and press **Enter**.

**Note:** If you did not copy the Microsoft Extensions to the install directory before running the Install program, you must copy the Microsoft Extensions executable file, MSCDEX.EXE, to the destination directory before you try to use the installed configuration.

OPTI-NET copies the files NETUSR.SYS, ONET.EXE, and MSCDEX.EXE (if present) to the destination directory.

You should receive the message that you have successfully installed OPTI-NET 1.10M as a user station.

## Revising the User Station Configuration

If you wish to revise the configuration that appears on the Verifying the Configuration screen, highlight **Revise this configuration** and press **Enter**. The Revising the Configuration screen appears.

To revise your configuration, select:

- **Change user name** to change the name you previously assigned the user station.
- **Change size of the largest data base** to change the number of CD-ROM discs in the largest data base.
- **Continue** when you are ready to install the system configuration.

## Change User Name

When you select **Change User Name** from the Revising the Configuration option box, the Specifying Unique User Name screen appears with the current user name highlighted. Type in the new name you want to use. Press **Enter** and the Revising the Configuration screen appears with the new name listed.

## Change Size of the Largest Data Base

When you select **Change Size of the Largest Data Base** from the Revising the Configuration option box, the Specifying the Data Base Size Screen appears. This option allows you to change the number of CD-ROM discs you previously assigned to the largest data base. Type in the size of the largest data base and press **Enter** to return to the Revising the Configuration screen. The change in the size of the largest data base will be reflected here.

## Installing the Revised Configuration on the User Station

Once you have finished revising your system configuration, you are ready to install it. Highlight **Continue** in the Revising the Configuration screen option box, and press **Enter**. The Verifying the Configuration screen will appear. Verify your selections and if everything is as you want it, highlight **Install this configuration** and press **Enter**.

OPTI-NET copies the files NETUSR.SYS, ONET.EXE, and MSCDEX.EXE to the destination directory.

You should receive a message that OPTI-NET 1.10M has been successfully installed on your user station.

## Installing a Server Station

To install a dedicated server station, highlight **Dedicated server** in the Choosing the Station Type option box and press **Enter**.

To install a non-dedicated server station, highlight **Non-dedicated server** in the Choosing the Station Type option box and press **Enter**.

**Note:** From this point on, the procedure for installing a dedicated server is identical to the procedure for installing a non-dedicated server. The only difference is that the Install program copies two additional files, ONET.EXE and MSCDEX.EXE, to the non-dedicated server station's destination directory. For the purpose of example, a dedicated server station is shown in the screens in this section.

The install program modifies the server station CONFIG.SYS and AUTOEXEC.BAT files to recognize the optical storage network and the CD-ROM drives. For this reason a message will appear on the screen.

Press **Enter** to continue the Install program.

## Adding a Device Driver

**Note:** If CD-ROM device drivers have already been installed on the server station, the program skips the Adding a Device Driver screen and takes you first to Verifying the Configuration. (This is applicable only if you have already installed OPTI-NET and are running the Install program to revise your configuration only.)

The CD-ROM device drivers not yet installed on the server but available in the install directory are shown in the option box.

After viewing the option box, decide which device driver you wish to include in your system configuration (you can add only one driver at a time). Arrow up or down to highlight this device driver and press **Enter**.

## Specifying Device Driver Parameters

There are three Specifying Device Driver Parameters screens. The first screen asks you for the number of CD-ROM drives controlled by the device driver you are adding. Type in the number of drives and press **Enter**.

The second Specifying Device Driver Parameters screen gives you the opportunity to add or change the parameters of the device driver. If you wish to use the default device driver parameters highlight **No** and press **Enter**. The Verifying the Configuration screen appears and you have the option to install the configuration or revise the configuration further.

If you do not wish to accept the default parameters, before selecting **Yes** remember that the device driver filename, the device name (/D:), and the number of drives (/N:) are controlled by the OPTI-NET Install program and cannot be changed. Highlight **Yes** and press **Enter** to view the third screen.



The final Specifying Device Driver Parameters screen requires you to specify the parameters you wish to add. Consult the documentation supplied with your CD-ROM device driver for information about the device driver parameters. For additional help, consult Appendix D of the *OPTI-NET Administrator's Guide* which gives example DEVICE statements for many of the popular CD-ROM device drivers.

For example, the CDI100S.SYS device driver might require the following DEVICE statement:

```
DEVICE=CDI100S.SYS /D:OPTNET01 /N:8 /I:5
```

Since the OPTI-NET Install program controls the device name and the number of drives, you would add the /I:5.

Type in the parameters you wish to add and press **Enter**. The Verifying the Configuration screen appears.

## Verifying the Configuration

The server station configuration you have specified so far appears on the screen.

If all of the information you see is correct, highlight **Install this configuration** and press **Enter**.

If you are installing a Dedicated server, OPTI-NET copies the files NETSRV.SYS, OPTINET.EXE, and OPTINET.CFG to your destination directory.

If you are installing a Non-dedicated server, OPTI-NET copies the files NETSRV.SYS, OPTINET.EXE, OPTINET.CFG, ONET.EXE, and MSCDEX.EXE to your destination directory.

You should receive the message that you have successfully installed OPTI-NET as a server station.

## Revising the Server Station Configuration

If you wish to revise the configuration that appears on the Verifying the Configuration screen, highlight **Revise this configuration** and press **Enter**. The Revising the Configuration screen appears.

To revise your configuration, select:

- **Add a device driver** to add a device driver to your configuration. You can add only one driver at a time.
- **Delete a device driver** to delete a device driver already configured on your system.
- **Change device driver parameters** to change the parameters of a device driver already configured on your system.
- **Continue** when you are ready to install the system configuration.

## Add a Device Driver

When you select **Add a device driver**, the device drivers not yet configured on your system but available in the install directory are shown in the option box.

After viewing the option box, you may decide you do not wish to add a device driver after all. Highlight **Continue** and press **Enter** to return to the Revising the Configuration screen.

If you do wish to add a device driver, arrow up or down to highlight the device driver you wish to add and press **Enter**. The Specifying Device Driver Parameters screen appears.

## Specifying Device Driver Parameters

Work through the three Specifying Device Driver Parameters screens described earlier in this section to set the parameters of the device driver you are adding.

## Delete a Device Driver

The device drivers already configured on the server station are shown in the option box.

After viewing the option box, you may decide you do not wish to delete a device driver after all. Highlight **Continue** and press **Enter** to return to the Revising the Configuration screen.

If you do wish to delete a device driver, arrow up or down to highlight the device driver you wish to delete and press **Enter**. You will return to the Revising the Configuration screen and the CD-ROM device driver you deleted will no longer be listed.

## Change Device Driver Parameters

The device drivers configured on the server station are shown in the option box.

After viewing the option box, you may decide you do not wish to change the parameters of a device driver after all. Highlight **Continue** and press **Enter** to return to the Revising the Configuration screen.

If you do wish to change the parameters of a device driver, arrow up or down to highlight the device driver you want to change the parameters for and press **Enter**. Work through the Specifying Device Driver Parameters screens and then return to the Revising the Configuration screen. The change in the device driver parameters will be shown.

## Installing the Revised Configuration on the Server Station

Once you have finished revising your system configuration, you are ready to install it. Highlight **Continue** in the Revising the Configuration screen's option box, and press **Enter**. The Verifying the Configuration screen will appear. Verify your selections and if everything is as you want it, highlight **Install this configuration** and press **Enter**.

If you are installing a Dedicated server, OPTI-NET copies the files NETSRV.SYS, OPTINET.EXE, and OPTINET.CFG to your destination directory.

If you are installing a Non-dedicated server, OPTI-NET copies the files NETSRV.SYS, OPTINET.EXE, OPTINET.CFG, ONET.EXE, and MSCDEX.EXE to your destination directory.

You should receive a message that OPTI-NET 1.10M has been successfully installed on your server station.

## Chapter 3

### Running OPTI-NET on the Server

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You can run OPTI-NET as a standalone program or as a Terminate-and-Stay-Resident (TSR) program. You can run it from the DOS prompt or from a batch file, but you must run it after you load the network software (if required) and CD-ROM device drivers. When you run OPTI-NET, the server enters Data Base Service mode.

This chapter explains the following:

- how to run OPTI-NET as a standalone program (dedicated or Monitor mode)
- how to run OPTI-NET as a TSR program (concurrent mode)
- how to change operating modes on the server
- how to define which server is being started

#### **RUNNING OPTI-NET AS A STANDALONE PROGRAM**

When you run OPTI-NET as a standalone program, OPTI-NET assumes total control of the server. The server operates as a dedicated server.

You should run OPTI-NET as a standalone program if you have insufficient system memory to run an application after you run OPTI-NET. You should also run OPTI-NET as a standalone application if you want the best possible performance from the network.

To run OPTI-NET as a standalone program, type the following command at the DOS prompt or include it in your batch file:

**optinet** [-*ppath*] [-*a*] [-*s#*] [-*m*]

where

the brackets, [], indicate an optional parameter.

**Note:** Do not type the brackets.

**-ppath** is the path of the OPTI-NET configuration file, OPTINET.CFG. The default value is the current directory.

**Note:** Do not include the filename in the path.

**-a** automatically configures the optical storage network with user station access to the data bases assigned to CD-ROM drives (mounted) in the OPTI-NET configuration file, OPTINET.CFG. If you omit this parameter, you must switch to Administrator mode to mount each data base after you run OPTI-NET.

**-s#** this parameter overrides the default server defined in OPTINET.CFG.

**Note:** Opti-Net 1.10M supports one server only.

Since OPTI-NET defaults to the server defined in the configuration file, use this command line parameter to override the default. (OPTI-NET is shipped with server #1 configured as the default server.)

For example, you would type **optinet -s3** at the DOS prompt to run optical server #3. You would then go to the Configuration Parameters screen, change the optical server number, and then save it. The next time you start OPTI-NET, you will not need to specify the **-s** parameter.

**-m** Add this parameter to your command line to go immediately to Monitor mode.

For example, to run OPTI-NET from the root directory if you are booting from drive C, the OPTI-NET configuration file is in the directory OPTINET on drive C, and you want to automatically mount the data bases, you would use the following command:

```
optinet -p\optinet -a
```

When you run OPTI-NET, copyright information is displayed and you get the message *Initializing . . . Please wait.*

When OPTI-NET is initialized as a standalone program, the server enters Data Base Service mode operating as a dedicated server.

The bottom of the screen identifies the server as a dedicated server.

## **RUNNING OPTI-NET AS A TSR PROGRAM**

When you run OPTI-NET as a TSR program, OPTI-NET shares control of the server with other programs. The server operates as a concurrent server.

You can run OPTI-NET as a TSR program if you have sufficient memory to run an application after you run OPTI-NET. Once you run OPTI-NET as a TSR program, it remains in memory until the server is rebooted.

To run OPTI-NET as a TSR program, type the following command at the DOS prompt or include it in your batch file:

```
optinet [-ppath] [-a] [-s#] -c
```

where

the brackets, [], indicate an optional parameter.

**Note:** Do not type the brackets.

**-ppath** is the path of the OPTI-NET configuration file, OPTINET.CFG. The default value is the current directory.

**Note:** Do not include the filename in the path.

**-a** automatically configures the optical storage network with user station access to the data bases assigned to CD-ROM drives (mounted) in the OPTI-NET configuration file, OPTINET.CFG. If you omit this parameter, you must switch to Administrator mode to mount each data base after you run OPTI-NET.

**-s#** this is a parameter that overrides the default server defined in OPTINET.CFG.

**Note:** Opti-Net 1.10M supports one server only.

Since OPTI-NET defaults to the server defined in the configuration file, use this command line parameter to override the default. (OPTI-NET is shipped with server #1 configured as the default server.)

For example, you would type **optinet -s3** at the DOS prompt to run optical server #3. You would then go to the Configuration Parameters screen, change the optical server number, and then save it. The next time you start OPTI-NET, you will not need to specify the **-s** parameter.

**-c** causes the server to operate as a concurrent server.

For example, to run OPTI-NET from the root directory if you are booting from drive C, the OPTI-NET configuration file is in the directory OPTINET on drive C, and you want to automatically mount data bases, you would use the following command:

**optinet -p\optinet -c -a**

When you run OPTI-NET, copyright information is displayed and you get the message *Initializing . . . Please wait.*

When OPTI-NET is initialized as a TSR program, the server enters Data Base Service mode operating as a concurrent server. You exit OPTI-NET to DOS and get the message *Resident part of OPTI-NET installed. Use hotkey to switch modes.*

## Running Another Program

You should be able to run most other programs under MS-DOS with OPTI-NET. Run the program the same way you would if you were not already running OPTI-NET on the server.

## Running OPTI-NET Again

If you try to run OPTI-NET again while you are running it as a TSR program (on a concurrent server), the program load is aborted.

The original optical storage network session is not interrupted; OPTI-NET continues to run as a TSR program.

## SWITCHING MODES

The server can operate in only one mode at a time.

In Data Base Service mode, the server processes requests from the user stations for access to optical disc drives. Requests for access to the drives are processed, allowing user stations to read data from the discs.

In Administrator mode, the server blocks all optical storage network activity and allows you to change the configuration of the network. Requests for access to the optical disc drives are queued but are not processed. User stations cannot read data from the discs.

In Monitor mode, the server is running in dedicated mode while monitoring the current status of the server and the network. Monitor mode adds overhead to the server. For this reason, it is recommended that you use this mode only when you encounter problems or more information on server usage is needed.

When you run OPTI-NET, the server enters Data Base Service mode. You can switch from Data Base Service mode to Administrator mode and back to Data Base Service mode again.

### Switching to Administrator Mode

You can switch to Administrator mode any time you are running OPTI-NET as a standalone program. You can also switch to Administrator mode when you are running OPTI-NET as a TSR program and the server screen is in text mode.

To switch to Administrator mode, press the hotkey. Initially the hotkey is defined as **Alt-O**. The Administrator mode menu is displayed.



The bottom of the screen identifies the server as operating in Administrator mode.

The options in the first column allow you to change the configuration of the optical storage network and check the network status. These options are explained in chapters 4 through 7.

The options in the second column allow you to return to Data Base Service mode or quit OPTI-NET. They are explained in the remainder of this chapter.

## Switching to Monitor Mode

To view the Monitor mode screen, press **Alt-M** when the Administrator mode options are displayed.

This screen is used to monitor the current status of the server and the network. The Monitor mode has the following features:

<b>Caching with:</b>	The type of caching being used. Caching will be with either <i>System memory</i> or <i>Expanded memory</i> . If Expanded memory is being used, it will show that it is either <i>shared</i> or <i>nonshared</i> .
<b>Cache size:</b>	Number of kilobytes allocated to the cache.
<b>Cache used:</b>	Number of kilobytes of the cache that are currently occupied.
<b>Cache hits:</b>	The percent of successful read calls served from cache memory.
<b>No.:</b>	Number of the logged user. The first 10 logged users are shown.
<b>User name:</b>	Name of the user.
<b>Data base:</b>	Name of the data base opened by the user.

<b>Last operation:</b>	The last operation performed by the user, such as a read.
<b>Status:</b>	Status of the last operation. The status is indicated by the following:  R = request Received  X = request eXecuting  S = request Success  F = request Failure

At the bottom of the Monitor mode screen there is a six line scrolling window that is used for error messages.

### **Returning to Data Base Service Mode on a Dedicated Server**

You can exit Administrator mode and return to Data Base Service mode on a dedicated server.

To return to Data Base Service mode on a dedicated server, press Alt-D.

**Remember:** When the server is operating as a dedicated server, you are running OPTI-NET as a standalone program. If you exit Administrator mode and return to Data Base Service mode on a dedicated server while you are running OPTI-NET as a TSR program, you cannot run other applications on the server.

### **Returning to Data Base Service Mode on a Concurrent Server**

You can exit Administrator mode and return to Data Base Service mode on a concurrent server.

To return to Data Base Service mode on a concurrent server, press **Alt-C**.

## Exiting Administrator Mode and Quitting OPTI-NET

You can exit Administrator mode and quit OPTI-NET only if you have never run OPTI-NET as a TSR program during the current optical storage network session. Once OPTI-NET is resident in memory, the only way to quit OPTI-NET is to reboot the server.

**Note:** The <Alt-Q> option will not be seen on the Administrator mode menu.

To quit OPTI-NET, press **Alt-Q**. You get the message *Exiting OPTI-NET to DOS* and return to the DOS prompt.

## Chapter 4

### Checking and Changing Configuration Parameters

---

The optical storage network configuration parameters are the amount of memory used for CD-ROM data buffers, caching, the server number, and the key defined as the hotkey. You can change the optical storage network configuration parameters when the server is operating in Administrator mode.

This chapter explains the following:

- how to display the current configuration parameters
- how to specify new configuration parameters
- how to save changed configuration parameters

#### **DISPLAYING THE CURRENT CONFIGURATION PARAMETERS**

To display the current optical storage network configuration parameters, press **Alt-P** when the Administrator mode options are displayed. The Configuration Parameters window opens.

It displays the current values of the optical storage network configuration parameters.

Caching with Specify software caching with *System memory* or *Expanded memory*.

Caching memory size When caching with *System memory* is being used, you may specify 64 Kb (the minimum amount of memory needed for read buffers), 0 (all available memory up to the 640 Kb limit), or type in your own value.

When caching with *Expanded memory* is being used, you may specify 64 Kb (the minimum amount of memory needed for read buffers), 0 (all available expanded memory up to full capacity), or type in your own value.

Optical server Enter the number of the optical server to use (1-9).

Hotkey definition The alphabetic key used with the Alt key to change from Data Base Service mode to Administrator mode. Initially the key is **O**. You may change this value to any other letter.

**Note:** When you change parameter values, the new values do not become effective until you save the changes and run OPTI-NET again.

## MOVING THE HIGHLIGHT BAR

When the Configuration Parameters window opens, a highlight bar marks the first field. You can change the value in a field when the highlight bar marks that field.

To move between fields, press **up arrow** and **down arrow**. The legend at the bottom of the Configuration Parameters window reminds you to use these keys.

## CHANGING THE SOFTWARE CACHING VALUES

Initially software caching is enabled using system memory with a 64K buffer. When **Caching with** is highlighted, use the space bar to switch between System and Expanded memory.

## CHANGING THE HOTKEY DEFINITION

The hotkey is defined as the **Alt** key and an alphabetic key. Initially the hotkey is defined as **Alt-O**. You will want to change this definition if it conflicts with any other memory-resident program running on the server.

Follow these steps to change the hotkey definition.

1. If the value of *Hotkey definition* is not highlighted, press **down arrow** until it is.
2. Type any letter.

The letter is displayed.

## CHANGING THE SERVER NUMBER

The server number for OPTI-NET 1.10M will automatically be set to server number 1. This value cannot be changed in version 1.10M.

## SAVING THE CHANGES

Changes you make to the optical storage network configuration parameters are only stored in memory until you save them to the OPTI-NET configuration file, OPTINET.CFG. Press **Alt-S** to save your changes. Your changes will take effect the next time you start OPTI-NET.

## RETURNING TO THE ADMINISTRATOR MODE MENU

To return to the Administrator mode menu from the Configuration Parameters window at any time, press **Esc**.



## Chapter 5

### Checking and Changing Data Base Access

---

Each data base accessible on the network is identified by its name and the CD-ROM drives on which it is mounted. You can change user station access to data bases on the optical storage network when the server is operating in Administrator mode.

This chapter explains the following:

- how to display information about the data bases currently accessible on the optical storage network
- how to add a data base to the optical storage network
- how to remove a data base from the optical storage network
- how to mount a data base on the optical storage network
- how to dismount a data base from the optical storage network

#### **DISPLAYING THE CURRENT DATA BASE ACCESS**

To display the current user station access to data bases on the optical storage network, press **Alt-A** when the Administrator mode options are displayed. The Data Base Access window opens.



This window displays information about the data bases currently accessible on the network.

No.	Number of the data base. Opti-Net 1.10M allows 1 (Microsoft Programmer's Library)
Name	Name of the data base. The name is established by the data base application software developer and is a maximum of eight characters. For Microsoft Programmer's Library, the name is <b>PL</b> .  Note: Ask the data base publisher for the data base name when you obtain the license to use the CD-ROM disc on the network.
CDs	Number of CD-ROM discs in the data base.
Status	Status of the data base. It maybe <i>Dismounted</i> or <i>Mounted</i> .
Users	Number of users currently using the data base.
Drives	Number of each CD-ROM drive on which a CD-ROM disc is mounted. If the status of the data base is <i>Dismounted</i> , this column is empty.

## ADDING A DATA BASE

You add a data base to the optical storage network by adding its name and the number of CD-ROM drives it requires to the information in the Data Base Access window.

Follow these steps to add a data base to the optical storage network.

1. Press **Alt-A**.

A highlight bar marks the first empty line in the Name column.

2. Type the name of the data base exactly as supplied by the data base application software developer.

The name of the data base is displayed in the Name column.

3. Press **Enter**.

The highlight bar moves to the CDs column.

4. Type the number of CDs forming the data base. The maximum number is eight.

5. Press **Enter**.

*Dismounted* is displayed in the Status column and *0* is displayed in the Users column.

## REMOVING A DATA BASE

You remove a data base from the optical storage network by removing its name from the information in the Data Base Access window.

Follow these steps to remove a data base from the optical storage network.

1. Move the highlight bar to the name of the data base you want to remove.
2. Press **Alt-R**.

The line is cleared.

You cannot remove a data base that is mounted. If you try, the message *Data base mounted, cannot remove. Try again...* is displayed.

## MOUNTING A DATA BASE

You mount a data base on the optical storage network by loading each CD-ROM disc in the data base on the CD-ROM drive to which OPTI-NET assigns the disc.

Follow these steps to mount a data base on the optical storage network.

1. Move the highlight bar to the name of the data base you want to mount.
2. Press **Alt-M**.

The prompt *Mount data base on drives ## Press any key after mounting or press ESC to cancel* is displayed. The prompt may display up to eight drive numbers, indicated by ##.

3. Load each disc on the appropriate drive indicated in the prompt. If the data base has more than one disc, be sure you load the first disc on the first drive listed, the second disc on the second drive listed, etc.

OPTI-NET cannot check that you have loaded the correct disc on the correct logical drive. Only the application software can check this.

4. Press any key.

The prompt clears.

If there are not enough CD-ROM drives available for you to mount the data base, you get the message *Not enough drives for data base. Try again...*

You cannot mount a data base that is already mounted. If you try, you get the message *Data base mounted, cannot mount. Try again...*

## DISMOUNTING A DATA BASE

You dismount a data base on the optical storage network by unloading each CD-ROM disc in the data base from the CD-ROM drive to which OPTI-NET has assigned the disc.

Follow these steps to dismount a data base from the optical storage network.

1. Move the highlight bar to the name of the data base you want to dismount.
2. Press **Alt-D**.

The prompt *Dismount data base on drives ## Press any key after dismounting or press ESC to cancel* is displayed.

The prompt may display up to eight drive numbers, indicated by ##.

3. Unload the disc(s) from the drive(s) listed.
4. Press any key.

You cannot dismount a data base that is not mounted. If you try, you get the message *Data base not mounted, cannot dismount. Try again...*

Also, you cannot dismount a data base that is open. If you try, you get the message *Data base open, cannot dismount. Try again...*

## SAVING THE CHANGES

Changes you make to the list of data bases accessible on the network are only stored in memory until you save them to the OPTI-NET configuration file, OPTINET.CFG.

To save changes to the data base access, press **Alt-S**. The full path name of the OPTI-NET configuration file is displayed, and you get the message *Save changed Status and Drives? Press Y or N, or press Esc to cancel.*

If you press **Y**, any changed data base name, number of CD-ROM discs, status, and associated drive numbers are saved to the configuration file.

If you press **N**, any changed data base name and number of CD-ROM discs are saved to the file, but any previous status and associated drive numbers are retained. Any changed status and associated drive numbers are saved in memory only for the current optical storage network session.

The next time you run OPTI-NET and specify the **-a** parameter, the optical storage network is automatically configured with access to each data base that has been saved with a status of *Mounted*.

## **RETURNING TO THE ADMINISTRATOR MODE MENU**

To return to the Administrator mode menu from the Data Base Access windows, press **Esc**.

## Chapter 6

### Checking Network Status

---

Network status is the identification number of the network adapter card and information about the network, errors, traffic, and adapter resources. You can check the network status when the server is operating in Administrator mode.

This chapter explains how to check network status.

#### DISPLAYING CURRENT NETWORK STATUS

You can display the current status of the network.

To check network status, press **Alt-N**. The Network Status window opens.

The top of the window displays the identification number of the network adapter card. This number is formatted in NETBIOS format and is expressed as a hexadecimal number.

The rest of the window displays information about the network, errors, traffic, and adapter resources. You cannot change any information in the Network Status window.

Report duration (minutes)

Duration of the NETBIOS reporting period in minutes.

Self-test results

Results of last Power-On Self-Tests (POST)

External jumper	Status of the external jumpers.  <b>Note:</b> If you are using the latest version of the IBM LAN Support Program, the window displays <i>Primary level number</i> and the level number of the network device driver.
Network software version	Number of the software version of the protocol layers.
CRC errors	Number of Cyclical Redundancy Check (CRC) errors received.
Collisions	Number of collisions encountered.
Retransmissions	Number of retransmissions.
Alignment errors	Number of alignment errors received.
Aborted transmissions	Number of aborted transmissions.
RCV exhausted resources	Number of times the receiver exhausted its resources.
Transmitted packets	Number of successfully transmitted packets.
Received packets	Number of successfully received packets.
Configured maximum NCBs	Configured maximum number of Network Control Blocks (NCBs).
Free NCBs	Number of free NCBs.
Maximum free NCBs	Maximum number of free NCBs.

Maximum data packet size	Maximum session data packet size.
Maximum pending sessions	Configured maximum number of sessions pending.
Actual pending sessions	Actual number of pending sessions.
Maximum possible sessions	The total maximum number of possible sessions.
Names in name table	The number of names in the local name table, each name, and the status of each name. The window may display up to six names.

## **RETURNING TO THE ADMINISTRATOR MODE MENU**

To return to the Administrator mode menu from the Network Status window, press any key.





## Chapter 7

### Checking Drives Usage

---

Drives usage information is the number of the CD-ROM drive and the name of the data base mounted on the drive. You can check drive usage information when the server is operating in Administrator mode.

This chapter explains how to check drives usage information.

#### DISPLAYING CURRENT DRIVES USAGE

You can check CD-ROM drives mounted with data bases on the optical storage network.

To check drives usage, press **Alt-U**. The Drives Usage window opens.

It displays information about the CD-ROM drives configured on the server and the data bases mounted on those drives. The window displays information for only those CD-ROM drives for which the CONFIG.SYS file loads device drivers (contains a DEVICE statement). You cannot change any information in the Drives Usage window. (You can change the data bases mounted on the optical storage network through the Data Base Access window.)

Drive	Number of the CD-ROM drive. There may be up to 32 drives, numbered from 0 through 31. Each drive number is established when CONFIG.SYS loads a device driver.
-------	---------------------------------------------------------------------------------------------------------------------------------------------------------------

Data Base

Name of the data base mounted on the CD-ROM drive. The name is established by the data base application software developer and is the same used to add the data base to the optical storage network.

## **RETURNING TO THE ADMINISTRATOR MODE MENU**

To return to the Administrator mode menu from the Drives Usage window, press any key.

## Chapter 8

### Accessing a Data Base from a User Station

---

Before a user can access a mounted data base, an optical storage network session must be initiated at the user station and the data base must be open at that user station. OPTI-NET includes a utility to initiate and end the optical storage network session at the user station and to open and close a data base. The utility is ONET.EXE.

The ONET utility can be run from the DOS prompt or from a batch file.

This chapter explains the following:

- what an optical storage network session at a user station is and how it is initiated
- how to open an optical storage network session with a specific server
- how a data base is opened
- how a data base is closed
- how an optical storage network session at a user station is ended

#### INITIATING A SESSION

An optical storage network session at a user station is a link between that user station and a server. An optical storage network session must be initiated at a user station before the user can access a mounted data base from that user station.

An optical storage network session at a user station is initiated the first time the OPTI-NET utility is run to open a data base after the user station is booted. When the session is initiated successfully, the message *Initializing session with server ... Return code = O.K.* is displayed.

The session remains active until the utility is run again to end it. If a session has been ended, it is initiated again when the utility is run to open another data base at that user station.

The server supports a maximum of 3 optical storage network sessions at user stations at one time.

## OPENING A DATA BASE

A mounted data base must be open at a user station for the user to access that data base. Only one data base may be open at a user station at any time.

Usage: **onet** [-a *server*] [-o *data base name*] [-c] [-e]

where

- a *server* - Attach to server (1-9)
- o *data base name* - Open data base
- c - Close data base
- e - End session

*server* is the number of the server to create a session with. The servers are numbered 1-9.

Since the default for the user driver is to attach to server #1, you must use the **-a** command to attach the user to a server station other than #1. This command is not necessary if the network has only one server designated as server #1.

*data base name* is the name of the data base as established by the data base application software developer. It must match the name of the data base on the optical storage network.

**Note:** This is the same name used to add the data base to the optical storage network.

The command may be typed at the DOS prompt or included in a batch file.

While the data base is being opened, the message *Opening data base* is displayed, followed by the name of the data base and a return code. If the data base is opened successfully, the return code is *O.K.* Otherwise, it is a number followed by a description of the error.

If either parameter is omitted, the message *ONET: Illegal number of parameters* is displayed along with information about the utility usage.

## CLOSING A DATA BASE

A data base open at a user station must be closed before another data base can be opened at that user station. Only one data base may be open at a user station at any time.

The following command is used to close a data base at a user station:

**onet -c**

The command may be typed at the DOS prompt or included in a batch file.

When the data base is closed, the message *Closing data base* is displayed, followed by a return code. If the data base is closed successfully, the return code is *O.K.* Otherwise, it is a number followed by a description of the error.

Closing a data base does not end the optical storage network session at the user station.

If the parameter is omitted, the message *ONET: Illegal number of parameters* is displayed along with information about the utility usage.

## ENDING A SESSION

Once an optical storage network session at a user station is initiated, it remains active until it is ended.

Ending a session closes any data base open to the user station. However, closing a data base does not end the session.

The following command is used to end the optical storage network session at the user station:

**onet -e**

The command may be typed at the DOS prompt or included in a batch file.

When the session is ended, the message *Ending session* is displayed followed by a return code. If the session is ended successfully, the return code is *O.K.* Otherwise, it is a number followed by a description of the error.

If the parameter is omitted, the message *ONET: Illegal number of parameters* is displayed along with information about the utility usage.

## **OPL.BAT**

The file OPL.BAT is installed in the MSLIB directory during the installation of Microsoft Programmer's Library. The batch file opens a session with the server and starts Microsoft Programmer's Library in stand-alone mode. If the user wants to start Microsoft Programmer's Library in TSR mode, then the steps must be done separately from DOS.

When you exit Microsoft Programmer's Library the batch file will close the session with the server and end the session with the OPTI-NET server.

The batch file assumes that OPTI-NET is in the path of your machine. If this is not the case then the batch file should be edited to direct the machine to the OPTINET directory.

## Appendix A

### Glossary

---

<b>Administrator mode</b>	This server mode of operation that blocks all optical storage network activity and allows the network administrator to change the configuration of the network.
<b>batch file</b>	A file containing one or more DOS commands that are executed one at a time when the filename is entered at the DOS prompt. The file must have a .BAT extension.
<b>CD-ROM device driver</b>	Software that controls and operates one or more CD-ROM drives through a controller card.
<b>concurrent server</b>	A server that runs applications concurrently with OPTI-NET. See also dedicated server.
<b>controller card</b>	A printed circuit board that allows a peripheral device to operate with a personal computer and controls that device.
<b>data base</b>	One or more CD-ROM discs forming a complete set of data.
<b>dedicated server</b>	An server that runs only OPTI-NET. See also concurrent server.
<b>expanded memory</b>	Memory beyond the 640 Kb usable by MS-DOS. It is defined by the Lotus/Intel/Microsoft Expanded Memory Specification (EMS).



<b>High Sierra format</b>	A proposed standard for file format on a CD-ROM disc. Its purpose is to provide a single, standard format for CD-ROM discs, allowing computers with different operating systems and CD-ROM drives to read discs created by various developers and manufacturers.
<b>hotkey</b>	The key that allows the network administrator to switch the server from Data Base Service mode to Administrator mode. Initially, the hotkey is defined as Alt-O.
<b>Microsoft Extensions</b>	An extension to the MS-DOS operating system that allows a CD-ROM disc created in the High Sierra format to be accessed like a hard disk, with standard MS-DOS commands. The Microsoft Extensions overcome the MS-DOS limitation of access to a maximum of 32 Mb per partition and allow access to the entire disc.
<b>NETBIOS</b>	The software interface between a network and networking software developed by IBM.
<b>network administrator</b>	The person responsible for configuring and managing the optical storage network.
<b>optical storage network</b>	A network that supports optical disc drives as storage devices.
<b>optical storage network session</b>	At a user station, a link between that user station and the optical server. Once the optical storage network session is initiated, the user station can access a data base mounted on the optical storage network.
<b>prompt</b>	A question or statement requiring a typed response.
<b>server</b>	The computer configured with the CD-ROM drives shared on the optical storage network and running OPTI-NET.
<b>software caching</b>	A data storage and retrieval technique that minimizes the number of reads to a storage device by reserving part of memory as buffers. The first time data is requested, it is read from the device and stored in a buffer. The next time that same data is requested, it is read from the buffer instead of from the permanent storage device. Buffers are overwritten based on the least recent use scheme.

<b>system memory</b>	Memory below the MS-DOS limit of 640 Kb.
<b>Terminate-and-Stay-Resident program</b>	A program that is loaded into memory and can be called from within another program. The program stays resident in memory until it is removed from memory, usually by rebooting the computer.
<b>text mode</b>	The mode of display that divides the screen into rows and columns (usually 25 rows by 80 columns) and displays one character in each of the available row-column positions.
<b>TSR program</b>	A Terminate-and-Stay-Resident program.
<b>user</b>	A person accessing a data base from a user station.
<b>user station</b>	A computer running an application program that accesses a CD-ROM configured on the server.
<b>window</b>	A rectangular portion of the screen displaying information about the network, CD-ROM drives, or data bases.



## Appendix B

### Server Messages

---

The following messages are generated by the OPTI-NET network management program,

*Data base open, cannot dismount. Try again...*

**Cause**            You tried to dismount a data base that is open at a user station.

**Action**            If you want to dismount the data base, wait until it is no longer open, then dismount it.

*Data base not mounted, cannot dismount. Try again...*

**Cause**            You tried to dismount a data base that is not mounted.

**Action**            None. Informational message.

*Data base mounted, cannot mount. Try again...*

**Cause**            You tried to mount a data base that is already mounted.

**Action**            None. Informational message.

## OPTI-NET Administrator's Guide

*Data base mounted, cannot remove. Try again...*

**Cause** You tried to remove a data base that is still mounted.

**Action** If you want to remove the data base, first dismount it, then remove it.

*Exiting OPTI-NET to DOS.*

**Cause** You pressed Alt-Q when OPTI-NET was running as a standalone program on the server. You have exited OPTI-NET and returned to MS-DOS.

**Action** None. Informational message.

*Initializing ... Please wait*

**Cause** OPTI-NET is initializing on the server. When OPTI-NET is initialized, the server enters Data Base Service mode.

**Action** None. Informational message.

*Not enough drives for data base. Try again...*

**Cause** You tried to mount a data base that requires more CD-ROM drives than are available on the server.

**Action** If you want to mount the data base, first dismount enough data bases to free the number of CD-ROM drives required for the data base, then mount it.

*OPTINET: Can't open configuration file. Press any key to continue.*

**Cause** You tried to get information from or save information to the OPTI-NET configuration file, OPTINET.CFG, but the file cannot be opened or does not exist on the drive and in the directory specified.

**Action** Check the path of OPTINET.CFG.

*OPTINET: Configuration file not found. OPTI-NET aborted.*

**Cause**            You tried to run OPTI-NET but the OPTI-NET configuration file, OPTINET.CFG, does not exist on the drive and in the directory specified.

**Action**           Check the path of OPTINET.CFG. Then run OPTI-NET again, specifying the path in the command.

*Resident part of OPTI-NET installed. Use hotkey to switch modes.*

**Cause**            You have run OPTI-NET as a TSR program on the server.

**Action**            None. Informational message.



## Appendix C

### User Station Messages

---

The following messages are generated by the OPTI-NET utility, ONET.EXE. They are displayed at and reported by user stations.

*Closing data base ... Return code = NETBIOS error.*

**Cause**            The data base open at the user station could not be closed because of a problem with the network. A common problem is the network has gone down.

**Action**            Check the status of the network.

*Closing data base ... Return code = O.K.*

**Cause**            The data base open at the user station has been closed successfully.

**Action**            None. Informational message.

*Ending session ... Return code = End session error.*

**Cause**            The optical storage network session at the user station could not be ended because of a problem with the network. A common problem is the network has gone down.

**Action**            Check the status of the network.



*Ending session ... Return code = O.K.*

**Cause** The optical storage network session at the user station has been ended successfully.

**Action** None. Informational message.

*Ending session ... Return code = NETBIOS error.*

**Cause** The optical storage network session at the user station could not be ended because of a problem with the network. A common problem is the network has gone down.

**Action** Check the status of the network.

*Initiating session with server ... Return code = Can't locate OPTI-NET driver.*

**Cause** The optical storage network session at the user station could not be initiated because the user station driver, NETUSR.SYS, could not be found.

**Action** Check the user station CONFIG.SYS file for a DEVICE statement for the user station driver.

*Initiating session with server ... Return code = NETBIOS error.*

**Cause** The optical storage network session at the user station could not be initiated because of a problem with the network. Common problems are the network has gone down or the network does not support NETBIOS, which is required to run OPTI-NET.

**Action** Check the status and configuration of the network.

*Initiating session with server ... Return code = O.K.*

**Cause** The optical storage network session at the user station has been initiated successfully.

**Action** None. Informational message.

*Initiating session with server ... Return code = Unknown error.*

**Cause** The optical storage network session at the user station could not be initiated.

**Action** Note the number in the return code.

*Opening data base 'name' ... Return code = Data base not found.*

**Cause** The named data base could not be opened at the user station. Either the name being used to open the data base does not match the name of the data base on the optical storage network exactly, or the data base is not accessible on the optical storage network.

**Action** Check the name of the data base and the data bases accessible on the network.

*Opening data base 'name' ... Return code = Data base not mounted.*

**Cause** The named data base could not be opened at the user station because it is not mounted.

**Action** Mount the data base.

*Opening data base 'name' ... Return code = NETBIOS error.*

**Cause** The named data base could not be opened at the user station because of a problem with the network. A common problem is the network has gone down.

**Action** Check the status of the network.

*Opening data base 'name' ... Return code = O.K.*

**Cause** The named data base has been opened at the user station successfully.

**Action** None. Informational message.



## Appendix D

### CD-ROM Device Drivers Installation Specifications

---

The appropriate CD-ROM device driver must be installed on each server station for each CD-ROM drive to be accessed by user stations. All CD-ROM device drivers must be installed before OPTI-NET.

This appendix contains instructions and specifications for manually installing selected CD-ROM device drivers. It explains the following:

- which CD-ROM device driver to use for each CD-ROM drive
- how to modify the CONFIG.SYS file to recognize the CD-ROM drives

**Note: The OPTI-NET installation program copies and modifies files as described in this appendix. You do not need the information in this appendix to install OPTI-NET. It is provided for your reference.**

#### COPYING DEVICE DRIVERS

Each CD-ROM drive has a corresponding device driver. The device drivers for the CD-ROM drives are in files with the .SYS extension.

Copy the device driver to a bootable diskette or hard disk for each user station. It can reside in any directory.

The following CD-ROM drives, controller cards, and device drivers are available for the IBM PC/XT/AT bus:

<u>CD-ROM Drive</u>	<u>Controller Card</u>	<u>Driver</u>
Online's Multi-drive Optical Storage Units, Sony CDU-5002, CDU-100	CDI-11S (Online Products Corporation)	CDI110S.SYS
Sony CDU-5002, CDU-100	Sony CDB-200 interface	SONY100.SYS
Philips CM 100, CM 110	Philips interface	PHILIPS.SYS
Hitachi CDR-1502S, CDR-1503S, Amdek Laserdrive-1	Hitachi interface	HITACHI.SYS or HITACHIA.SYS (audio support)

The following CD-ROM drives, controller cards, and device drivers are available for the IBM micro-channel bus:

<u>CD-ROM Drive</u>	<u>Controller Card</u>	<u>Driver</u>
Online's Multi-drive Optical Storage units, Sony CDU-5002, CDU-100, 6000, 7000	CDI-210S (Online Products Corporation)	CDI210S.SYS or CDI210SA.SYS (audio support)
Hitachi CDR-1502S, CDR-1503S, Amdek Laserdrive-1	CDI-210H (Online Products Corporation)	CDI210H.SYS or CDI210HA.SYS (audio support)

## MODIFYING THE CONFIG.SYS FILE

After you have copied the device driver, modify the CONFIG.SYS file to recognize the CD-ROM drives.

The CONFIG.SYS file must contain a DEVICE statement for each device driver to be used. The statement has the following syntax:

```
DEVICE=[d:][path]filename /D:device_name parameters
```

where

*[d:][path]filename* is the full path name of the device driver for the CD-ROM drive. Device drivers have the extension .SYS.

*device\_name* is the name of the device. This is the name any application will use to find the device driver and access the CD-ROM disc. The device name must be unique. If the device name is the same as a filename, MS-DOS will always open the device driver instead of the file, so you will never be able to open the file.

*parameters* are the command line parameters specific to each device driver. These parameters are described in detail for each device driver required by CD-ROM drives available from Online Products Corporation.

## USING SONY CD-ROM DRIVERS

The Sony controller card supports the IBM PC/XT/AT bus. Online Products Corporation's controller cards support the IBM PC/XT/AT bus and the IBM micro-channel bus. Each controller card has its own driver.

CDI100S.SYS This driver supports Online Products Corporation's CDI-100S controller card for the IBM PC/XT/AT bus. It has the following parameters:

*/N:num\_drives* The number of drives connected to the controller card. It may be any number from 1 through 8; the default value is 1.

<i>/I:dma_chanl</i>	The DMA channel to be used by the controller card. It may be 0 or 3 except on an IBM-PC/XT, where the value <u>must</u> be 3. A value of 0 indicates DMA should not be used. The default value is 3.
<i>/P:base_port</i>	The base port number of the controller card in hexadecimal format. The default value is 2A0.
<i>/I:irq_num</i>	The IRQ channel number to be used by the controller card. The CDI-100S controller card can operate with or without this interrupt. The default value is 0. A value of 0 specifies no interrupts; a value of 2 through 7 specifies the interrupt to be used.

As an example, a CDI-100S might require the following DEVICE statement:

```
DEVICE=CDI100S.SYS /D:MSCD001 /N:8 /I:5
```

SONY100.SYS This driver supports the Sony CDB-200 controller card for the IBM PC/XT/AT bus. It has the following parameters:

<i>/N:num_drives</i>	The number of drives connected to the controller card. It may be any number from 1 through 4; the default value is 1.
<i>/I:dma_chanl</i>	The DMA channel to be used by the controller card. Currently, it must be 0. A value of 0 indicates DMA should not be used. The default value is 0.
<i>/P:base_port</i>	The base port number of the controller card in hexadecimal format. The default value is 300.
<i>/I:irq_num</i>	The IRQ channel number to be used by the controller card. The Sony CDB-200 controller card must use this interrupt. The default value is 2.

As an example, a Sony CDU-100 might require the following DEVICE statement:

```
DEVICE=SONY100.SYS /D:MSCD001 /N:2 /I:5
```

CDI210S.SYS This driver supports Online Products Corporation's CDI-210S controller card for the IBM micro-channel bus. It has the following parameter:

*/N:num\_drives* The number of drives connected to the controller card. It may be any number from 1 through 8; the default value is 1.

As an example, a CDI-210S might require the following DEVICE statement:

```
DEVICE=CDI210S.SYS /D:MSCD001 /N:8
```

## USING PHILIPS CD-ROM DRIVERS

The Philips interface supports the IBM PC/XT/AT bus. Philips CD-ROM drives require two drivers, CDROM.SYS and PHILIPS.SYS. The CONFIG.SYS file must include a DEVICE statement for each driver.

CDROM.SYS The first DEVICE statement must be for this device driver. The driver requires the following DEVICE statement:

```
DEVICE=[D:][PATH]CDROM.SYS
```

PHILIPS.SYS The second DEVICE statement must be for this device driver. The driver has the following parameter:

*/N:num\_drives* The number of drives connected to the controller card. It may be either 1 or 2; the default value is 1.

As an example, a Philips CM 100 might require the following DEVICE statements:

```
DEVICE=CDROM.SYS
```

```
DEVICE=PHILIPS.SYS /D:MSCD001 /N:2
```





As an example, a Hitachi 1502S might require the following DEVICE statement:

```
DEVICE=CDI210H.SYS /D:MSCD001 /N:2
```

CDI210HA.SYS This driver supports Online Products Corporation's CDI-210H controller card for the IBM micro-channel bus. It is an extended device driver, adding audio support to the standard device driver. It has the following parameter:

<i>/N:num_drives</i>	The number of drives connected to the controller card. It may be any number from 1 through 4; the default value is 1.
----------------------	-----------------------------------------------------------------------------------------------------------------------

As an example, a Hitachi 1503S might require the following DEVICE statement:

```
DEVICE=CDI210HA.SYS /D:MSCD001 /N:2
```



## Appendix E

### OPTI-NET Installation Specifications

---

OPTI-NET must be installed on the server and on each user station. OPTI-NET must be installed on the server after the device drivers for CD-ROM drives.

This appendix contains instructions and specifications for manually installing OPTI-NET. It explains the following:

- what OPTI-NET files to copy for use by the server
- how to modify the server CONFIG.SYS file to run OPTI-NET
- what OPTI-NET files to copy for use by a user station
- how to modify the user station CONFIG.SYS file to use OPTI-NET

**Note:** The OPTI-NET installation program copies and modifies files as described in this appendix. You do not need the information in this appendix to install OPTI-NET. It is provided for your reference.

The executable file, device drivers, and configuration file referenced in this appendix are contained on the OPTI-NET distribution diskette.

## **COPYING THE SERVER FILES**

The server uses the following OPTI-NET files:

- OPTINET.EXE, the network management program
- OPTINET.CFG, the optical storage network configuration file
- NETSRV.SYS, the server driver

The non-dedicated server also uses the following files:

- MSCDEX.EXE, Microsoft Extensions
- ONET.EXE, the data base access program

Copy these files to a bootable diskette or hard disk for the server. They can reside in any directory.

## **MODIFYING THE SERVER CONFIG.SYS FILE**

After you have copied the OPTI-NET files required for the server, modify the server CONFIG.SYS file to recognize the optical storage network and the CD-ROM drives.

The CONFIG.SYS file must include a DEVICE statement for the server driver. This statement must be after all other DEVICE statements for CD-ROM drives configured on the server. The statement has the following syntax:

```
DEVICE=[d:][path]NETSRV.SYS /H:device_name ...
```

where

[d:][path]NETSRV.SYS is the full path name of the server driver. If the driver is not in the root directory, the full path must be specified.

*device\_name* is the name of a CD-ROM device driver for which the CONFIG.SYS file already includes a DEVICE statement. There must be one /H: parameter for each device driver, and the device name must match the device name in the DEVICE statement for the driver exactly.

As an example, a network server with two device drivers supporting nine CD-ROM drives might require the following DEVICE statements:

```
DEVICE=HITACHI.SYS /D:MSCD001 /N:1  
DEVICE=CDI100S.SYS /D:MSCD002 /N:8 /T:0 /P:2A0 /I:5  
DEVICE=NETSRV.SYS /H:MSCD001 /H:MSCD002
```

## COPYING THE USER STATION FILES

**Note:** This process is not needed for a non-dedicated server, only for a standard user station.

A user station uses the following OPTI-NET files:

- NETUSR.SYS, the user station driver
- ONET.EXE, the utility used to initiate and end an optical storage network session at the user station and to open and close a data base
- MSCDEX.EXE, Microsoft Extensions

Copy these files to a bootable diskette or hard disk for each user station. They can reside in any directory.

## MODIFYING THE USER STATION CONFIG.SYS FILE

After you have copied the OPTI-NET files required for the user station, modify the user station CONFIG.SYS file to recognize the optical storage network and the CD-ROM drives accessible to the user station.

The CONFIG.SYS file must include a DEVICE statement for the user station driver. The statement has the following syntax:

```
DEVICE=[d:][path]NETUSR.SYS /N:num_drives  
[U:user_name][S:server_number]
```

where

[d:][path]NETUSR.SYS is the full path name of the user station driver. If the driver is not in the root directory, the full path must be specified.

*num\_drives* is the number of CD-ROM drives accessible to the user station at one time. It may be any number from 1 through the maximum number of CD-ROM drives configured on the network server. The default value is 1.

*user\_name* is the unique name of the user station. It may be a maximum of 16 characters. If a name is not given, an automatic name is chosen.

*server\_number* is the number of the server to log onto. Opt-Net 1.10M will automatically log to server #1.

As an example, a user station accessing a maximum of two CD-ROM drives on the network at one time might require the following DEVICE statement:

```
DEVICE=NETUSR.SYS /N:2 /U:JENNIFER
```

You may also modify the user driver (NETUSR.SYS) command line in the CONFIG.SYS file to override the default server. The DEVICE statement to set the default server to #3 might look like this:

```
DEVICE=NETUSR.SYS /N:1 /U:SUE /S:3
```

## Appendix F

### Microsoft Extensions Installation Specifications

---

The Microsoft Extensions must be installed on each user station that will access a CD-ROM drive through the Microsoft Extensions. The Microsoft Extensions must be installed after the device drivers for all CD-ROM drives, the driver for OPTI-NET, and the network.

This appendix contains instructions and specifications for manually installing the Microsoft Extensions for use with OPTI-NET. It explains the following:

- what file to copy to use the Microsoft Extensions
- how to modify the user station CONFIG.SYS file to recognize the CD-ROM drives on the optical storage network
- how to modify the user station AUTOEXEC.BAT file to recognize the optical storage network and to invoke the Microsoft Extensions when the computer is booted

**Note:** The OPTI-NET installation program copies and modifies files as described in this appendix. You do not need the information in this appendix to install OPTI-NET. It is provided for your reference.



## **COPYING THE MICROSOFT EXTENSIONS EXECUTABLE FILE**

The Microsoft Extensions executable file is MSCDEX.EXE.

Copy the executable file to a bootable diskette or hard disk for each user station or non-dedicated server. It can reside in any directory.

## **MODIFYING THE CONFIG.SYS FILE**

After you have copied the Microsoft Extensions executable file, modify the user station CONFIG.SYS file to recognize the optical storage network.

The CONFIG.SYS file must contain a LASTDRIVE statement, which identifies to MS-DOS the maximum number of drives that can be accessed by the user station. The LASTDRIVE statement must include the drive letter for the maximum number of drives to be accessed by the user station. This number includes all CD-ROM drives accessed by the Microsoft Extensions and all diskette and hard disk drives. The statement has the following syntax:

```
LASTDRIVE=drive_letter
```

where

*drive\_letter* is the drive letter for last drive that will be accessed by the user station. For a user station configured with CD-ROM drives, it may be any letter from C through Z.

For example, a user station with two diskette drives, one hard disk, and three CD-ROM drives would require the statement LASTDRIVE=F. Drives A and B are the diskette drives, drive C is the hard disk, and drives D, E, and F are the CD-ROM drives.

## **MODIFYING THE AUTOEXEC.BAT FILE**

After you have modified the CONFIG.SYS file, modify the user station AUTOEXEC.BAT file to recognize the optical storage network and to invoke the Microsoft Extensions when the user station is booted.

The AUTOEXEC.BAT file must contain a statement to identify the optical storage network and invoke the Microsoft Extensions.

The statement has the following syntax:

```
[d:][path]MSCDEX /D:$OPTINET /M:buffers [/L:drive]
```

where

[d:][path]MSCDEX is the full path name of the Microsoft Extensions executable file. If the file is not in the root directory, the full path must be specified.

\$OPTINET is the device name of the optical storage network. This is the name MSCDEX will use to find the driver.

*buffers* are the number of sector buffers MSCDEX will allocate. There must be at least 4 buffers for each CD-ROM drive using the Microsoft Extensions. If this parameter is omitted, the Microsoft Extensions will allocate 4 buffers for each CD-ROM drive.

*drive* is the drive letter of the first CD-ROM drive. The default value is the first available drive letter.

**Note:** This statement must be the last one in the AUTOEXEC.BAT file to allow the Microsoft Extensions to start after all the networking software starts.

As an example, after OPTI-NET has been installed on a user station the CONFIG.SYS file might include the following statement:

```
DEVICE=NETUSR.SYS /N:2 /U:JENNIFER
```

Then the AUTOEXEC.BAT file would include the following statement:

```
C:MSCDEX /D:$OPTINET /M:8
```



## Appendix G

### Sample Files

---

This appendix contains sample CONFIG.SYS and AUTOEXEC.BAT files for the server and a user station. It also contains a sample batch file for accessing a data base from a user station.

#### **SAMPLE CONFIG.SYS FILE FOR A NON-DEDICATED SERVER**

The following is a sample CONFIG.SYS file for the server after OPTI-NET has been installed.

```
FILES = 30
BUFFERS = 20
LASTDRIVE = P
DEVICE = C:\NETWORK\DXMA0MOD.SYS
DEVICE = C:\NETWORK\DXMC0MOD.SYS
DEVICE = C:\NETWORK\DXMT0MOD.SYS
DEVICE = C:\CD\CDI210H.SYS /D:MSCD001 /N:2
DEVICE = C:\CD\CDI210S.SYS /D:MSCD002 /N:2
DEVICE = C:\CD\NETSRV.SYS /H:MSCD001 /H:MSCD002
```

## **SAMPLE AUTOEXEC.BAT FILE FOR THE SERVER**

The following is a sample AUTOEXEC.BAT file for the server after OPTI-NET has been installed.

```
@ECHO OFF
PROMPT $P$G
PATH C:\DOS;C:\OPTINET;C:\C:\NETWORK
YNPROMPT Y N 39 Do you want to start the network (Y/N)?
IF ERRORLEVEL 1 GOTO A
NET START RCV JENNY /SRV:5
NET USE K: \\SERVER\DRIVED
NET USE L: \\SERVER\DRIVEE
:A
C:\CD\MSCDEX /D:$OPTINET /M:16 /L:F
```

## **SAMPLE CONFIG.SYS FILE FOR A USER STATION**

The following is a sample CONFIG.SYS file for a user station after OPTI-NET has been installed.

```
FILES = 20
BUFFERS = 10
LASTDRIVE = J
DEVICE = C:\NETWORK\DXMA0MOD.SYS
DEVICE = C:\NETWORK\DXMC0MOD.SYS
DEVICE = C:\NETWORK\DXMT0MOD.SYS
DEVICE = C:\CD\NETUSR.SYS /N:2 /U:JENNIFER
```

## SAMPLE AUTOEXEC.BAT FILE FOR A USER STATION

The following is a sample AUTOEXEC.BAT file for a user station after OPTI-NET has been installed.

```
@ECHO OFF
PROMPT $P$G
PATH C:\DOS;C:\OPTINET;C:\C:\NETWORK
YNPROMPT Y N 39 Do you want to start the network (Y/N)?
IF ERRORLEVEL 1 GOTO A
NET START RCV JENNYG /SRV:5
NET USE K: \\SERVER\DRIVED
NET USE L: \\SERVER\DRIVEE
:A
C:\CD\MSCDEX /D:$OPTINET /M:8 /L:F
```

## SAMPLE BATCH FILE FOR ACCESSING A DATA BASE

The following is a sample batch file for accessing a data base from a user station.

```
ONET -O PARTS           open data base "parts"
PARTS                   execute application
ONET -C                 close database
```

If there is a need to attach to a server other than the default server, use:

```
ONET -A #               Attach to Server # before opening the
                        database.
```



## Index

---

- a parameter 3-2, 3-3, 5-6, 8-2
  - c parameter 3-3, 8-2, 8-3
  - e parameter 8-2, 8-3
  - m parameter 3-2
  - o parameter 8-2
  - p path parameter 3-2, 3-3, 3-4
  - s parameter 3-2
- Administrator mode
- defined 1-4, 3-5
  - exiting 3-8
  - menu 3-5, 4-3, 5-6, 6-3, 7-2
  - screen display 3-6
  - switching to 3-5
- Application software
- copy for user station 2-2
  - supporting the Microsoft Extensions 1-5
- AUTOEXEC.BAT file 2-3, 2-6, 2-9, F-2, G-2, G-3
- Batch file 3-1, 3-2, 3-3, 8-4
- CD-ROM data buffers
- expanded memory used for 4-2
  - size 4-2, 4-3
  - system memory used for 4-2
- CD-ROM discs
- adding or modifying software for 1-5
  - copy for server 2-2
  - format 1-5
  - High Sierra format 1-5
  - license to use on network 1-4



CD-ROM drives

- accessing through MS-DOS 1-3
- accessing through physical reads 1-3
- choosing 1-2
- configuring 1-2
- maximum number of 7-1
- maximum number supported 1-2
- mounted with data bases 7-1

Command parameters 3-2, 3-3, 3-4

Concurrent server

- defined 1-2
- operating 3-4
- returning to 3-7
- running OPTI-NET again on 3-5

CONFIG.SYS file

- device drivers loaded in 7-1
- modified 2-3, 2-6, 2-9, E-2, E-3

Configuration parameters

- displaying 4-1, 4-2
- saving changes made to 4-3

Configuration Parameters window 4-1, 4-2

Data base access

- displaying 5-1
- saving changes made to 5-5

Data Base Access window 5-1

Data Base Service mode

- defined 1-4, 3-5
- returning to 3-7
- switching to Administrator mode from 3-5

Data bases

- accessible 5-1, 5-2
- adding 5-2
- closing 8-3
- commands 8-2, 8-3, 8-4
- dismounting 5-5
- mounting 5-4
- mounting automatically 3-3, 3-4

Data bases (*continued*)

- name 5-2, 7-2
- number of 5-2
- opening 8-2
- removing 5-3
- size 2-6, 2-7, 2-8

Dedicated server

- defined 1-2
- installing 2-8
- operating 3-1
- returning to 3-7

Device drivers

- adding 2-9, 2-11
- changing 2-12
- compatible with Microsoft Extensions 1-3, 2-2
- copying to distribution diskette 2-3
- deleting 2-11
- installation specifications D-1
- parameters 2-9, 2-11, 2-12

Drives usage 7-1

Drives Usage window 7-1

Expanded memory

- caching with 1-2, 3-6, 4-2
- for CD-ROM data buffers 4-2
- state of 4-2, 4-3
- supported 1-2
- using 4-2, 4-3

High Sierra format 1-5

Highlight bar 4-2

Hotkey

- changing 4-3
- defined 4-2

Installation program 2-3

Installing

- a user station 2-5
- a server station 2-8

# OPTI-NET Administrator's Guide

License 1-5

## Microsoft Extensions

application software that supports 1-5

copying to distribution diskette 2-3

device drivers compatible with 1-3

## Modes

Administrator 3-5

Data Base Service 3-5

defined 1-4

Monitor 3-6

switching 3-5

MS-DOS 2-2

## NETBIOS

limitation on number of users 1-4

requirement for 1-2

Network status 6-1

Network Status window 6-1, 6-2, 6-3

Networks 1-1

OPL.BAT file 8-4

Optical storage network 1-1

**Optinet** command 3-2, 3-3, 3-4

OPTINET.CFG file

configuration parameters 4-1, 4-2

data base access list 5-1, 5-2, 5-5

path 3-2, 3-3

Options, Administrator mode 3-5

Other programs 3-4

Quitting OPTI-NET 3-8

## Requests

processed 1-4

queued but not processed 1-4

## Server

defined 1-2

installing OPTI-NET on 2-2, 2-8

modes 1-4

Index-4

- Session
  - defined 8-1
  - ending 8-3
  - initiating with OPL.BAT file 8-4
  - maximum number of 8-2
- Software caching
  - changing values 4-3
  - enabling and disabling 4-2
  - initial value 4-3
  - supported 1-2
  - with expanded memory 4-2, 4-3
  - with system memory 4-2, 4-3
- Standalone program
  - for Microsoft Programmer's Library 8-4
  - initialized 3-3
  - running OPTI-NET as 3-1
- Switching modes 3-5
- System memory
  - caching with 1-2, 3-6, 4-2
  - for CD-ROM data buffers 4-2
- Text mode 3-5
- TSR program
  - initialized 3-3, 3-4
  - running another program 3-4
  - running Microsoft Programmer's Library as 8-4
  - running OPTI-NET again 3-5
  - running OPTI-NET as 3-3
- User station
  - defined 1-4
  - initiating a session at 8-1
  - installing OPTI-NET on 2-5
  - maximum number of 1-4
  - setting up 2-3, 2-4, 2-5, 2-6, 2-7, 2-8
- Windows
  - Configuration Parameters 4-1
  - Data Base Access 5-1
  - Drives Usage 7-1
  - Network Status 6-1















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