

LOGICRAFT

OMNI-WARE

for VMS

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PREFACE

.....

Introduction

Logicraft's Omni-Ware adds the advantages of PC/AT computing to your VMS system, connecting via an Ethernet network.

Once the server is installed, users can access software applications, operating systems, and third-party devices available for the IBM PC/AT. A desktop workstation or terminal operates, in effect, like a high-performance, PC/AT-compatible display and keyboard. With the appropriate configuration, Hercules, CGA, EGA, and VGA video modes can all be supported. In addition, your host peripherals—printers, modems, scanners, plotters, etc.—are accessible from PC applications.

Server Configurations

Omni-Ware consists of both software and hardware. The software is installed on the VMS host; it includes programs and data files that allow your equipment to access the Omni-Ware server.

The Omni-Ware hardware is available in three different configurations: *board-level*, *system-level*, or *multi-user*.

- The **board-level** hardware consists of the Omni-Ware I/O coprocessor board, including an Ethernet interface; you install this hardware in your own 100% IBM PC/AT-compatible microcomputer, converting it to an Omni-Ware server.
- The **system-level** product consists of a PC/AT (80386- or 80486-based) chassis with the Omni-Ware I/O coprocessor installed.
- The **multi-user** chassis packages four system-level servers into a single box. Each configured user/server operates independently of the others.

Additional information on server hardware is given in "Product Overview" on page iii.

The I/O Coprocessor

The Omni-Ware I/O coprocessor (COP) takes the place of the PC keyboard, monitor, video adapter card, primary or secondary hard disk controller, and parallel printer interface.

Whenever your PC software requests input from or output to one of these devices, Omni-Ware sends the request to the VMS system instead. For example, you can type characters at your workstation or terminal as if you were using an actual PC keyboard and see the results on your workstation or terminal screen.

Logical Disks

With Omni-Ware, PC software and data files can be stored on "logical disks," which are actually VMS files. As a result, system managers have a high degree of control in maintaining data security and back-up using standard VMS tools. PC programs and files can be shared among VMS users, and files can be transferred from PC to VMS and vice versa.

You can also store PC files on your server's hard disk, if it has one, instead of or in addition to using logical disks.

Omni-Ware is easy to install and operate. This documentation is all you should need in order to set up and use your Logiccraft server.

Product Overview

The hardware included with your server depends on whether you purchased the system-level, board-level, or multi-user product.

System-Level Product

The hardware unit shipped with your system is called the Omni-Ware *server*. The major components of the server are:

- an 80386 or 80486 processor
- an Omni-Ware I/O coprocessor (COP) board with Ethernet interface.
- 1.2-megabyte 5¼" IBM PC/AT-compatible floppy disk drive
- 1 megabyte of user RAM
- status display
- 200 watt power supply, 110V/220V at 50–60 cycles

Your server may also contain options such as the VGA/EGA board, additional memory, hard disk drive, CD ROM drive, 3½" floppy disk drive, and/or math coprocessor.

Board-Level Product

The board-level Omni-Ware product consists of hardware that converts your own 100% PC/AT-compatible microcomputer into an Omni-Ware server.

The primary component is the Omni-Ware I/O coprocessor (COP) board. The COP includes circuitry to emulate the following PC hardware units:

- Hercules or CGA graphics controller
- parallel printer port
- primary or secondary hard disk controller
- keyboard

Essentially, the COP redirects these functions to your workstation or terminal, allowing you to run IBM PC/AT software from your VMS equipment.

In addition, the COP's Ethernet interface allows you to connect your Omni-Ware server to either a standard (thick wire) or Thin-Wire network.

Your server may also include the optional VGA/EGA board. This board is installed in your PC along with the COP.

Multi-User Product

The multi-user Omni-Ware system packages four Omni-Ware servers into a single chassis. This chassis includes the following components:

- 16-slot passive backplane (four slots per user)
- four 33 MHz 386DX CPU engine boards (one per user)
- four Omni-Ware I/O coprocessor (COP) boards, each with an Ethernet interface
- four megabytes of RAM (one megabyte per user)
- 1.44-megabyte 3½" IBM PC/AT-compatible floppy disk drive (accessible only by user #2)
- 350 watt power supply, 110V/220V at 50–60 cycles
- four status displays
- four reset buttons

The multi-user server may also contain options such as VGA/ EGA boards (up to four, one per user), additional memory (up to 16 megabytes per user), hard disk drives (up to four, one per user), CD ROM drives, a second 3½" floppy disk drive (accessible by user #2), and/or math coprocessors (up to four, one per user).

Operating Systems

With any Omni-Ware server, you can purchase a PC operating system from Logcraft. The following operating systems are available:

- MS-DOS version 5.0
- OS/2 version 1.3

If you purchased one of these operating systems, it is shipped as a logical disk (VMS file) and is copied to your VMS system when you install the Omni-Ware software.

About this Manual

The installation and operation of Logcraft's Omni-Ware are described in this manual, which is organized into seven major sections and four appendices:

- *Installation* is written for the person who is responsible for installing the Omni-Ware server. It also explains how to install the necessary software on the VMS host.
- *User's Guide* gives instructions that help you begin using Omni-Ware as quickly as possible. It also covers topics that help you use Omni-Ware effectively and efficiently, including specific information for Motif and DECwindows users.
- *Session Configuration* gives detailed information about the OMNI command and the pull-down menus, which are used to configure and establish PC sessions.
- *Logical & Local Disks* discusses Omni-Ware's mechanisms for disk storage. It includes information on using either logical disks, a local hard disk, or both.
- *System Manager's Guide* explains what the system manager needs to know in order to tailor and maintain Omni-Ware for use at your site.
- *Utilities & Drivers for DOS* discusses in detail the utilities that enable you to manage the Omni-Ware/MS-DOS environment. These utilities supplement the commands and utilities that are part of the MS-DOS operating system.
- *Utilities for VMS* discusses the Omni-Ware commands and utilities used from the VMS prompt, including the logical disk commands, which allow you to manipulate the VMS files that emulate PC hard disks; the Info utility, which displays information about the available Omni-Ware servers; and the keyboard mapping utilities, with which keyboard mappings can be created or customized.
- *Appendix A: Terminal Set-Up* gives the recommended settings for the VT (non-X) terminals supported by Omni-Ware.

- *Appendix B: Keyboard Mappings* gives keyboard mapping diagrams and information for the most common host keyboards used with Omni-Ware.
- *Appendix C: Error Messages* lists the error messages associated with Omni-Ware.
- *Appendix D: Table of ASCII Codes* provides a table of ASCII character codes.

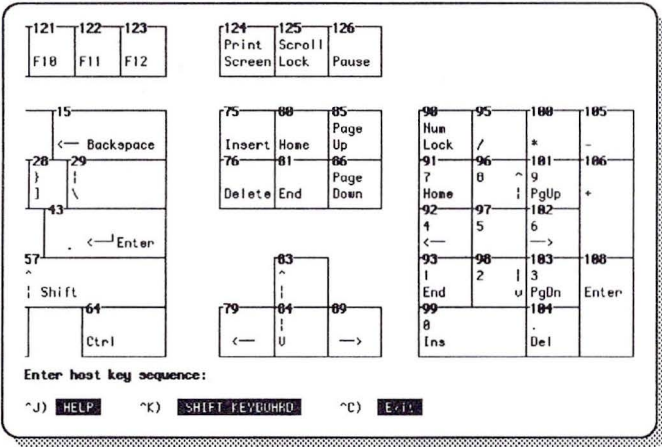
If you purchased the board-level server, you also received a separate booklet, *Board-Level Hard-Ware Installation*, which explains how to install the Omni-Ware board-level hardware into your own PC/AT, converting it to an Omni-Ware server.¹

It is important to understand the installation and operation of your Omni-Ware server before attempting to use it. Please take the time to become familiar with the product by reading the appropriate sections of this documentation.

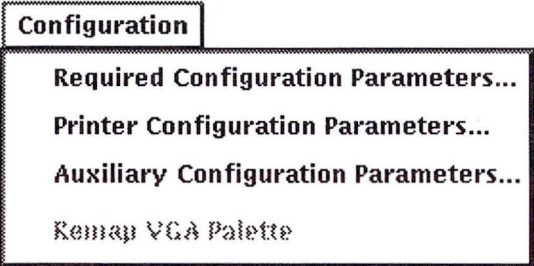
¹This booklet is not included for system-level servers, but you may request a copy by contacting your Logcraft sales representative.

Typographical Conventions

This manual makes extensive use of examples and sample sessions. Examples of terminal screens are generally screen captures from an actual Omni-Ware session and are set off from the text with a shaded box, like this:



Examples that represent windows, menus, dialog boxes, and message boxes from Motif or DECwindows are also screen captures from an actual session; for example, the following shows a Motif pull-down menu:



- ▲ **Important information**, warning messages, and cautionary items are set off from surrounding text with a solid triangle, like this.

◇ Notes are set off with an open diamond, like this.

Commands that you type *verbatim* are given in a typewriter-like typeface and are indented. VMS and MS-DOS commands are shown in lower-case, although you can generally use lower- or upper-case or a combination of the two. Bold text distinguishes what you type from the computer's prompts and responses. For example:

```
C:\>date
Current date is 01-01-1980
Enter new date (mm-dd-yyyy): 06-29-1992

C:\>
```

Command *syntax* is shown in the standard typeface and is indented. Upper- and lower-case letters show what you type verbatim. Lower-case *italics* are used to represent parameters and switches that you supply. [Square brackets] indicate optional items; the brackets are not typed as part of the command.

For example:

```
DOSDIR [qualifier] logical_disk
```

In this case, the command "DOSDIR" has a required parameter, *logical_disk*, and an optional *qualifier*. The following are examples of actual DOSDIR commands:

```
$ dosdir lotus22

$ dosdir /wide lotus22
```

For each of these examples, the *logical_disk* parameter is "lotus22"; the second command includes an optional *qualifier*, "/wide."

Customer Support

Logicraft Customer Support can be reached at the following telephone numbers:

(404)956-7137 tel. Alabama, Arkansas, Florida, Georgia, Louisiana, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas.
(404)956-7268 fax Bermuda, Cayman Islands, Puerto Rico, US Virgin Islands, other Caribbean locations.

(603)595-7460 tel. All other areas.
(603)880-7229 fax

Before Calling Us

Before contacting Logicraft Customer Support, please consult this documentation; it should answer most of your questions. Use the index and tables of contents to locate particular topics.

If you are having difficulties with your Logicraft server, follow the troubleshooting instructions and suggestions in *System Manager's Guide*.

If the documentation does not answer your questions, give us a call. Please have the following information ready to assist the Support Engineer answering your question:

- Logicraft product name and version
- server serial number
- host system type and operating system version
- exact error message or status display message, if any
- steps to recreate the problem

Product Suggestions

We welcome your comments and suggestions for improving Logcraft's products. Send your comments to us at:

Logcraft
22 Cotton Road
Nashua, NH 03063
Attention: Product Development

Radio Frequency Interference Information

Warning

The Omni-Ware server generates, uses and can radiate radio frequency energy and if not installed and used in accordance with the instruction manual, may cause interference to radio communications. It has been tested and found to comply with limits for a class A computing device pursuant to subpart J of FCC rules, which are designed to provide reasonable protection against such interference when operated in a commercial environment. Operation of this equipment in a residential area is likely to cause interference in which case the user is required, at his/her own expense, to take whatever measures may be required to correct the interference. All the cables must be shielded in order to stay within FCC class A emission limits.

Canadian Compliance

This digital apparatus does not exceed the class A limits for radio noise emissions from digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communication.

Le présent appareil numérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de la classe A prescrites dans le Règlement sur le brouillage radioélectrique édicté par le ministère des Communications du Canada.

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Release Notes

Omni-Ware
for VMS
Version 2.01

November 25, 1992



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Overview of Changes since Version 2.0

The following change has been made for Omni-Ware v. 2.01:

- The OMNIWARE.SYS and OMNIWARE_TCP.SYS files shipped with the Omni-Ware 2.0 software have been replaced. The new files fix some display problems that caused \$ and % characters to appear on the screen.

Installing Version 2.01

The OMNIWARE.SYS or OMNIWARE_TCP.SYS file shipped with the Omni-Ware 2.0 software must be replaced with one of the files on the floppy accompanying these release notes. The floppy contains three files:

- **README.TXT** gives brief instructions for installing the 2.01 release.
- **OMNI_XNS.SYS** is for Omni-Ware servers that use XNS to communicate with the VMS host. This file replaces OMNIWARE.SYS if you do *not* have UCX or TGV MultiNet.
- **OMNI_TCP.SYS** is for servers that use TCP/IP to communicate with the VMS host. If you use UCX or TGV MultiNet, this file replaces OMNIWARE_TCP.SYS.

Instructions for copying the appropriate file from floppy to your VMS system are given below.

Update Instructions, XNS

To copy the OMNI_XNS.SYS file to your VMS system, follow these steps:

1. If you have not already done so, install the Omni-Ware v. 2.0 software from tape following the instructions in the 2.0 documentation.
2. Log in to a privileged account, such as SYSTEM.
3. Set the default directory to SYS\$OMNIWARE.
4. Make a note of the file protection set on the current OMNIWARE.SYS file.
5. Copy the existing OMNIWARE.SYS file to OMNIWARE.OLD:

```
$ copy omniware.sys omniware.old
```

6. Establish an Omni-Ware session.
7. Insert the v. 2.01 diskette into the A: floppy drive.
8. Issue the following Logcraft DOS command:

```
C:\>xport export /binary a:\omni_xns.sys
```

9. Terminate the Omni-Ware session.
10. Rename the OMNI_XNS.SYS file to OMNIWARE.SYS:

```
$ copy omni_xns.sys omniware.sys
```

11. Check the file protection on the new OMNIWARE.SYS and reset, if necessary, to match the ones noted in Step 4.
12. Reset or cycle the power for all Omni-Ware units. When each server requests a remote boot, the new OMNIWARE.SYS file will be used, and the upgrade process will be complete.
13. Delete the OMNIWARE.OLD file (created in Step 5), and purge the old version of OMNIWARE.SYS.

Update Instructions, UCX or TGV

To copy the OMNI_TCP.SYS file to your VMS system, follow these steps:

1. If you have not already done so, install the Omni-Ware v. 2.0 software from tape following the instructions in the 2.0 documentation.
2. Log in to a privileged account, such as SYSTEM.
3. Set the default directory to SYS\$OMNIWARE.
4. Note the file protection set on the existing OMNIWARE_TCP.SYS file.
5. Copy the existing OMNIWARE_TCP.SYS file to OMNIWARE.OLD:

```
$ copy omniware_tcp.sys omniware.old
```

6. Note all server IP addresses and Ethernet addresses currently defined in OMNIWARE_TCP.SYS. Use the EDOWI utility to display this information:

```
$ edowi -l
```

7. Establish an Omni-Ware session.
8. Insert the v. 2.01 diskette into the A: floppy drive and issue the following Logcraft DOS command:
9. Terminate the Omni-Ware session.
10. Rename the OMNI_TCP.SYS file to OMNIWARE_TCP.SYS:

```
$ rename omni_tcp.sys omniware_tcp.sys
```

11. Use EDOWI to enter all IP-to-Ethernet address mappings noted in Step 6. Use this command syntax:

```
$ edowi -a ethaddr,IPaddr
```

12. Check the file protection on the new OMNIWARE_TCP.SYS file and reset, if necessary, to match the one noted in Step 4.
13. Reset or cycle the power for all Omni-Ware units. When each server requests a remote boot, the new OMNIWARE_TCP.SYS file will be used, and the upgrade process will be complete.
14. Delete the OMNIWARE.OLD file (created in Step 5), and purge the old version of OMNIWARE_TCP.SYS.

Release Caveats & Known Limitations for Version 2.01

The following lists known limitations of Omni-Ware version 2.01 and recommends work-arounds or alternatives as appropriate. Note that the following *supplements* the limitations given in the version 2.0 release notes.

- To ensure proper airflow and cooling, do *not* use the multi-user Omni-Ware chassis without its cover.
- Avoid using graphics-intensive screen-saver programs (e.g., *After Dark for Windows*) with Omni-Ware. These programs can cause a significant increase in network load as the constantly-changing screen information is sent to the host.
- The OMNIDOSV50.DOS logical disk includes a file called MENU.BAT in the root directory. This file should be deleted. Instead, use the \MENU\MENU.BAT file for Advanced Menuworks.
- Fifty-line VGA mode is not currently supported.
- When using Omni-Ware with Motif and Logcraft window system 3, you may need to click in the Omni-Ware window to get the PC session to start.
- Support for **blinking characters** does not work properly, and the logical name LOGICRAFT_BLINK_MODE has no effect.
- Logcraft has made some fixes that allow Omni-Ware to work properly on 8-plane gray scale displays; however, these fixes have not been thoroughly tested and are not part of the v. 2.01 release. If you are interested in a beta version of the gray scale fixes, contact Logcraft Customer Support.
- A version of OMNIMSE is available that allows you to prevent an application from turning off the mouse pointer; however, this version has not been thoroughly tested and is not part of the v. 2.01 release. If you have an application that turns

the mouse pointer on and off so often that it slows down execution, the new OMNIMSE may help. To request a beta version, contact Logicaft Customer Support.

- New Logicaft Windows drivers are available that resolve a conflict when running Windows from a Novell NetWare file server. These new drivers have not been thoroughly tested and are not part of the v. 2.01 release. If you are using Windows from a NetWare server, contact Logicaft Customer Support to request a beta version of the new Windows drivers.

Documentation Errata for Version 2.01

Note the following corrections to the *Omni-Ware for VMS* manual:

“Creating a Bootable Logical Disk” in *Logical & Local Disks*

With DOS version 5.0, do *not* follow the instructions in this manual section to create a **bootable standard logical disk**; instead, use the FORMAT/S command at the DOS prompt. To create a bootable logical disk for an *earlier* version of DOS, use the instructions in *Logical & Local Disks*.

Release Notes, “Logical Name Summary” in *System Manager’s Guide*

Support for **blinking characters** does not work properly, and the logical name LOGICRAFT_BLINK_MODE has no effect.

Release Notes, “Keymap Directory File” in *System Manager’s Guide*

The keymap directory data file is called KEYMAP.DIR, *not* KEYMAP.DAT.

Release Notes

Omni-Ware
for VMS
Version 2.0

October 8, 1992



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Disk Space Needed

The following table gives approximate disk space figures (in VMS blocks) for each software subset in this release. For a description of these subsets, refer to "Software Subsets" on page INS-21 of *Installation*.

Subset	Size
Base Package	7,600
Logical Disk Commands	1,400
Distribution Logical Disk: MS-DOS v. 5.0	14,500
OS/2 v. 1.3	25,000
Logicraft Utilities	4,250
DECwindows	4,100
Motif	4,000
PC DECwindows	10,600
PATHWORKS/Macintosh	3,500
BDF Fonts	5,600

Overview of Changes since Version 1.7x

The following list gives an overview of the changes for OmniWare version 2.0. When appropriate, references indicate where to look for additional information.

- Logicraft no longer distributes MS-DOS version 3.3 or 4.01. If you are upgrading from a previous version of OmniWare and want to continue using the OMNIDOS_V33.DOS or OMNIDOS_V40.DOS logical disk from the older OmniWare software, copy the logical disk to another directory *before* performing the new installation.

Once the new software is installed, copy the files from the new distribution logical disk or from the OmniWare supplemental floppy diskette to the old logical disk.

- The names of the distribution logical disks containing PC operating systems have changed. OMNIDOSV50.DOS contains MS-DOS version 5.0. OMNIDOS2V13.DOS contains OS/2 version 1.3. If you have command procedures that reference OMNIDOS_V50 or OMNIDOS2_V13, you will need to update these procedures accordingly (or rename the logical disk file).
- OmniWare now comes with a single supplemental floppy diskette that contains the Logicraft DOS utilities (in the \OMNI directory), the Windows drivers (in \WINDRV) and the OS/2 drivers (in \OS2DRV). These directories and files are also included on the distribution logical disk.
- This release of OmniWare/XNS includes a new version of the MeriT/XNS software interface. If you are upgrading from a previous version of OmniWare or if you have 386Ware, refer to "XNS Information" on page RN-7.
- You can now use both logical disks and a local hard disk, even when using the hard disk to boot the server. Details are given in a new manual section, *Logical & Local Disks*.

- **UCX**, also known as **TCP/IP Services for VMS**, is supported for this release.
- A **1.5x screen expander** is now available for VGA windows. This expander allows screens that are not large enough to double the VGA window to take advantage of a larger window.
- **ADD_OMNIWARE_ETHERNET.COM** adds server information to the image file (**OMNIWARE_TCP.SYS**) for UCX and TGV.
- Many screen resize, mouse, and display problems have been resolved.
- The **Menu utility** is no longer supported and is not part of the version 2.0 host distribution. A new sample procedure, called **OMNI.COM**, makes it easy to establish Omni-Ware sessions. Refer to "The OMNI.COM Procedure" on page UG-5 of *User's Guide*.
- The Logcraft Windows drivers support **Microsoft Windows version 3.1**. (Version 3.0 is still supported.) The full-screen color and monochrome display drivers have been removed from the distribution; only the VGA and Hercules drivers are available. Refer to "Microsoft Windows and Omni-Ware" on page SMG-30 of *System Manager's Guide*.

Note: you cannot install Windows v. 3.1 if OMNIMSE has been loaded.

- The **XSET** command, used at the DOS prompt, allows you to pass information to the Omni-Ware session, determine the server name and username for the current session, and change the printer timeout value for automatic print buffer flushing. Refer to the description on page DOS-66 of *Utilities & Drivers for DOS*.
- The **Info** utility now allows a privileged user to perform a **remote reboot/ reset** of an Omni-Ware server. Refer to "The Info Utility" on page VMS-20 of *Utilities for VMS*.

- **Info's** information has been updated to include whether the previous session on the server was **terminated via the QUIT** command (allowing a subsequent user to resume the session).
- Many problems with **QUIT/No Reset** have been resolved.
- The **Quit** item on the **File** menu now acts like the **QUIT** command, rather than like **BYE**, provided that the session was configured with the **/NORESET** switch. Refer to page CFG-61 of *Session Configuration*.
- If an Omni-Ware session configured with **/NORESET** is terminated abnormally (e.g., the X window is killed), you can generally **resume the session** by again using **/NORESET**. Refer to page CFG-36 of *Session Configuration*.
- The keymap directory data file is now called **KEYMAP.DAT**. Refer to "Keymap Directory File" on page SMG-19 of *System Manager's Guide*.
- Support for **blinking characters** has been added for Logcraft window systems 2 and 3. To turn on this support, set a logical name **LOGICRAFT_BLINK_MODE** to **ON**. Refer to the description on page SMG-6 of *System Manager's Guide*.
- The Omni-Ware interface program is now a DOS device driver, **OMNINTFC.SYS**.
- **SHOW CONFIG** now displays accurate information regarding server memory.
- **SETTERM** is now compatible with MS-DOS version 5.0; however the file **AUTOEXEC.BAT** must be present (its contents are not important).
- The **OMNIDISK.SYS** driver and **DOSMAKE /PARTITION** command now accept a disk geometry with **16 heads**.
- Omni-Ware/**SCSI** is no longer supported, and information pertaining to **SCSI** servers has been removed from this documentation. Updated software is included on the distribution; however, no changes have been made to **SCSI**-specific sections of the product.

Release Caveats & Known Limitations for Version 2.0

The following lists known limitations of Omni-Ware version 2.0 and recommends work-arounds or alternatives as appropriate.

- **Omni-Ware appears to work with DECwindows Motif version 1.1; however, this combination has not been thoroughly tested.**
- **You cannot perform installations for both Omni-Ware and 386Ware concurrently on the same CPU in *screen* mode. Install only one product at a time, or use hardcopy mode.**
- **To install Omni-Ware for two different transports on the same VAX—for example, you have two servers, one using XNS, the other TGV/MultiNet—you must perform one installation, execute the Omni-Ware start-up file, then perform the second installation. If you do not execute the start-up file in between the two installs, you will end up with a start-up file that references only the second transport.**
- **You cannot install Windows version 3.1 if OMNIMSE has been loaded. Ensure that you do not load the Logcraft mouse program before attempting to install Windows.**
- **If you install the Logcraft VGA Windows driver, you must also install the Logcraft mouse driver for Windows.**
- **The mouse does not work after shelling to DOS from Windows, even if OMNIMSE is loaded.**
- **You cannot use FORMAT/S to create a bootable standard logical disk. Information on formatting a bootable logical disk is given in “Creating a Bootable Logical Disk” on page DSK-8 of *Logical & Local Disks*.**
- **DOSCOPY does not properly copy VMS files with FORTRAN carriage control attributes.**

- The **Info** utility does not always return information about all available servers. If you are looking for information on a specific server, specify its name on the Info command line.
- **SETTERM** will not work properly under DOS version 5.0 unless the file AUTOEXEC.BAT is present. (The file's contents are unimportant; however, the file itself must exist.)
- If you use the **pull-down menus** to change the **Printer Configuration Parameters** after establishing a DOS session, these changes are made correctly. However, they will *not* be reflected by a subsequent **SHOW LST** command issued at the DOS prompt.
- Saving a command configuration with the window system 2 **pull-down menus** may have unintended results if disks are mounted from the DOS prompt on non-consecutive drive letters.

For example, if you establish a window system 2 session with the C: drive configured, MOUNT "disk1" on the E: drive and "disk2" on the D: drive (in that order), then save the configuration from the File menu, the disks for E: and D: are saved in the opposite order: "disk1" is assigned to the D: drive, and "disk2" to the E: drive.

To avoid these problems, ensure that you assign drive letters in order and don't skip letters if you plan to save your configuration from the pull-down menus. Alternatively, use an editor to check the configuration after saving it from the pull-downs to ensure that it does what you intend.

XNS Information

Version 2.0 of Omni-Ware includes new XNS software, including new versions of KXDRIVER, KTDRIVER, and XCP. These new versions can cause conflicts in certain cases:

- If you also have 386Ware/XNS version 3.8x (or earlier) and you install Omni-Ware 2.0 such that the two products do *not* share a single SYS\$LOGICRAFT_COMMON directory.

This situation would occur, for example, if the two products are installed on different devices, or if you move or rename the common directory for one product or the other.

- If you want to run Omni-Ware 2.0 concurrently with an older version *and* you install the new software such that the two versions do *not* share a single SYS\$LOGICRAFT_COMMON directory.

This situation would occur, for example, if the two versions are installed on different devices, or if you move or rename the common directory for one of the versions.

In either of these situations, it is *important* that you use *only* the most recent XNS software. This software is highly version dependent, and the pieces are tightly coupled. If the software is accessed incorrectly or if you mix pieces from different versions, *a system crash will result*.

To avoid problems, follow the steps given below. (These steps are unnecessary if you install the Logcraft products such that they all share a single [LOGICRAFT_COMMON] directory.)

1. Delete the KXDRIVER, KTDRIVER, and XCP from the *older version* of the SYS\$LOGICRAFT_COMMON directory. This forces the newer XNS software to run, and ensures that you do not mix XNS versions.¹

¹Upwards compatibility allows older versions of the Omni-Ware and 386Ware executables to communicate with newer versions of the XNS device drivers; for this reason, you can safely delete the old XNS software.

2. Edit the start-up file that references the older common directory to ensure that the SYS\$LOGICRAFT_COMMON logical name definition points to the new location for the common directory.
3. Reboot the VAX to ensure that the newer XNS drivers are loaded. *If you do not reboot, your system will crash if you attempt to use the Logcraft software!*

Once you have rebooted the system, you can safely execute OmniWare.

Revision History

The following list gives a brief overview of the changes for OmniWare from version 1.66 to version 1.7.

- The VMS software installation has been completely reworked, and several new files are included.
- A version of OmniWare that uses TCP/IP as the transport (rather than XNS) is now available for VMS.
- OmniWare now supports DECwindows v. 3.0, DECwindows Motif v. 1.0, and DECwindows Developer's Kit for OSF/Motif v. 1.1. Version 1.0 of DECwindows Developer's Kit for OSF/Motif is no longer supported.
- The software installation updates the font directory file for DECwindows v. 3.0 and for NCD X terminal software v. 2.3.
- The OmniWare now resets automatically the first time a session is established after power-up.
- You can resize an OmniWare VGA graphics window, provided that your display can accommodate the new window size.
- The operation of the VGA Remap Palette pull-down menu item has been significantly improved.
- The WSFLOPPY.SYS driver lets you access workstation floppy drives from OmniWare more effectively.
- The OmniWare commands now allow you to specify up to five logical disks on the command line, provided that the specified disks consist of four standard disks and one partitionable disk.
- A new qualifier, `/[NO]CLOSE`, lets you maintain a single printer list file for an entire PC session, even if the print buffer is flushed multiple times.
- A new configuration switch, `/[NO]CGA`, enables CGA graphics emulation for servers that support it.

- The QUIT and QUITTSR commands can now be used with the SETTERM utility, allowing you to continue ongoing server sessions from non-X terminals and PCs running Term-Ware.

However, you must resume the session from the *same* terminal or device type. For example, if you use QUIT to end an Omni-Ware session on a VT340 terminal, you will be able to resume the session from a VT340 terminal, but not from a VT220 or a PC running Term-Ware.

- The SETTERM command now includes parameters for CGA emulation. These parameters are relevant only for sessions on servers that support CGA.

The following list gives a brief overview of the changes for Omni-Ware from **version 1.65 to 1.66**.

- Omni-Ware now allows for simultaneous use of logical disks and a local hard disk, using a new driver called OMNIDISK.SYS.
- Two types of logical disks are now available: Standard logical disks emulate a single PC fixed disk partition and are the same as the logical disks available in previous versions of Omni-Ware. A partitionable logical disk emulates an entire PC/AT fixed disk.
- Omni-Ware supports OS/2 version 1.3.
- Many improvements have been made to Omni-Ware's mouse emulation, including changes to the OMNIMSE program, the Windows mouse driver, and the OS/2 mouse driver.
- The OS/2 mouse driver OMNI_MSE.SYS now provides for two types of mouse emulation. The first uses the hardware mouse cursor of the host system. This provides for real-time mouse movement. However, some workstations and X terminals cannot display the entire OS/2 mouse cursor; only the upper left corner of the cursor is displayed. A new software-emulated mouse is provided that guarantees the full mouse cursor.

- DEC's VT420 terminal is supported in both one-window and two-windows (split-screen) modes.
- Items on the pull-down menus that do not affect Omni-Ware have either been removed, dimmed, or made inactive.
- The Configuration pull-down menu includes a new option, VGA Remap Palette. Selecting VGA Remap Palette prevents the VGA card from disturbing the host system colors; instead, the necessary colors are emulated by picking the closest available color.
- The logical disk commands all have a /PARTITION qualifier for use with partitionable logical disks.
- Logical disks created with DOSMAKE are now fully compatible with DOS version 4.01.
- A new logical disk command, DOSSTAT, reports on the configuration of a partitionable logical disk.
- Due to hardware changes, the /HRDDSKBSY configuration qualifier is no longer needed for Omni-Ware hardware shipped with version 1.66. If you purchased your Omni-Ware unit with an earlier software version and you use one of the affected BIOS programs, you will continue to need the /HRDDSKBSY qualifier regardless of the Omni-Ware version you have.
- The KeyUtil_X utilities include a "Previous" button as well as a "Next" button, and you can now define a Flush key.
- A new keymap directory file is included to ensure that the correct keyboard data file is used when starting Omni-Ware on various X server platforms.
- Users can now display Omni-Ware windows on PC platforms running PC DECwindows version 3 (part of PATHWORKS for DOS version 4.0) or version 1 (part of PCSA version 3.0).
- A new TSR called VGAWATCH.COM is included in the \OMNI directory on the distribution logical disk. This pro-

gram allows you to use software applications that write directly to the video card's registers.

- A new device driver called NETDISK.SYS is included on the distribution logical disk. This utility allows you to control the timeout value for disk reads and writes.
- Changes to the SETTERM utility improve its performance. Support is now available for the Norway/Denmark character set and for the VT420 terminal.
- The Hot key feature now works properly when using OmniWare from a non-X terminal or with window system 0.

LOGICRAFT

INSTALLATION

Omni-Ware for VMS

*Release 2.0
October 8, 1992*



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Introduction

This section is written for the person who is responsible for installing the Omni-Ware hardware and software. Three major areas are covered:

- **Installing the Omni-Ware Hardware.** The first part explains how to install the Omni-Ware server hardware and connect it to your Ethernet network.

If you purchased the board-level Omni-Ware product, convert your own PC/AT-compatible into an Omni-Ware server by following the instructions in the *Board-Level Omni-Ware Hardware Installation* booklet. Once the hardware is installed, continue in this section.

- **Host Software Installation.** The second part gives information and instructions on installing the necessary software on your VMS system in order to access Omni-Ware. It includes an overview of the VMS files associated with Omni-Ware.
- **Booting the Server.** The third part discusses booting up the server for the first time, configuring it appropriately for your site.

Installation Checklist

Server Installation

- for board-level servers, follow instructions in *Board-Level Hardware Installation* booklet.
- check hardware settings. INS-4.
- connect to power. INS-7.
- connect to Ethernet. INS-8.

Do not power-up yet!

Host Software Installation

- install host software, adding server information. INS-11.
- if you add servers later, use the "add OmniWare" procedure. SMG-3.
- for OmniWare/TGV, add server information to the TGV host database. INS-27.
- reboot your system, if necessary. INS-23.
- restart DECwindows or Motif, if necessary. INS-24.
- purge the old DECwindows or Motif fonts, if appropriate. INS-24.

- add the OmniWare start-up file to the system-wide start-up file. INS-25.
- add the symbol definition procedure to the system-wide login command file. INS-26.
- install the OmniWare software as a shared image, if appropriate. INS-28.
- install the Logcraft fonts for MacX, PC DECwindows, or VT1300 terminals, if needed. INS-29.
- set up user accounts with necessary privileges for OmniWare. INS-35.

Server Configuration

- power up the server. INS-42.
- check the server's set-up, including disk type. INS-43.

System-Level Server Installation

If you purchased a system-level Omni-Ware, unpack the server. If the server has a 5¼" diskette drive, this drive has a protective card installed to prevent damage to the head during shipment.

- ▲ *Do not remove the protective card from the drive until you have placed the unit in an appropriate location, inserted the power cable, and connected the server to the Ethernet.*

When you do remove it, *save the card*. To prevent damage to the drive, the card should be reinserted whenever you relocate the unit.

Check the Ethernet address on the configuration sheet included with your server. It will be in the form 00-00-4F-xx-xx-xx. Your unit's Ethernet address is also noted on a label on the unit. Compare the address on the label to the one on the configuration sheet. If the two addresses do *not* match, contact Logcraft Customer Support before continuing.

Multi-user servers. If you have a multi-user Omni-Ware server, the information below applies to *each* configured user (that is, to each separate server within the multi-user chassis). Additional information about multi-user servers is given in "Product Overview" on page iii of the Preface.

Server Hardware Settings

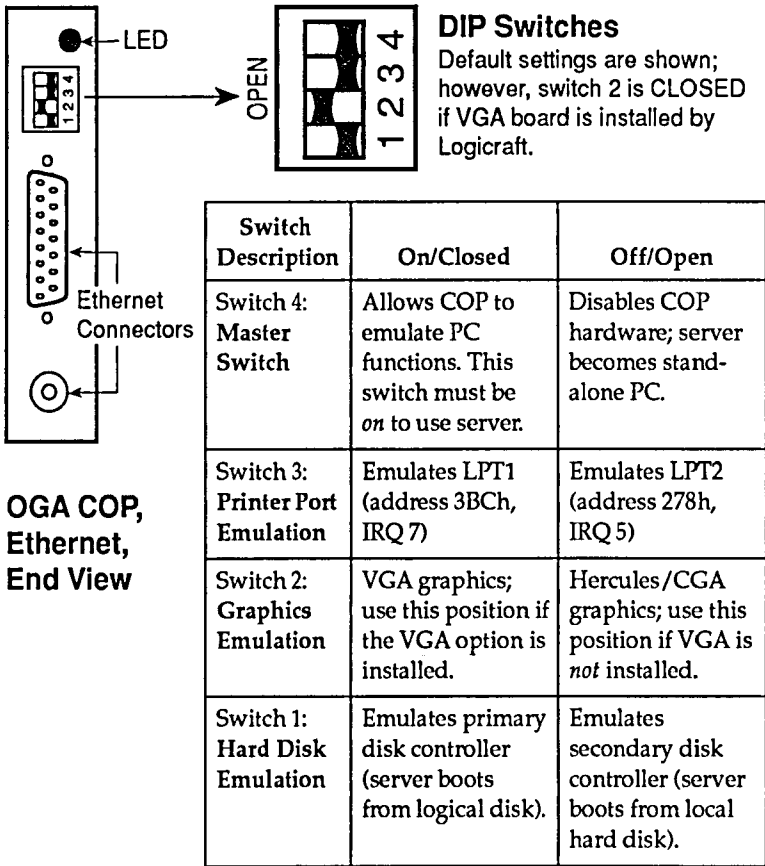
By default, your server is set to use the following parameters:

- **IRQ 15.** This IRQ is used by the OMNINTFC.SYS driver to allow use of the Logcraft DOS utilities.
- **memory address segment C800.** The Omni-Ware coprocessor contains its own memory (RAM), some of which it shares with the AT motherboard bus. Normally, segment C800 is unused on the PC/AT.

If you install third-party hardware in your Omni-Ware server, you may need to change these parameters to avoid a conflict. For instructions, contact Logcraft Customer Support to request a copy of *Omni-Ware Board-Level Hardware Installation*, part number 15-146 or 15-151 (depending on which COP type you have). This booklet explains how to configure your server to use a different IRQ and/or memory address.

OGA Board DIP Switch Settings

If your Omni-Ware server has an OGA (Omni-Ware Gate Array) coprocessor, four DIP switches are visible above the Ethernet connectors on the back of the server. These DIP switches allow you to control which PC functions the Omni-Ware coprocessor should emulate. Figure 1 gives information about these DIP switches.



OGA COP, Ethernet, End View

Figure 1: OGA Board DIP Switches

Older Board DIP Switch Settings

If your Omni-Ware server does not have an OGA board (no DIP switches are visible at the back of the server), the DIP switches for configuring the hardware settings are accessible only by opening the server. Figure 1 summarizes the settings for these DIP switches. For complete information, refer to *Board-Level Hardware Installation* (part number 15-146).

DIP Switch Summary Non-OGA Coprocessors (Factory settings shown in bold .)		
Switch	Setting (off=open)	Meaning
1 2 3	on off off	IRQ 15
	off on off	IRQ 12
	off off on	IRQ 10
4 5	on on	memory address A800h
	on off	memory address C800h
	off on	memory address D800h
	off off	memory address E800h
6	off	Enables Hercules video emulation. This is the default if VGA is <i>not</i> installed.
	on	Disables Hercules video emulation, allowing for VGA. This is the default if VGA is installed.
7	off	Enables emulation of LPT2.
	on	Enables emulation of LPT1.
8	off	Disables primary disk controller emulation (boots from local disk).
	on	Enables primary disk controller emulation (boots from logical disk).

Figure 1: Non-OGA Board DIP Switches

General Power Connection

The server may be configured for either 120 or 240 volts operational range. On the back of the unit is a small slide switch used to select this voltage.

Before connecting the server to a power source, verify that the switch is set to the proper position by looking on the switch itself, *not* any surrounding label. If the setting does not match the available voltage, slide the switch to the proper position.

- ▲ **Warning:** Whichever voltage setting you choose, do *not* attach any power cable to the server unless you are absolutely *certain* it connects to an outlet or equipment of matching voltage.

Attempting to operate your Logcraft server with an incorrect voltage switch setting can be hazardous. It may also damage the server and void your warranty.

Once you have selected the proper voltage, insert the power cable into the appropriate receptacle on the rear of the unit. Before you connect the server to a power source, make sure that the server power switch is set to 0 or off. Then, plug the other end of the cord into an electrical outlet of the correct voltage.

- ▲ **Important:** Do not power on the server yet!

Do not power on the server until you have connected it to your network and have installed the software on the VMS host.

Ethernet Installation

Whether you purchased the system-level Omni-Ware or converted your own PC/AT, it is important that your server be placed in a location that meets the same environmental requirements as your other computer systems. In particular, the server must be:

- within 40 meters of an Ethernet transceiver or within 90 meters of a ThinWire repeater.
- in a dry, clean, and dust-free environment.
- out of sunlight and away from direct sources of heat.
- at a comfortable room temperature.
- well ventilated, with ample space for air circulation.
- away from sources of static electricity.

Be sure to locate your server in an appropriate place before connecting it to the Ethernet and powering it on.

Multi-user servers. If you have a multi-user Omni-Ware server, the information below applies to *each* configured user (that is, to each separate server within the multi-user chassis).

Configuring for Standard or ThinWire Ethernet

The Ethernet interface in your Omni-Ware server can be configured for either standard (thick wire) or ThinWire Ethernet. Logi-craft configures the network interface if the connection type is known at the time of shipment. The network type is noted on the configuration sheet.

If the network type is incorrect for your installation, you can change the configuration. To do so, remove the cover from your server and locate the Omni-Ware COP. Look for the 15-pin standard Ethernet port and round BNC ThinWire connector at the rear of your server if you are unsure which board is which. Leave the board in place; you should not need to remove it from the server to change the network type.

For a COP that has a daughter board attached, the COP has six jumpers, located at the top of the daughter board near the end plate bracket. The relative position of these six jumpers determines whether the server is configured for standard Ethernet or ThinWire. To change the network type, shift each of the six jumpers one pin to the right or left, leaving exactly one header pin visible between each jumper.

Figure 2 shows the correct position for the jumpers for each network type.

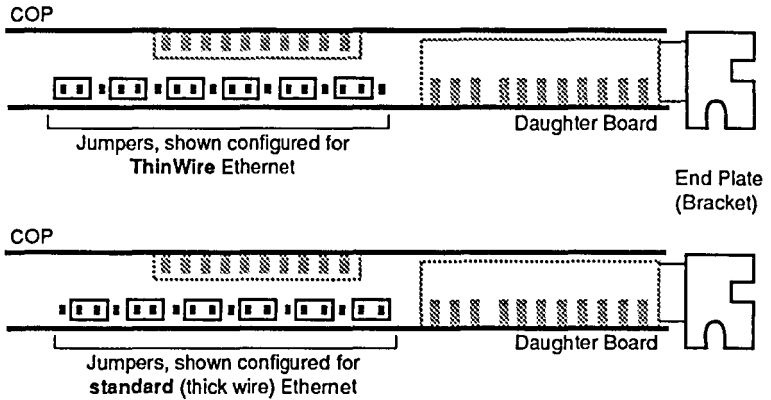


Figure 2: Network Jumpers, COP with Daughter Board

For a COP that has DIP switches visible above the Ethernet connectors, the top edge of the COP includes a switch that sets the network type. For standard Ethernet, this switch should be set *toward* the edge of the board with the network connectors. For ThinWire, the switch should be set *away* from the edge of the board with the connectors. Refer to Figure 3.



Figure 3: Network Selector Switch, OGA Board COP

Standard Ethernet Connection

To connect your server to a standard (thick wire) Ethernet, attach one end of an Ethernet cable to the 15-pin connector on the server's Ethernet interface. Attach the other end to an Ethernet transceiver, such as the Digital DELNI or H4005.

ThinWire Ethernet Connection

To connect your server to a ThinWire Ethernet, attach a T-connector to the BNC connector on the server's Ethernet interface. This connector is the round one just below the 15-pin connector.

Attach ThinWire cable to one side of the T-connector. If no other cable is attached to the other side of the T-connector, install a cable terminator.

Multi-user servers. If you have a multi-user Omni-Ware server, connect *each* Ethernet interface in the server to your network. Ensure that you allow at least a *half meter* of ThinWire cable between the T-connectors.

VMS Software Installation

Logcraft uses the VMSINSTAL command procedure to simplify the installation of the Omni-Ware software. This procedure is provided by Digital Equipment Corporation for the automated installation of VAX/VMS updates and optional layered products.

The following pages explain the preparations and requirements necessary to install the Omni-Ware software and the procedures for performing the actual installation. For an overview of Omni-Ware's directories and files, refer to "Software Overview" on page INS-37.

- ▲ **Important:** If you use Mobius anywhere on your network, do *not* attempt this software installation. Contact Logcraft Customer Support for special instructions.

System Prerequisites

The minimum system requirements depend on which type of Omni-Ware installation you are performing:

- **Omni-Ware/XNS** requires a minimum of VMS version 5.0.
- **Omni-Ware/UCX** requires a minimum of VMS version 5.3 and UCX version 1.3A with patch level 14. (Patch level 14 is available from Digital CSC as UCXP013A140.)
- **Omni-Ware/TGV** requires a minimum of VMS version 5.4 and TGV MultiNet version 3.0.

For each installation type, the installation checks for the following files and exits if any of them are missing:

SYS\$SYSTEM	SY\$LIBRARY
SYS.STB	STARLET.OLB
LINK.EXE	VAXCRTL.OLB
PATCH.EXE	VAXCRTL.EXE
	IMAGELIB.OLB

Upgrade Information

- ▲ **Important:** Check the Release Notes for any information regarding software upgrades.

If you are upgrading from a previous version of Omni-Ware/XNS, note the following:

- The default installation stops the XNS Ethernet driver, KXDRIVER; the custom installation asks you if you want to stop it. (Default and custom installations are discussed further below.)
- ▲ **Important:** if the KXDRIVER is stopped, all Omni-Ware/XNS and Omni-Ware/XNS connections are aborted, as are any other products that use this driver.

If you choose *not* to stop the driver, do *not* execute the Omni-Ware or 386Ware start-up file or issue *any* XCP commands without first rebooting your system!

For best results, ensure there are no active Omni-Ware or 386Ware (or other XNS) users when performing the installation, and indicate that the KXDRIVER should be stopped.

- The default installation places files in the directories pointed to by SY\$OMNIWARE and SY\$LOGICRAFT_COMMON, overwriting any existing files in these directories. The custom installation gives you the opportunity to install the new version in a different location from the existing version; however, *this action is not recommended*.
- The default installation will remove any existing Omni-Ware start-up file from SYSMAN and will add the new start-up file. The custom installation will ask whether to add the new file to SYSMAN.

Prerequisites

If you are upgrading from an earlier version of Omni-Ware, complete the following steps before installing the new software:

1. Back up the files in the SYS\$LOGICRAFT_COMMON and SYS\$OMNIWARE directories.
2. If you have made any site-specific modifications to files on the distribution logical disk (e.g., OMNIDOSV50.DOS), copy the entire disk to another directory or copy the modified files to another logical disk in another directory. When you install the new software, a new distribution logical disk is copied to your system.

In addition, copy any PC applications software or data files on the distribution logical disk to another logical disk in a directory *other* than SYS\$OMNIWARE. Be sure to follow vendor instructions for uninstalling and reinstalling PC software, if appropriate.

3. If you have Omni-Ware/XNS servers, ensure that the server names and addresses in the logical name table LOGICRAFT_SERVER_TABLE are correct and include all of your servers. The software installation uses this information to define your existing servers for the new version of the software. If you are not sure, execute the Omni-Ware start-up file.

Before Installing the Software

Complete the following steps before running VMSINSTAL.

1. Back up your system disk. (DEC recommends that you back up your system disk before using VMSINSTAL.)
2. If you have installed version 3.70 or higher of Logicaft's 386Ware, 486Ware, and/or CD-Ware, back up the files in the SYS\$LOGICRAFT_COMMON directory.
3. Log in to a privileged account, such as SYSTEM. The installation verifies that your account has sufficient privileges; if not, you are not allowed to continue the installation.

Running VMSINSTAL

Ensure that you have performed all steps given on the preceding pages before continuing.

When you run VMSINSTAL, it checks to see if adequate resources are available for the installation. If problems occur, the procedure tells you what additional resources it needs and recommends action to correct the problems.

The software installation checks your system configuration and asks you a series of questions. Each question is marked with an asterisk (*) at the beginning of the line. Some questions show the default response in brackets, for example [YES]. If you want to give the default response, press the Return key.

For the most part, the installation is self-explanatory; additional information on a few of the questions is given below.

To abort the installation procedure at any time, press Ctrl-Y. VMSINSTAL deletes all files it has created up to that point and exits. You can then start the installation again.

VMSINSTAL Syntax

Use the following command syntax to run VMSINSTAL:

```
@SYS$UPDATE:VMSINSTAL OMNI device [OPTIONS N]
```

where:

device Indicates the device name from which you are reading the installation media.

OPTIONS N Lets you display or print any machine-readable release notes prior to the software installation. Regardless of whether you specify the option, any release notes are copied to the SYS\$HELP directory (unless this directory does not exist). The file is called OMNI*xxx*.RELEASE_NOTES.

Not all versions of Omni-Ware include on-line release notes.

▲ **Important:** Do *not* use *any* VMSINSTAL options other than N with the Omni-Ware software!

For example, to install Omni-Ware from device MUA0: using the release notes option, give this command:

```
$ @sys$update:vmsinstal omni mua0: options n
```

Error and Warning Messages

You may see the following warning:

```
%VMSINSTAL-W-DECNET. Your DECnet network is up and running.  
*Do you want to continue anyway [NO]?
```

Answer YES. (DECnet must be running during the installation.)

If you use VMS version 5.4 or later and you attempt the installation with other users logged in, VMSINSTAL may notify all current users with a message like the following:

```
*URGENT* message on VAX1 from user SYSTEM at
_VAX1$TWA7: 14:45:18 DCL HELP IN USE. Please exit
help NOW. Product installation in progress.
```

If someone is using HELP, the help library HELPLIB.HLB in SYS\$HELP: cannot be updated with Omni-Ware's help files. This message asks users to exit HELP, allowing the installation to update the library.

The following error message may appear during the installation:

```
%DCL-W-SYMOVF, no room for symbol definitions -
delete some symbols
```

To correct this problem, increase the value for the SYSGEN parameter CLISYMTBL, then reattempt the installation. Give the following commands:

```
$ run sys$system:sysgen
SYSGEN>use active
SYSGEN>show clisymtbl
```

SYSGEN displays the current default, minimum, and maximum values for the parameter. To increase the parameter, give the following commands:

```
SYSGEN>set clisymtbl xxx
SYSGEN>write active
SYSGEN>write current
SYSGEN>exit
```

where *xxx* is larger than the current value (but less than or equal to the maximum).

Default vs. Custom Installation

After the installation has checked your system's configuration, you are asked whether you want the default or custom installation. Choose the default installation to install the software with a minimum of questions. Choose the custom installation to better tailor the product to your site's needs.

Briefly, you should choose the *custom* installation if you want to:

- install more than one new Omni-Ware server;
- specify the device/directory on which the software should be installed;
- assign a DECnet node name and address¹ to each server (rather than have the installation choose these for you);
 - ▲ **Important:** Do *not* define DECnet names and addresses (in NCP) for new servers prior to running the installation. If you do so, you will *not* be able to specify server information during installation because the names/addresses will be seen as "in use" and not available.
- select specific software subsets to install;
- prevent the installation from adding the Omni-Ware start-up file to the SYSMAN database; or
- upgrade from a previous version of Omni-Ware/XNS without stopping the KXDRIVER (as discussed earlier).

Detailed information on the actions of the default and custom installations is given below, followed by descriptions for the available software subsets.

¹Each server requires a DECnet node name and address so that MOP can perform a remote boot to initialize the server. Refer to "Enabling Remote Boot Service" on page SMG-2 of *System Manager's Guide*.

Default Option, First-Time Installation

For *new* (i.e., non-upgrade) installations, the default option takes the following actions:

- The base Omni-Ware software, logical disk commands, and all software subsets supported by your system are installed. For example, if you have DECwindows and PATHWORKS for Macintosh, the Omni-Ware DECwindows and PATHWORKS for Macintosh subsets are installed. (The available subsets are described on page INS-21.)
- The software is installed in top-level directories called [OMNIWARE] and [LOGICRAFT_COMMON] on the disk with the most available free space.

If you have Logcraft's 386Ware, 486Ware, or CD-Ware installed, Omni-Ware is installed in a directory called [OMNIWARE] on the same device/parent directory as the SYS\$386WARE directory.

- You are asked to supply the Ethernet address for one Omni-Ware server. If you have the UCX or TGV version, you are also asked for an Internet address. The installation then assigns the Ethernet server an unused DECnet node name and address.
- The Omni-Ware start-up file is added to the SYSMAN database, ensuring that it is executed each time the system boots.

Default Option, Upgrade Installation

For *upgrade* installations, the default option takes the following actions:

- The base Omni-Ware software is installed along with the same subsets installed for the existing version. For example, if you have PC DECwindows components for the existing version of Omni-Ware, the default installation includes the PC DECwindows subset when installing the new software. (The available subsets are described on page INS-21.)

- The XNS Ethernet driver is stopped, which will abort all active Omni-Ware/XNS and 386Ware/XNS connections, as well as any other products that use this driver.
- The software is installed in the existing [OMNIWARE] and [LOGICRAFT_COMMON] directories, and old versions of files are purged.
- You are asked if you want to add a server to those already defined. If yes, you will then be asked to supply the new server's Ethernet address. If you have the UCX or TGV version, you are also asked for an Internet address. The installation then assigns the server an unused DECnet node name and address.
- The new Omni-Ware start-up file is added to the SYSMAN database, replacing any previous version. This action ensures that the start-up file is executed each time the system boots.

Custom Option, First-Time Installation

For *new* (i.e., non-upgrade) installations, the custom option takes the following actions:

- If you have 386Ware installed, you are asked if you want to purge old versions of files (some files are common to both 386Ware and Omni-Ware). Purging is recommended; it ensures that any old copies of the software are removed and disk space is conserved.
- The installation asks what optional software subsets you want to install. The available subsets are described on page INS-21.
- You are asked where to install the Omni-Ware software.

Important: If you have Logcraft's 386Ware product installed, you should install Omni-Ware on the *same* device/parent directory as the existing 386Ware software; otherwise, you may experience problems.

- You are asked to supply the Ethernet address and an unused DECnet node name and address for one Omni-Ware server. If you have the UCX or TGV version, you are also asked for an

Internet address. Once you have supplied all information for a server, the installation asks if you want to add another.

- You are asked whether to add the Omni-Ware start-up file to the SYSMAN database.

Custom Option, Upgrade Installation

For *upgrade* installations, the custom option takes the following actions:

- You are asked whether to stop the XNS Ethernet driver. Stopping this driver will abort all active Omni-Ware/XNS and 386Ware/XNS connections as well as any other products that use this driver. However, stopping the driver allows you to execute the Omni-Ware start-up file after installation without first rebooting the system.
- You are asked if you want to purge old versions of files. Purging is recommended; it ensures that any old copies of the software are removed and disk space is conserved.

Important: If purging is selected, one of the files that is purged is the distribution logical disk in the Omni-Ware directory. As discussed earlier, make sure any PC software, data files, or site-specific files residing on this logical disk have been copied to another logical disk.

- You are asked what optional software subsets you want to install. The available subsets are described below.
- You are asked where to install the Omni-Ware software.

Important: If you have Logcraft's 386Ware product installed, you should install Omni-Ware on the *same* device/parent directory as the existing 386Ware software; otherwise, you may experience problems.

- You are asked if you want to add one or more servers to those already defined. If yes, you will then be asked to supply the Ethernet address and an unused DECnet node name and address for the Omni-Ware server. If you have the UCX or TGV

version, you are also asked for an Internet address. Once you have supplied all information for a server, the installation asks if you want to add another server.

- You are asked whether to add the Omni-Ware start-up file to the SYSMAN database.

Software Subsets

The following software subsets may be included on the distribution media; the subsets available depend on which distribution you purchased. As mentioned, the default installation automatically installs all subsets that are relevant for your system. The custom installation allows you to choose the subsets you want.

- **Base Package.** This package contains the basic software needed to run Omni-Ware.
- **Logical Disk Commands.** This subset includes the logical disk commands—DOSCOPY, DOSMAKE, DOSTYPE, etc.—with which you manage logical disks and DOS files.¹
- **Distribution Logical Disk.** One of the following logical disks, depending on what PC operating system, if any, you purchased:
 - **DOS Version 5.0.** Contains MS-DOS version 5.0 and the Logicaft DOS utilities.
 - **OS/2 Version 1.3.** Contains OS/2 version 1.3, configured with special drivers for Omni-Ware.
 - **Logicaft Utilities Disk.** Contains only the Logicaft DOS utilities; no PC operating system is included.
- **DECwindows.** This subset includes the executables, utilities, and fonts for Omni-Ware under DECwindows.
- **Motif.** This subset includes the executables, utilities, and fonts for Omni-Ware under Motif.

¹In previous versions of Omni-Ware, this subset was a separate installation product called DOSxxx.

- **PC DECwindows.** This subset includes keyboard mapping files and a logical disk containing the fonts needed to use Omni-Ware from a PC running PC DECwindows.
- **PATHWORKS for Macintosh.** This subset includes the fonts needed to use Omni-Ware from a Macintosh running MacX software.
- **BDF fonts.** This component includes the Bitmap Distribution Format fonts, which allow you to compile Omni-Ware's fonts for use with an X platform for which compiled fonts are not provided. The distribution includes compiled fonts for the following:
 - VAXstations
 - VT1000, VT1200, and VT1300 terminals
 - GraphOn OptimaX terminals
 - NCD terminals
 - PCs with PC DECwindows
 - Macintoshes with MacX or eXodus software

Post-Installation Steps for TGV Servers

The Omni-Ware software installation does *not* automatically update the TGV host database with server information. Once you have installed the Omni-Ware software, edit the HOSTS.LOCAL file manually to include this information.

For example, the following lines in the host database define an Omni-Ware server called DOSBOX with Internet address 5.0.0.112:

```
.: Local host definitions
.
.
HOST : 5.0.0.112 : DOSBOX : OMNIWARE : DOS : :
```

After including entries for your server(s), recompile the host tables with the following commands:

```
$ multinet host_table compile
$ @multinet:install_databases
```

Rebooting Your System

You must reboot your system after installing the software if:

- you are installing Omni-Ware/XNS and you use XNS for non-Logcraft products; *or*
- you performed the custom installation and you chose *not* to stop the XNS driver; *or*
- you are upgrading from an Omni-Ware release *prior* to version 1.66; *or*
- you have the Omni-Ware /XNS product *and* you use a version of 386Ware prior to 3.71; *or*
- you have Logcraft's DataWare Plus.

In these cases, rebooting ensures that you have the most recent version of the XNS driver.

- ▲ **Important:** If you are running a version of Omni-Ware older than 1.66, or you have 386Ware prior to 3.71, do *not* execute the Omni-Ware start-up file without first rebooting your system.

If you have a VAXcluster and are running Omni-Ware or 386Ware on one or more members of the cluster, you must also reboot each member.

Restarting DECwindows or Motif

If you do *not* reboot your system, you must restart DECwindows or Motif after installing the software if:

- this is a first-time installation of Omni-Ware; *or*
- you are using a workstation.

The Logcraft X windows fonts for Omni-Ware will not be recognized until DECwindows or Motif is restarted.

- ▲ **Important:** Restarting DECwindows or Motif stops all windows currently associated with this X server.

To restart DECwindows or Motif, give the following command:

```
$ @sys$manager:decw$startup restart
```

```
Restarting the DECwindows Software stops  
everything displaying on your workstation. Do you  
really want to restart the DECwindows Software? y
```

You must restart DECwindows or Motif on all systems from which Omni-Ware will be accessed.

Upgrading the DECwindows or Motif Fonts

If you use DECwindows or Motif *and* you are upgrading from an earlier version of Omni-Ware (or you have 386Ware installed), you will have *two* copies of the Logcraft fonts when the Omni-Ware software installation is finished. The fonts are located in `SYS$COMMON:[SYSFONT.DECW.USER_75DPI]`.

Do *not* purge these files *until you have restarted* DECwindows or Motif on *each* system from which you want to run Omni-Ware and/or 386Ware. The DECwindows/Motif server reads these files only once, during start-up. If you delete the version that it has read, Omni-Ware will fail to load the correct fonts. (Once you have restarted DECwindows or Motif, you can safely purge.)

Starting the Omni-Ware Software

Omni-Ware includes a start-up file that performs the steps necessary to start the Omni-Ware software on the VAX. In addition, a separate command procedure defines symbols for Omni-Ware's utilities. These files are discussed below.

The Omni-Ware Start-Up File

Omni-Ware's start-up procedure, OMNISTRUP.COM (in the SYS\$STARTUP directory), is used to start the Omni-Ware software on the VAX. This file must be executed before you can access your server.

- ▲ **Important:** If you performed the custom installation for Omni-Ware/XNS and you did *not* stop the Ethernet driver, do not execute the Omni-Ware or 386Ware start-up file *without first rebooting your VAX.*

You can execute the start-up file by giving the following command from a privileged account (e.g., SYSTEM):

```
$ @sys$startup:omnistrup
```

The Omni-Ware start-up file should be added to your system's start-up procedure. The default software installation uses the SYSMAN utility to do this for you. The custom installation asks whether to add the Omni-Ware start-up file to SYSMAN.

If the installation did not add the start-up file to SYSMAN, you should either add the above command to the system start-up file (SYS\$STARTUP:SYSTARTUP_V5.COM) or put the file in the SYSMAN database.

For more information on the SYSMAN utility and the system start-up file, refer to DEC's *Guide to Setting Up a VMS System*.

Multiple Ethernet Controllers

If you have XNS servers and your VAX has more than one Ethernet controller, you need to modify the start-up file to include the name of the controller to use.

The start-up file contains a line like this:

```
$ UTIL "Load_KXDriver"
```

To indicate which controller to use, add its device name at the end of this line, delimited with double-quotes. For example, to indicate the controller XQA0;, alter the call to UTIL like this:

```
$ UTIL "Load_KXDriver" "XQA0:"
```

Omni-Ware's Symbol Definitions

A procedure called OMNIWARE_SYMBOL_DECLARATION.COM is included in the SYS\$OMNIWARE directory. This file contains definitions for the symbols used to run the Omni-Ware software and utilities. To make these symbols available to your users, execute this command procedure from the system-wide login command file.¹

The syntax for the command procedure depends on what type of Omni-Ware server(s) you have.

For Omni-Ware/XNS, add the following lines to the system-wide login command file:

```
$ on error then continue  
$ @sys$omniware:omniware_symbol_declaration
```

¹In order to use the system-wide login command file, the logical name SYS\$SYLOGIN must be defined to point to the command procedure file, usually called SYS\$MANAGER:SYLOGIN.COM. If you are unfamiliar with SYS\$SYLOGIN, refer to DEC's *Guide to Setting Up a VMS System*.

For Omni-Ware/UCX, add the following lines to the system-wide login command file:

```
$ on error then continue
$ @sys$omniware:omniware_symbol_declaration ucx
```

For Omni-Ware/TGV, add the following lines to the system-wide login command file:

```
$ on error then continue
$ @sys$omniware:omniware_symbol_declaration tgv
```

For any server type, make sure there are no GOTO or EXIT statements that would prevent these lines from executing. The "on error" line is required to ensure that the system-wide login command file does not exit abnormally if the Omni-Ware command procedure is not found.

If You Have Both Omni-Ware and 386Ware

Many of the symbol *names* in the Omni-Ware and 386Ware declaration files are the same, but their *definitions* are different. In these cases, the definitions that take effect are the ones in the declaration file that is executed *second*. The affected symbols are ADDKYBD, KEYUTIL, and KEYUTIL_X.

When including both declaration files in your system-wide login command file, ensure that you put them in the order appropriate for your site. Alternatively, you can edit the declaration files, assigning unique symbol names for the affected symbols.

Installing Omni-Ware as a Shared Image

If you have more than one server and the Omni-Ware software will be used extensively on your system, you can reduce overhead and memory requirements on the VAX by installing the Omni-Ware executable as a shared image. This results in a significant reduction in the amount of memory used on the system if multiple users are accessing the executable simultaneously. However, it requires memory overhead even when no one is using Omni-Ware.

The name of the Omni-Ware executable depends on your server's interface and the host configuration, and the resources required to install Omni-Ware as a shared image depend on which executable you use:

Host Configuration	Executable Name	Required Resources ¹
neither DECwindows nor Motif installed	OMNIWARE.EXE OMNIWARE_UCX.EXE OMNIWARE_TGV.EXE	2 global sections 160 global pages
DECwindows installed	OMNIWARE_DECW.EXE OMNIWARE_UCX_DECW.EXE OMNIWARE_TGV_DECW.EXE	2 global sections 350 global pages
Motif installed	OMNIWARE_MOTIF.EXE OMNIWARE_UCX_MOTIF.EXE OMNIWARE_TGV_MOTIF.EXE	

¹The number of global pages for each executable is rounded up slightly.

The OMNIINFO program may also be installed as a shared image; it requires 2 global sections and 110 global pages.

In Omni-Ware's start-up file, the appropriate executable is installed /OPEN and /HEADER. (You can see this at the end of the start-up file.) To have it installed as a shared image, add /SHARE to the command.

Installing the Logiccraft Fonts

In order to use Omni-Ware from certain supported X platforms, you must first install the Logiccraft fonts. The following pages describe how to install the fonts for these devices:

- Macintosh computers running MacX software
- PC compatibles running DEC's PC DECwindows (part of DEC's PATHWORKS for DOS)
- VT1300 X terminals

Macintosh with MacX

In order to use Omni-Ware from a Macintosh with DEC's PATHWORKS, you must include the PATHWORKS for Macintosh subset when installing the Logiccraft software. In addition, you need the following:

- MacX running on your Macintosh; and
- PATHWORKS for Macintosh running on the VAX.

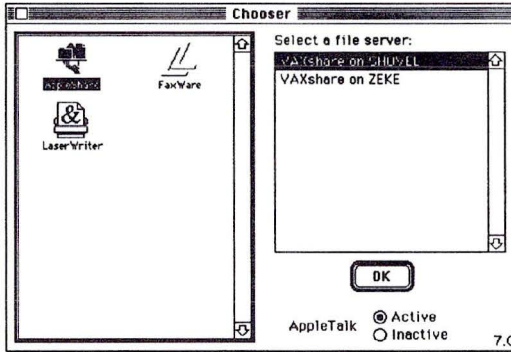
Follow these steps:

1. The Logiccraft software installation creates a subdirectory of SYS\$LOGICRAFT_COMMON called [.MACXFONTS], which is actually a PATHWORKS container file with the Logiccraft fonts. Give the following commands to mount this container file:

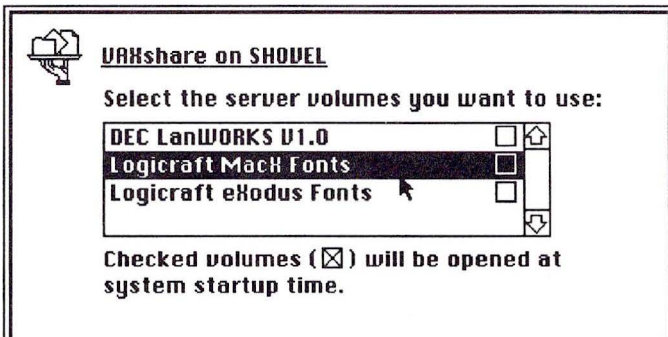
```
$ admin/msa
MSA$MANAGER>add volume "Logiccraft MacX Fonts" -
_MSA$MANAGER>/root=dev:[logicraft_common.macxfonts]
MSA$MANAGER>mount "Logiccraft MacX Fonts"
MSA$MANAGER>exit
$
```

where *dev* is the device on which the Logcraft software is located.

2. On the Macintosh, open the Chooser. Double-click on the AppleShare icon. You should see the server on which the Logcraft MacX fonts are located.

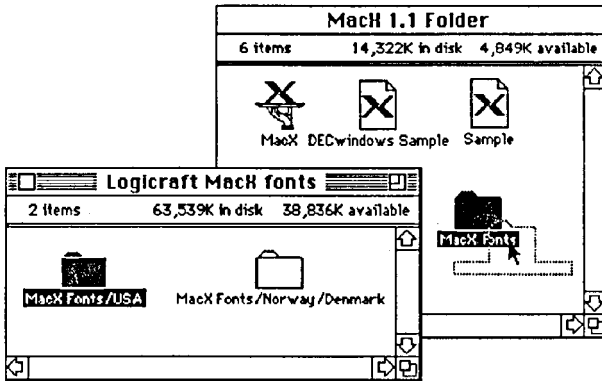


3. Double-click on the VAXshare service. Select the appropriate "log method" and "username/password" combination. You should see a list of available VAXshare server volumes.
4. Select the service "Logcraft MacX Fonts" by double-clicking on the service name.



5. Open the "Logcraft MacX Fonts" folder. This folder contains two folders, called MacX Fonts/USA and MacX Fonts/Norway/Denmark.

6. Open the MacX Fonts folder. This folder is located inside of the MacX folder.
7. Move the appropriate Logicroft MacX fonts folder (either USA or Norway/Denmark) to the MacX fonts folder, as shown:



When you start your next MacX session, the font directory will be rebuilt automatically and will contain the Logicroft fonts.

8. Once you have copied the fonts to the MacX fonts folder, you can dismount the VAXshare service from the Macintosh by dragging the service to the trash.
9. To dismount and remove the VAXshare volume from the VAX, use the following commands:

```
$ administer/msa
MSA$MANAGER>dismount "Logicroft MacX fonts"
MSA$MANAGER>remove "Logicroft MacX fonts"
```

PC with PC DECwindows

If you are plan to use Omni-Ware from PC DECwindows, your PC should have at least 2 megabytes of extended memory (in addition to 640K of conventional memory).

In order to use Omni-Ware with PC DECwindows, you must include the PC DECwindows subset when installing the Logcraft software.

Omni-Ware's PC DECwindows support includes:

- a PCSA LAD disk, called PCDECWINDOWS.DSK in the SYS\$OMNIWARE directory, that contains fonts and font mapping files.
- keyboard mapping data files for PC DECwindows version 3 (included with PATHWORKS for DOS version 4): IS84IUS.MD2, ISENHIUS.MD2, and LK250DUS.MD2, for the IBM PC/AT 84-key keyboard, the IBM PC/AT enhanced (101-key) keyboard, and the DEC LK250 keyboard, respectively. Currently, only these keyboards are supported and only in US mode. In addition, the Print Screen key functions only as a * key.
- keyboard mapping data files for PC DECwindows version 1 (included with PCSA version 3): IS84US.MD2, IS101US.MD2, and LK250IUS.MD2, for the IBM PC/AT 84-key keyboard, the IBM PC/AT enhanced (101-key) keyboard, and the DEC LK250 keyboard, respectively. Currently, only these keyboards are supported and only in US mode. In addition, the Print Screen key functions only as a * key.

If you have not already done so, set up PC DECwindows according to DEC's documentation.

Once your PC has been configured to run PC DECwindows, complete the following steps to create a new font subdirectory and copy the Logcraft fonts for PC DECwindows to it.

- ▲ **Important:** Do *not* copy the new fonts to the existing font directory.

1. From the VAX, give the following commands:

```
$ pcsa
PCSA_MANAGER>mount disk sys$omniware:pcdecwindows -
_PCSA_MANAGER> /access=read/connect=30/perm
```

This makes the LAD disk containing the Logcraft PC DECwindows fonts available for mounting by the PC. The fonts for PATHWORKS are in the \PCDWV3 directory; the fonts for PCSA are in \PCDWV1. Each of these directories contains two subdirectories: .\USA contains the fonts for the US character set; .\NORWAY contains the fonts for the Norway/Denmark character set.

2. From the PC running PC DECwindows, give this command to access the LAD disk:

```
C:\>use g: pcdecwindows
```

(You can use a different drive letter if you prefer; G is used as an example.)

3. Change the current directory to the PC DECwindows font directory and create a \logcraft subdirectory. (To determine the font directory, see Step 5 below.) For example:

```
C:\>cd \xserver\fonts
C:\XSERVER\FONTS>md logcraft
```

4. Copy the font files from the appropriate directory on the Logcraft LAD disk to the PC. Use a command like the following:

```
C:\XSERVER\FONTS>copy g:\pcdwv3\usa\*.* logcraft
```

This command copies the fonts and a file FONTNAME.MAP into the newly created \logcraft subdirectory on the PC.

5. Next, add a \logcraft subdirectory to the font path.

Execute the DWCONFIG program. Press F1 to examine the workstation set-up and determine the font path definition. Modify the path to specify \logcraft as a subdirectory of the

default font directory, separating it from the rest of the path with a semi-colon. For example:

before:

```
font path = c:\xserver\fonts\
```

after:

```
font path = c:\xserver\fonts\;c:\xserver\fonts\logcraft\
```

6. Save your configuration.

You are now ready to run Omni-Ware under PC DECwindows. When you start Omni-Ware, specify the /KEYMAP qualifier and indicate the correct PC keyboard mapping file (given earlier). You can also use the ADDKYBD utility to designate a default keyboard mapping file; refer to "Keymap Directory File" on page SMG-19 for details.

VT1300 X Terminal

In order to use Omni-Ware from a VT1300 X terminal, you must add the Logcraft fonts to the terminal's font path. Edit the terminal's data file (called EWS\$LIBRARY:*nodename*.DAT, where *nodename* is the terminal's node name) to include a line like the following:

```
SFONT xx.xxx::dev:[SYS0.SYSCOMMON.SYSFONT.DECW.USER_75DPI]
```

where *xx.xxx* is the DECnet node number for the VAX on which Omni-Ware is installed, and *dev* is the device containing the system common area. (The fonts are listed in the system common area even if you specify an alternate device when installing Omni-Ware.) You should also ensure that the USER_75DPI.DIR directory file and the fonts it contains allow for world read access.

For further information about the VT1300 data file, refer to your terminal's documentation.

Setting Up User Accounts

Once you have installed the VMS software, executed the OmniWare start up file, and booted the server, your users can access OmniWare. Complete information on establishing OmniWare sessions is given in *Session Configuration*.

The default process quotas for most non-privileged accounts are insufficient to use OmniWare. The minimum privileges and quotas needed are noted below.

You can check the process privileges and quotas for user *username* with these commands:

```
$ set default sys$system
$ run authorize
UAF>show username
```

Minimum Privileges and Quotas

The minimum requirements for OmniWare users with VT terminals (or using window system 0) are as follows:

TMPMBX			
NETMBX			
Prclm:	2	TQElm:	10
Fillm:	20	Enqlm:	100
BIOl m:	18	Bytlm:	32768
DIOl m:	18	JTquota:	1024
ASTl m:	24	Pgflquo:	20480

DECwindows and Motif

To use window system 2 or 3 with DECwindows or Motif, the following minimums are required in addition to those given above:

WSdef: 512
WSquo: 1024
WSextent: 2048

DECwindows and Motif applications can be sensitive to quota problems. Depending on what you are doing and your configuration, you may need to adjust the following quotas:

Maxdetach, Maxjobs, Maxacctjobs, Prclm. These quotas control the number of detached presses and jobs that an account can have.

Fillm. This quota controls the number of files that can be open simultaneously.

BIOl_m, DIOl_m, ASTl_m. These are all limits (either directly or indirectly) on the number of concurrent I/Os.

Refer to DEC's documentation and release notes for information and recommendations regarding quotas for DECwindows and Motif.

Software Overview

The Omni-Ware software installation creates two directories: [LOGICRAFT_COMMON] and [OMNIWARE]. Logical names are defined for these directories: SYS\$LOGICRAFT_COMMON and SYS\$OMNIWARE, respectively. All files are owned by user-name SYSTEM.

The following gives a list of the files included in the Omni-Ware distribution, along with brief descriptions and the assigned protection codes. Only required files are copied to your system during the installation procedure; for example, the files for Motif are copied only if Motif is running on your system. In addition, some files are specific to the type of server you have: XNS, UCX, or TGV.

SYS\$OMNIWARE

Directory protection — S:RWED, O:RWED, G:RWE, W:RE.

File protection — S:RWED, O:RWED, G:RWED, W:RE.

ADD_KYBD_DECW.EXE	Vendor to keyboard mapping utility (DECwindows).
ADD_KYBD_MOTIFEXE	Vendor to keyboard mapping utility (Motif).
ADD_OMNIWARE_ETHERNET.COM	Add Omni-Ware command procedure.
ASCIITOPC.MD2	ASCII to PC keyboard make/break codes.
AUXCON.UID	User Interface Description.
AUXCON_MOTIF.UID	User Interface Description.
CLIPPER.MD2	Keyboard map for Intergraph 2000.
DECWKEY.MD2	Keyboard map for DECwindows.
DISKCON_OMNIWARE.UID	User Interface Description.
DISKCON_OMNIWARE_MOTIF.UID	User Interface Description.
EDOWI.EXE	EDit Omni-Ware Image program (UCX and TGV).
EXISTCON.UID	User Interface Description.

EXISTCON_MOTIF.UID	User Interface Description.
EXODUSKEY.MD2	Keyboard map for Macintosh computers running eXodus software.
HP9000KEY.MD2	Keyboard map for HP9000 (window system 2/3).
HPXTERM.MD2	Keyboard map for HP9000 (window system 0).
INFOSERVER_XNS.EXE	Detached process for Info utility (XNS).
INTEL.MD2	Keyboard map for Intel.
IS84IUS.MD2	Keyboard map for PC DECwindows.
IS84US.MD2	Keyboard map for PC DECwindows.
IS101US.MD2	Keyboard map for PC DECwindows.
ISENHIUS.MD2	Keyboard map for PC DECwindows.
KEYUTIL.EXE	Keyboard mapping utility.
KEYUTIL_X.EXE	Keyboard mapping utility for X terminals and workstations (DECwindows).
KEYUTIL_X_MOTIF.EXE	Keyboard mapping utility for X terminals and workstations (Motif).
LK250DUS.MD2	Keyboard map for PC DECwindows.
LK250IUS.MD2	Keyboard map for PC DECwindows.
MACXKEY.MD2	Keyboard map for Macintosh computers running MacX.
NCDPCKEY.MD2	Keyboard map for NCD X terminals with PC keyboard.
NCDVTKEY.MD2	Keyboard map for NCD X terminals with PC keyboard.
OMNI_UTIL.DOS	Logical disk containing the Logiccraft MS-DOS utilities.
OMNIDOSV50.DOS	Logical disk containing MS-DOS version 5.0 operating system and utilities.
OMNIHISTORY.COM	Omni-Ware logging utility.
OMNIINFO.EXE	Omni-Ware server Info utility (XNS).
OMNIINFO_TGV.EXE	Omni-Ware server Info utility (TGV).
OMNIINFO_UCX.EXE	Omni-Ware server info utility (UCX).
OMNIOS2V13.DOS	Logical disk containing OS/2 version 1.3 operating system and utilities.
OMNIWARE.EXE	XNS control program for terminals.

OMNIWARE.SYS	Load image file for XNS.
OMNIWARE.UID	User Interface Description.
OMNIWARE_DECW.EXE	XNS control program for DECwindows.
OMNIWARE_MOTIF.EXE	XNS control program for Motif.
OMNIWARE_MOTIF.UID	User Interface Description.
OMNIWARE_SYMBOL_DECLARATION.COM	Symbol definitions; called by SYLOGIN.
OMNIWARE_TCP.SYS	Load image file for UCX and TGV.
OMNIWARE_TGV.EXE	TGV control program for terminals.
OMNIWARE_TGV_DECW.EXE	TGV control program for DECwindows.
OMNIWARE_TGV_MOTIF.EXE	TGV control program for Motif.
OMNIWARE_UCX.EXE	UCX control program for terminals.
OMNIWARE_UCX_DECW.EXE	UCX control program for DECwindows.
OMNIWARE_UCX_MOTIF.EXE	UCX control program for Motif.
PCDECWINDOWS.DSK	PATHWORKS LAD disk containing the PC DECwindows fonts.
PRINTCON.UID	User Interface Description.
PRINTCON_MOTIF.UID	User Interface Description.
READ_LOG.EXE	Logging utility program.
RS6000KEY.MD2	Keyboard map for IBM RISC/System 6000.
SAVECON.UID	User Interface Description.
SAVECON_MOTIF.UID	User Interface Description.
SEEDLL.EXE	Datalink diagnostic tool.
SUN3KEYS.MD2	Keyboard map for Sun 3-series systems.
SUN4KEYS.MD2	Keyboard map for Sun 4-series systems.
TEKXP101.MD2	Keyboard map for Tektronix XP27, VT100 keyboard.
TEKXP220.MD2	Keyboard map for Tektronix XP27, VT200 keyboard.
UTIL.COM	Utility routines called by the Omni-Ware start-up file, OMNISTRUP.COM.
VISUAL101.MD2	Keyboard map for Visual RE1520, VT100 keyboard.

VISUALXDS.MD2	Keyboard map for Visual RE1520, VT200 keyboard.
VT200KEY.MD2	Keyboard map for VT2xx/VT3xx/VT4xx terminals.
WRITE_LOG.EXE	Logging utility program.

SYS\$LOGICRAFT_COMMON

Directory protection — S:RWED, O:RWED, G:RWE, W:RE.

File protection — S:RWED, O:RWED, G:RWED, W:RE.

Subdirectory protections are noted below.

BDF.DIR	Directory for bitmap distribution fonts. Protection is S:RWED, O:RWED, G:RE, W:RE.
DOSCOPY.EXE	DOSCOPY logical disk command.
DOSDIR.EXE	DOSDIR logical disk command.
DOSERA.EXE	DOSERA logical disk command.
DOSMAKE.EXE	DOSMAKE logical disk command.
DOSSTAT.EXE	DOSSTAT logical disk command.
DOSTYPE.EXE	DOSTYPE logical disk command.
ECHO.EXE	Echo program, used for testing Ethernet (XNS).
KEYMAP.DAT	Data file for ADDKYBD utility.
KTDRIVER.EXE	XNS Ethernet device driver (XNS).
KXDRIVER.EXE	XNS Ethernet device driver (XNS).
MACXFONTSDIR	AppleShare folder containing MacX fonts. Protection is S:RWE, O:RWE, G:RE, W:RE
MULTINATIONAL.NR	PC to Denmark/Norway character translation.
MULTINATIONAL.US	PC to US character translation.
TMP.DIR	Subdirectory for temporary files. Protection is S:RWED, O:RWED, G:RWED, W:RWED.
XCPEXE	XNS Control Program for configuring network (XNS).

▲ **Important:** TMP.DIR *allows world write access.*

TMP.DIR is the default temporary directory used by several of Omni-Ware's utilities. You can change the location of this directory by defining a logical name if you prefer not to allow write access to the directory in SYS\$LOGICRAFT_COMMON refer to "Logicraft's Temporary Directory" on page SMG-23.

SYS\$STARTUP

File protection — S:RWED, O:RWED, G:RWED, W:RE.

OMNISTRUP.COM Start-up command procedure for Omni-Ware.

SYS\$UPDATE

File protection — S:RWED, O:RWED, G:RWED, W:RE.

DEINSTALL_OMNIWARE.COM Omni-Ware deinstallation command procedure.

SYS\$HELP

File protection — S:RWED, O:RWED, G:RWED, W:RE.

DECW_OMNIWARE.HLB Omni-Ware help library for DECwindows (accessed from pull-down menus).
OMNIWARE.HLB Omni-Ware help library (added to HELP-LIB.HLB).

Powering Up the Server

Once you have connected your Omni-Ware server to power and to the network, installed the software on the VMS system, and enabled remote boot service, you are ready to power up your Omni-Ware server.

- ▲ **Important:** Remote boot service is enabled if you answered *yes* when the software installation asked whether to add servers.

If you answered *no* to this question or the installation displayed a warning message indicating that remote boot service is not running, refer to "Enabling Remote Boot Service" on page SMG-2 of *System Manager's Guide* before powering up your server.

If you have a system-level server with a 5¼" floppy drive, remove the protective card from the disk drive and store it where you can find it if you need to relocate your server (as mentioned on page INS-3).

Switch on the server's power. The Omni-Ware's coprocessor board resets and takes control of the server, requesting a remote boot from the network and conducting a self-test.

A sequence of messages on the status display indicates the progress of the self-testing. If the remote boot is successful and the COP passes all tests, the display then indicates that Omni-Ware is off-line (waiting for a user to request a connection).

Multi-user servers. When you power on the server, the hardware for each configured user initiates a remote boot request and sequences through the self-test cycle. Each status display shows diagnostic messages for its associated hardware.

Checking Your Server's Set-Up

Once you have powered on your server, you should establish a session and check the server's set-up, particularly if you have a board-level server and you are using logical disks. (If you have a system-level server, the set-up should be configured properly; however, you should verify that the disk type is set correctly.)

To establish a session, use the OMNI.COM procedure, discussed on page UG-5 of *User's Guide*.

Your server's boot sequence may ask if you want to run the set-up program. If it does not, check your PC's documentation for the procedure to invoke the set-up utility.

Checking the Disk Type

If the server is configured to boot from logical disks, check that the hard disk type for the server's first disk is set correctly. It should show the following characteristics:

- 1024 cylinders
- 15 heads
- 17 sectors
- landing zone as 1024
- size as 128 megabytes
- write precompensation as none

Often this is disk type 32, although it might be another type. If your set-up program does not list a disk type that matches, you should define a user type with these characteristics.

For more information about disk types and server set-up, refer to *Logical & Local Disks*.

Configuring the Server Memory

You should also check the server set-up for memory configuration, if appropriate for your hardware. If possible, the memory configuration should be set as follows¹ for best performance:

- zero wait states
- shadow RAM enabled
- interleave enabled

If you converted your own PC/AT using the board-level OmniWare hardware, configure the memory according to your PC's documentation.

The value for wait states should be the lowest number allowed for the hardware that you have. For example, you may need to adjust the wait states to a higher number (slowing down the memory) if you have third-party add-in boards that have problems with the faster memory configuration. Check the documentation for your system for further information.

¹Beginning with OmniWare version 1.66, system-level servers are shipped with this configuration. If you are upgrading from an earlier version, change your server's set-up, if necessary, to match these characteristics. Refer to the hardware manual included with your server for detailed information.

Status Display

Your server's status display will inform you of the current status of the unit during initialization and operation. Multi-user servers include four displays, one for each configured user.

After initialization has completed, the status display begins to cycle through five displays, each appearing for approximately four seconds. The displays are discussed below in the same order they are presented on the server.

```
OMNIWARE v. x.xx  
OFFLINE
```

```
OMNIWARE v. x.xx  
ONLINE
```

This message shows the version of Omni-Ware you are running and indicates either OFFLINE or ONLINE. OFFLINE indicates that no session is currently active; the server is waiting for a request from a user. ONLINE indicates that someone is logged into the server.

```
type video  
emulation active
```

This message indicates which video emulation your server is using, where *type* is Hercules, CGA, or VGA/EGA. You will see one of the three displays, depending on server and session configuration.

```
NETWORK ADDRESS  
XX.XX.XX.XX.XX.XX
```

```
NETWORK ADDRESS  
XXX.XXX.XXX.XXX
```

The *Network Address* is the Ethernet or Internet address for this Omni-Ware server.

```
NETWORK PACKETS/SEC  
XXXXXXXX
```

The *Network Packets/Sec* represents the average number of packets sent and received over the network per second; the average is calculated for the period between the previous and the current display of this status.

NETWORK BYTES/SEC
XXXXXXXX

The *Network Bytes/Sec* represents the average number of bytes sent and received over the network per second; the average is calculated for the period between the previous and the current display of this status.

LOGICRAFT

USER'S GUIDE

Omni-Ware for VMS

*Release 2.0
October 8, 1992*

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Introduction

This section discusses what you need to know to get started with Omni-Ware as quickly as possible and gives some basic information about using Omni-Ware. Where appropriate, references indicate where to find additional or related information.

Before continuing with this section, you should know how to log in to the VMS system and be familiar with the basic operation of your terminal. If you have a workstation or X terminal, you should know how to use an xterm or DECterm session.

Overview

Some basic information about Omni-Ware sessions is given below, along with indications of where to look for additional information.

Starting a Session

Generally, you establish an Omni-Ware session by executing a command procedure that contains an appropriate OMNI command. Your system manager may provide you with this command procedure. Omni-Ware's software includes a sample procedure, called `SYS$OMNIWARE:OMNI.COM`.

OMNI.COM is discussed further in "The OMNI.COM Procedure" on page UG-5.

For detailed information on configuring Omni-Ware sessions, refer to *Session Configuration*.

Boot Sequence

When you request an Omni-Ware session, the server resets (boots), displaying messages on your screen. This boot sequence looks very much like what you would see when booting an actual PC.

Typically, the boot sequence executes a test program that checks the hardware. You might also be given the opportunity to run a set-up program that allows you to change the system configuration. The actual sequence you see depends on your server.

Next the server looks for the operating system, first from the A: (floppy) drive, then from the C: drive. Again, this is the same sequence an actual PC would use.

- If your Omni-Ware server has a floppy drive, you can insert a diskette that contains the operating system (e.g., an MS-DOS system disk) before establishing a session. In this case, the server will read the operating system from the floppy, displaying the boot sequence on your workstation or terminal screen.
- If you do not put a system diskette in the floppy drive, the server looks for the operating system on the C: drive.

If your server is configured to use a logical disk as the C: drive, you can assign a bootable logical disk to this drive when you establish the session. The server will read the operating system from the logical disk, displaying the boot sequence on your workstation or terminal screen.

If your server is configured to use its own local hard disk as the C: drive, the server looks on this hard disk for the operating system, displaying the boot sequence on your workstation or terminal screen.

Check with your system manager if you are unsure whether your server is configured to use logical disks or a local hard disk.

Once the server has loaded the operating system (either from floppy, logical disk, or local disk), you can issue commands, run applications software, and so on, just as you would from an actual PC.

Terminal Emulation

When you initiate an Omni-Ware session, your workstation or terminal is made to look as much like a PC as possible, using your device's characteristics to display PC text and graphics. This process is called *terminal emulation*.

Most of the time, you don't need to worry about terminal emulation because the appropriate characteristics are set for you automatically. If you *don't* use a graphical user interface (Motif or DECwindows), you may need to use the SETTERM utility to en-

sure that the terminal emulation is correct for your terminal. For information on SETTERM, refer to its description on page DOS-25 of *Utilities & Drivers for DOS*.

Keyboard Mappings

In addition to setting the terminal emulation, Omni-Ware redefines the keys on your workstation or terminal keyboard to work as PC keys. This process is necessary because most workstations and terminals have keyboards that are different from PC keyboards.

Omni-Ware maps each workstation/terminal key to a PC key. Many keys, such as the alphabetic and numeric keys on the main keyboard, are mapped to the same PC keys. Similarly, the arrow keys are mapped to the PC keyboard's arrow keys. With other terminal/workstation keys, however, the mapping may not be obvious.

Keyboard mappings and diagrams are discussed in Appendix B. For information on changing the default keyboard mappings or defining your own keyboard mappings, refer to "Keyboard Mapping Utilities" on page VMS-22 of *Utilities for VMS*.

The OMNI.COM Procedure

If your system manager doesn't provide you with a command procedure to start Omni-Ware sessions, you can create your own or you can execute OMNI.COM, included with the Omni-Ware software. This file is located in SYS\$OMNIWARE.

Give this command:

```
$ @sys$omniware:omni
```

For workstations and X terminals, the Omni-Ware session appears in its own X window.¹ For terminals, the session appears on your terminal screen.

When you are ready to return to VMS, give this command at the DOS prompt:

```
C:\>bye
```

After a few moments, the Omni-Ware window disappears, and you are returned to your terminal session. If you use a VT terminal, the VMS prompt should reappear on your terminal.

¹OMNI.COM uses Logcraft window system 2 by default; this window system provides a separate X window for the Omni-Ware session and includes pull-down menus for configuring and controlling the session. For information on window systems, refer to "Logcraft Window Systems" on page CFG-2 of *Session Configuration*. For information on the pull-down menus, refer to "Session Configuration" on page CFG-45 of *Session Configuration*.

Using the PC Mouse

If you have a workstation or X terminal, you can use its mouse as a PC mouse with your PC applications.¹ Omni-Ware includes three different mechanisms for mouse support:

- A program called **OMNIMSE.EXE** is used exclusively for MS-DOS applications that do *not* use Microsoft Windows. This program is installed by the **AUTOEXEC.BAT** file on the Omni-Ware distribution logical disk. You must activate the PC mouse before you can use it (discussed below).

For information on **OMNIMSE**, refer to its description on page **DOS-20** of *Utilities & Drivers for DOS*.

- The **Logicraft Windows** drivers include a special mouse driver for use with Microsoft Windows version 3.x and Windows applications, such as Word for Windows. The mouse is automatically activated when you run Windows.

For information about the **Logicraft Windows** drivers, refer to “Microsoft Windows and Omni-Ware” on page **SMG-30** of *System Manager’s Guide*. Additional information about using Windows is given on page **UG-11**.

- The **Logicraft OS/2** drivers include a mouse driver specifically for use with OS/2. You must activate the PC mouse before you can use it (discussed below).

For information on the **Logicraft OS/2** drivers, refer to “OS/2 and Omni-Ware” on page **SMG-48** of *System Manager’s Guide*.

All three mouse mechanisms allow the first and third buttons of the workstation/X terminal mouse to be used as the left and right buttons respectively, of a standard Microsoft-compatible mouse.

¹In order to use the mouse, you must use Logicraft window system 2 or 3, each of which establishes the session in its own X window. You cannot use the mouse with window system 0. For information on window systems, refer to “Logicraft Window Systems” on page **CFG-2** of *Session Configuration*.

LOGICRAFT

SESSION CONFIGURATION

Omni-Ware for VMS

*Release 2.0
October 8, 1992*



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Note that if you swap the mouse buttons within the VMS graphical user interface for left-handed use, the PC mouse will function accordingly.

Activating the Mouse

OMNIMSE and the OS/2 mouse must be activated before you can use the PC mouse. Click the middle mouse button to pass control of the mouse to the Logcraft mouse driver.

When the mouse is under control of the Logcraft mouse driver, the mouse will not work outside the Omni-Ware window. You can use the middle mouse button to toggle between the PC mouse and the VMS GUI mouse. In other words, if you want to use the mouse outside the Omni-Ware window, click the middle button. Mouse control is immediately returned to the workstation or X terminal. To use the PC mouse again, click the middle button.

Using Copy and Paste

One of the useful features of graphical user interfaces (GUIs) is the ability to copy and paste information, either within a window or among different windows. You can take advantage of this feature with Omni-Ware.

With Omni-Ware and window system 2,¹ two copy and paste modes are available: standard (or DECterm) mode and Rubber-band mode. You indicate which copy/paste mode you want to use on the "Configure..." item on the Edit pull-down menu of the Omni-Ware window. This menu item is discussed on page CFG-58 of *Session Configuration*.

Standard (DECterm) Mode

Standard mode (also called DECterm mode) allows you to copy contiguous *rows* of the window to the copy/paste clipboard. You cannot define the left and right margins of the selected rows; they are set to the left and right edges of the window. This method lets you copy data or text that occupies the full width of the screen.

Within the Omni-Ware window, the first mouse button (MB1) can be used to select the data to copy; the third button (MB3) will paste it.² Alternatively, you can use the Copy and Paste items on the Edit pull-down menu.

¹Logicraft window system 2 establishes the Omni-Ware session in its own X window and includes pull-down configuration menus. For information on window systems, refer to "Logicraft Window Systems" on page CFG-2 of *Session Configuration*.

²Although Motif generally uses the second mouse button to paste, this button is used to activate and deactivate Omni-Ware's PC mouse, as discussed on page UG-7.

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Rubberband Mode

Rubberband mode allows you to copy selected contiguous *columns* of the Omni-Ware window to the clipboard. It lets you copy columns of data or text that are not the full width of the screen. Rubberband mode is relevant only when copying from and pasting to an Omni-Ware window.

Within the Omni-Ware window, use the first mouse button (MB1) to select the data to copy; a rectangle appears on the screen as you drag the mouse pointer. To paste, position the cursor at the appropriate location, then select Paste from the Edit pull-down menu.

During a rubberband copy, the current *line terminator* is inserted after each line. You indicate what sequence to use within the "Configure..." item on the Edit pull-down menu. In addition, if you select the Remove Excess Spaces toggle in the Copy/Paste Configuration dialog box, all non-visible characters are removed before the first and after the last text character on each line of the rectangle. For more information on these options, refer to "Configure..." on page CFG-58 of *Session Configuration*.

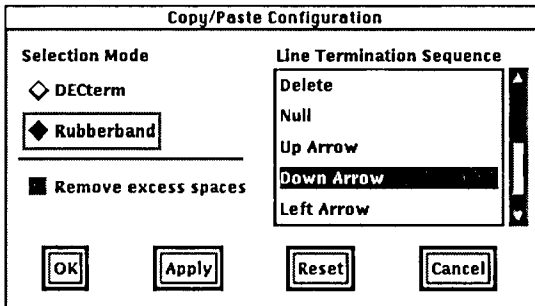
Notes

When using copy and paste with the Omni-Ware window, keep the following in mind:

- When selecting text to copy from the Omni-Ware window, the first character you select should be a visible one. If you select a space or a non-visible character, the highlight that indicates the selected text may appear to "wipe out" visible characters as you select them.
- You can't paste characters that do not appear in the destination window's character set. For example, you can copy/paste a PC "smile face" character to another location within the

Omni-Ware window, but you can't paste it to a DECterm window because the DECterm character set does not have a "smile face" character.

- You cannot copy *from* a PC graphics window (including Microsoft Windows); however, you can copy *to* a graphics window, provided that you use the Copy and Paste pull-down menu items and the target window accepts text input.
- If you have a color workstation and you use rubberband mode, the rectangle may appear in several different colors if the area you are selecting is multiple colors.
- You should not attempt to select text (click the mouse button and drag) while the window is actively scrolling.
- When copying and pasting within a PC application, you may need to adjust the copy/paste configuration parameters to get the correct results. For example, to copy and paste a column of digits within a Lotus 1-2-3 spreadsheet, configure copy/paste as follows:



Microsoft Windows

Logcraft supports Microsoft Windows version 3.x via special drivers. Information about these drivers, including detailed instructions for installing them, is given in "Microsoft Windows and Omni-Ware" on page SMG-30 of *System Manager's Guide*.

Once the Windows drivers are installed, you can use your workstation or X terminal and mouse to run Microsoft Windows. The mouse is automatically activated when Windows is executed; the first and third mouse buttons function as the left and right buttons, respectively, on a Microsoft compatible mouse. If you move the mouse pointer outside the Omni-Ware window, it functions as a VMS graphical user interface mouse.

Your workstation or X terminal mouse pointer may not be large enough to display the entire Microsoft Windows mouse pointer. When the mouse pointer is an arrow, the difference is negligible; however, when Windows changes the pointer to an hourglass, you may see only a quarter of the hourglass on your screen, as shown at right. The I-beam text insertion pointer is affected in a similar fashion.



Using Windows on a Color Workstation

If you have a color workstation and you do *not* have the VGA option, Microsoft Windows will change the colors on your display, even in other (non-DOS) windows. The colors will change back to their correct values if you click in an X window other than the one running Windows.

If you have the VGA option, the colors in *other* windows may change if you run a PC application that requires all of the available colors. The VGA Remap Palette item on the Configuration pull-down menu can be used to restore the system colors. Refer to the description of this item on page CFG-57 of *Session Configuration*.

Introduction

This section discusses two mechanisms for configuring OmniWare sessions:

- the **OMNI command**. The parameters and qualifiers you include on the command provide the information OmniWare needs to configure your session according to your needs. This method lets you utilize the full capabilities of the OMNI command, including some qualifiers that cannot be configured from the pull-down menus.
- the window system **2 pull-down menus**. The items you specify within the dialog boxes determine your session configuration. A configuration can be saved in a command procedure for later use.

Information that pertains to both configuration methods begins on the next page. Detailed information about the OMNI command begins on page CFG-6. For a discussion of the pull-down menus, refer to page CFG-45.

Logicraft Window Systems

If you have a workstation or X terminal (using Motif or DECwindows), the action of the OMNI command depends on the logical name LOGICRAFT_WINDOW_SYSTEM, which can be set to 0, 2, or 3. This logical identifies which window system you want to use.

An Omni-Ware session in **window system 0** runs in your current terminal window. It supports Hercules or CGA graphics and is essentially the same as using Omni-Ware from a VT terminal. You cannot use the workstation or X terminal mouse with PC applications. In addition, you cannot use OS/2 or Microsoft Windows.

A session in **window system 2** runs in its own window, called the MS-DOS window. It provides features such as copy and paste, real-time graphics, and pull-down menus with which you can configure or modify a session. In addition, you can use the workstation or X terminal mouse with PC applications.

Window system 3 is similar to window system 2. It provides the same real-time graphics and mouse support, but it does not offer the pull-down menus. As a result, window system 3 is somewhat faster than window system 2. You should not use window system 3, however, unless you are familiar with the operation of window system 2.

For example, give a command like this to define the window system as 2:

```
$ define logicraft_window_system 2
```

For information on customizing the appearance of the MS-DOS window and icon, refer to "Logical Name Summary" on page SMG-6 of *System Manager's Guide*.

Configuring Printer Information

The OMNI command and pull-down menus each provide two mechanisms for printing from the Omni-Ware session:

- Printer output is sent to a list or spool file residing on the VMS host. With this method, you can also specify whether the list file should be queued automatically to a VMS print queue and whether the print buffer will be flushed automatically or manually.
- Printer output is sent directly to a printer connected to the auxiliary port on the terminal or workstation.

For each Omni-Ware session, you can define a printer assignment, called LST1, which can be configured for either of the two available print mechanisms.

The LST1 printer assignment configured with the OMNI command or pull-down menus is automatically associated with the printer port emulated by the Omni-Ware coprocessor. (Usually, this port is LPT1; however, the coprocessor can be configured to emulate LPT2.) Any printing on the emulated printer port is redirected to the LST1 printer assignment.

Figure 1 below shows the relationship between a PC application, the PC's logical printer device LPT1, the Omni-Ware coprocessor (COP), and the LST1 printer assignment.

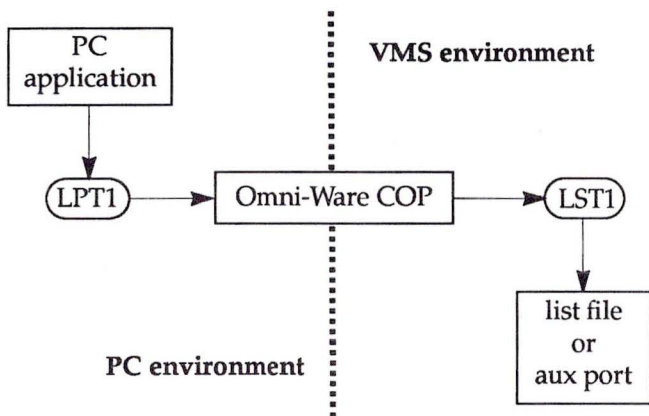


Figure 1: Omni-Ware's Print Mechanism

OMNI command qualifiers let you control a variety of printing parameters. The qualifiers you can specify depend on which printing method you are using. Figure 2 gives a summary of the relevant qualifiers; refer to the descriptions that follow for details.

Print Method	Syntax	Relevant Qualifiers
store print data in a list file, then print automatically to a VMS print queue	<i>lfile</i> /QUEUE	/BINARY, /TEXT /[NO]CLOSE /COPIES /DEC, /IBM, /LN03 /[NO]DELETE /[NO]FLAG /FORM /[NO]PASSALL /[NO]TRAILER /[NO]FLUSH
store print data in a list file, but <i>don't</i> print automatically to a VMS print queue	<i>lfile</i> /NOQUEUE	/BINARY, /TEXT /[NO]CLOSE /DEC, /IBM, /LN03 /[NO]FLUSH
print to the terminal's auxiliary port	LST1/AUX_PORT	/BINARY, /TEXT /DEC, /IBM, /LN03

Figure 2: Summary of Print Qualifiers

The Configuration pull-down menu includes a Printer Configuration dialog box, in which you specify the parameters for printing. For information on this dialog box, refer to “Printer Configuration Parameters...” on page CFG-50.

Command Syntax

The syntax for the OMNI command looks like this:

```
OMNI [ldisk_1 [dsk_qual]] -  
      [, ldisk_2 [dsk_qual]] ... [, ldisk_5 [dsk_qual]] -  
      [, prtassgn [prt_qual]] -  
      [cmd_qual] /SERVER=srvr
```

where:

<i>ldisk_n</i>	Indicates the logical disk(s) to mount for the Omni-Ware session; you may specify up to five disks, depending on whether the specified disks are standard or partitionable.
<i>dsk_qual</i>	Specifies one or more qualifiers pertaining to logical disks.
<i>prtassgn</i>	Identifies the printer assignment for printing from the PC session: either the name of a list file in which to store printer output or the keyword LST1 when printing to a terminal's auxiliary port. Refer to Note 9 below.
<i>prt_qual</i>	Specifies one or more qualifiers pertaining to printing.
<i>cmd_qual</i>	Specifies one or more command qualifiers, which pertain to neither logical disks nor printing.
/SERVER= <i>srvr</i>	Identifies which Omni-Ware server to use.

Sample

The following is a sample OMNI command:

```
$ omni sys$omniware:omnidosv50/share, -  
  dosdisks:lotus/rea/nosha, -  
  sys$login:dosdata, -  
  tempfile/queue=post/del/noclose/flag -  
  /flush/hot/noreset -  
  /server=best_server
```

Notes

1. The entire command line cannot exceed DCL's 1,024-character limit. As shown in the sample command, the names of qualifiers may be abbreviated, provided that at least three characters are specified and the qualifier names are uniquely identified.
2. As shown in the sample, the VMS continuation character ("–") may be used to improve the readability of your command, particularly when building a command procedure. A – character at the end of a line tells VMS to ignore the next line break or return.
3. Qualifiers that pertain to a logical disk (*dsk_qual*s) or printer assignment (*prt_qual*s) must immediately follow the file name (or keyword) associated with the disk or printer. All other qualifiers (*cmd_qual*s) should be listed at the end of the command, with the required /SERVER given last.
4. A file name is assumed to be a logical disk unless modified by a printer qualifier (*prt_qual*s).
5. The /SERVER qualifier is *mandatory*; you must indicate which Omni-Ware server to use. The server specified in the sample is the keyword BEST_SERVER, which requests a session on the least busy server available at the time you establish the session. For best results, /SERVER should be the last item on the OMNI command.

6. Commas isolate the specifications for logical disks and printer assignment. The example shows commas separating the logical disks OMNIDOSV50, LOTUS, and DOSDATA and the printer assignment TEMPFILE.
7. Logical disk names and list file names can have any file type or extension you choose; however, Omni-Ware will assume a default extension where none is specified: .DOS or .DSK for a logical disk and .LIS for a list file.
8. Unless your server is configured to boot from a local hard disk, the first logical disk specified should be an Omni-Ware bootable disk (such as OMNIDOSV50.DOS or OMNIO2-V13.DOS).¹

The drive letters assigned to any specified logical disks depend on whether your server boots from a local hard disk and whether you use partitionable logical disks. If you use only *standard* logical disks configured on the primary disk controller, the first logical disk will be assigned to drive C:, the second to D:, the third to E:, and the fourth to F:.

When using *partitionable* logical disks or a local hard drive, the drive letters are assigned following standard PC conventions. Refer to "More about Logical Disks" on page DSK-17 and "Partitionable Logical Disks" on page DSK-25 of *Logical & Local Disks* for details.

9. When printing to the auxiliary port on a terminal or workstation, the *prtassgn* parameter is replaced with the keyword LST1, identifying the printer assignment. No list file is actually used; Omni-Ware sends print data directly to the auxiliary port. Refer to the description of /AUX_PORT on page CFG-13 for additional information.

¹You can also boot the server from a floppy diskette containing the operating system files.

Configuration Qualifiers

A brief description of each OMNI command qualifier is given below. Subsequent pages provide a detailed description of each qualifier; one qualifier description is given per page, and the qualifiers are listed in alphabetical order.

Summary

The following table gives a list of the qualifiers for the OMNI command. The Type column indicates the type of qualifier: D for logical disk qualifiers (*dsk_qual*s), P for printer qualifiers (*prt_qual*s), or C for command qualifiers (*cmd_qual*s).

Qualifier	Type	Description	Page
/AUX_PORT	P	Specifies the auxiliary printer port.	CFG-13
/BINARY	P	Indicates binary printer output; no text conversion is performed. Default is /TEXT unless /PASSALL is included.	CFG-14
/[NO]BREAK	C	Enables/disables Break key. Default is /NOBREAK.	CFG-15
/[NO]CGA	C	Indicates whether to use CGA graphics emulation or Hercules. Ignored if server hardware does not support CGA.	CFG-16

Figure 3: Omni-Ware Qualifier Summary

Qualifier	Type	Description	Page
/[NO]CLOSE	P	Specifies whether to close the list file and create a new version when the print buffer is flushed or use a single version until the session is terminated. Default is /CLOSE.	CFG-17
/COMMAND	C	Indicates DCL command to execute whenever the Hot key is used.	CFG-18
/COPIES	P	Specifies how many copies of the list file to print. Default is one copy.	CFG-19
/DEC	P	Indicates a non-Sixel DEC printer; PC-to-DEC character translation is performed on print data.	CFG-20
/[NO]DELETE	P	Specifies whether to delete the list file after printing. Default is /DELETE.	CFG-21
/[NO]FLAG	P	Indicates whether to include a flag page before print data. Default is /NOFLAG.	CFG-22
/[NO]FLUSH	C	Selects manual or automatic print buffer flushing. Default is /NOFLUSH (auto flushing).	CFG-23
/FORM	P	Indicates the printer form to use. Default form is the default for the queue.	CFG-24
/[NO]HOT_KEY	C	Indicates whether to enable the Hot key (Ctrl-?), which spawns a VMS subprocess. Default is /NOHOT_KEY.	CFG-25

Figure 3: Omni-Ware Qualifier Summary (Continued)

Qualifier	Type	Description	Page
/[NO]HRDDSKBSY	C	Specifies whether to restrict hard disk emulation for the first drive to the primary DOS partition. Default is /NOHRDDSKBSY.	CFG-26
/IBM	P	Indicates an IBM PC-compatible printer; no PC-to-DEC character translation is performed. Default is /DEC.	CFG-27
/INPUT	C	Sends input to a Hot key subprocess.	CFG-28
/KEYMAP	C	Overrides the default keyboard mapping.	CFG-29
/LN03	P	Indicates a DEC Sixel printer, such as the LN03. IBM ProPrinter-to-Sixel conversion is performed on the print data. Default is /DEC.	CFG-30
/NO_CTRL SQ	C	Disables XON/XOFF on terminal I/O. Used only with Term-Ware.	CFG-31
/OUTPUT	C	Indicates a file name for batch output from a DOS session.	CFG-32
/[NO]PASSALL	P	Specifies whether to bypass print symbiont formatting. Default is /NOPASSALL.	CFG-33
/[NO]QUEUE	P	Specifies whether to send the list file to a VMS print queue after closing the file. Default is /QUEUE=SYSS\$PRINT.	CFG-34
/READ_ONLY	D	Indicates a read-only logical disk.	CFG-35

Figure 3: Omni-Ware Qualifier Summary (Continued)

Qualifier	Type	Description	Page
/[NO]RESET	C	Specifies whether to reset the server at the start of the session. Default is /RESET.	CFG-36
/SERVER	C	Identifies which Omni-Ware server to use.	CFG-37
/[NO]SHARE	D	Indicates whether a read-only disk can be shared by other users. Default is /NOSHARE.	CFG-38
/TEXT	P	Indicates text printer output. Text conversion is performed on print data. Default is /TEXT unless /PASSALL is included, in which case /BINARY is the default.	CFG-39
/TIMER_1 /TIMER_2 /TIMER_3	C	Control Omni-Ware's internal network timers for transmitting keyboard input.	CFG-40
/[NO]TRAILER	P	Indicates whether to include a trailer page after print data. Default is /NOTRAILER	CFG-42
/[NO]XTNPRTN	C	Specifies whether to restrict hard disk emulation for the first drive to the primary DOS partition. Default is /XTNPRTN.	CFG-43

Figure 3: Omni-Ware Qualifier Summary (Continued)

/AUX_PORT

This qualifier directs printer output to the auxiliary port on the terminal or workstation.

Because nulls are removed from the output stream, you cannot use a printer connected to the auxiliary port to produce bit-mapped graphics output. Only standard text and line drawing sets can be printed.

/AUX_PORT and /[NO]QUEUE are mutually exclusive; specify only one per OMNI command.

Syntax

```
LST1/AUX_PORT
```

Example

```
$ omni omnidosv50.1st1/aux_port/ibm -  
  /server=best_server
```

Related

- /BINARY, page CFG-14
- /DEC, page CFG-20
- /IBM, page CFG-27
- /LN03, page CFG-30
- /[NO]QUEUE, page CFG-34
- /TEXT, page CFG-39

/BINARY

This qualifier indicates that printer output is binary format. No text conversion is performed on the print data.

Syntax

/BINARY

/BINARY and /TEXT are mutually exclusive; specify only one per OMNI command.

If /BINARY and /TEXT are both omitted and /PASSALL is *not* specified, /TEXT is the default. If /PASSALL is specified, /BINARY is the default.

Example

```
$ omni omnidosv50, -  
  spoola.lis/queue=hp_sales/binary -  
  /server=best_server
```

Related

/AUX_PORT, page CFG-13
/IBM, page CFG-27
/LN03, page CFG-30
/[NO]PASSALL, page CFG-33
/[NO]QUEUE, page CFG-34
/TEXT, page CFG-39

/[NO]BREAK

The `/BREAK` qualifier defines and enables a key that terminates the Omni-Ware session. `/NOBREAK` disables the Break key, indicating that only the `BYE` or `QUIT` command is used to end the session.

If you establish a session with `/NORESET` and use the Break key to terminate it, you can resume the session by again including `/NORESET`.

This qualifier is ignored for window systems 2 and 3.

Syntax

```
/BREAK  
/BREAK=keycode  
/NOBREAK
```

where *keycode* indicates the decimal ASCII code for the key to use as the Break key; *keycode* is between 0 and 127 (inclusive). If *keycode* is omitted, 0 is assumed, designating Ctrl-Space or Ctrl-@ as the Break key. Refer to Appendix D for a table of ASCII codes.

Example

```
$ omni omnidosv50 /break/server=best_server  
$ omni omnidosv50 /break=10/server=best_server
```

Related

```
/[NO]HOT_KEY, page CFG-25  
/[NO]RESET, page CFG-36  
BYE, page DOS-4  
QUIT and QUITTSR, page DOS-23
```

[/NO]CGA

[/NO]CGA

/CGA specifies that the Omni-Ware session should use CGA graphics emulation. */NOCGA* requests Hercules graphics emulation.

The */CGA* qualifier is ignored if your server hardware does not include CGA support or if the optional VGA board is installed.

Syntax

/CGA
/NOCGA

Example

```
$ omni omnidosv50 /cga /server=serv1
```

/[NO]CLOSE

The /CLOSE qualifier indicates that the list file should be closed whenever the print buffer is flushed, and subsequent print data are stored in a new version of the list file.

/NOCLOSE indicates that the list file should *not* be closed when the buffer is flushed, and subsequent print data are appended to the same list file. In this case, a single version of the list file remains open until the Omni-Ware session is terminated.

/[NO]CLOSE is ignored when specified with /AUX_PORT. It is relevant only in conjunction with /[NO]QUEUE.

Syntax

```
/CLOSE  
/NOCLOSE
```

The default is /CLOSE.

Example

```
$ omni omnidosv50. spoola.lis/noclose/queue=2up -  
/server=best_server
```

Related

```
/[NO]FLUSH, page CFG-23  
/[NO]QUEUE, page CFG-34
```

/COMMAND

This qualifier is used with /HOT_KEY to indicate a DCL command that should be executed whenever you use the Hot key to spawn a VMS subprocess. The DCL command must be specified in double quotes.

Once the specified command finishes executing, you are returned automatically to the Omni-Ware environment.

This qualifier is ignored for window systems 2 and 3.

Syntax

```
/COMMAND="dclcmd"
```

where *dclcmd* indicates the DCL command to execute.

Example

```
$ omni omnidosv50 /hot_key/command="mail" -  
  /server=best_server
```

Related

/[NO]HOT_KEY, page CFG-25

/INPUT, page CFG-28

/COPIES

This qualifier indicates the number of copies of the list file to print. /COPIES is ignored when specified with /NOQUEUE or /AUX_PORT. It is relevant only in conjunction with /QUEUE.

Syntax

/COPIES=numcopies

where *numcopies* is a positive integer between 1 and 255 (inclusive) that indicates the number of copies.

If you omit this qualifier (or do not specify a value for the *numcopies* parameter), the default is one copy.

Example

```
$ omni omnidosv50. -  
  spoola.lis/printer=lst1/copies=5 -  
  /server=best_server
```

Related

[/\[NO\]QUEUE](#), page CFG-34

/DEC

This qualifier indicates that your printer is a non-Sixel DEC printer. PC-to-DEC character set translation is performed on print data, ensuring that multinational characters print properly.

Syntax

/DEC

The /DEC, /IBM, and /LN03 qualifiers are mutually exclusive; specify only one per OMNI command. If none of the three is specified, the default is /DEC.

Example

```
$ omni omnidosv50, spoola.lis/dec/que=post -  
  /server=best_server
```

Related

/AUX_PORT, page CFG-13
/IBM, page CFG-27
/LN03, page CFG-30
/[NO]QUEUE, page CFG-34

/[NO]DELETE

The /DELETE qualifier causes the list file to be deleted after it has printed. /NODELETE specifies that the list file should not be deleted. Using /DELETE ensures that your directory does not become cluttered with unneeded list files.

This qualifier is ignored when specified with /NOQUEUE or /AUX_PORT. It is relevant only in conjunction with /QUEUE.

Syntax

```
/DELETE  
/NODELETE
```

If /QUEUE is specified (or assumed), the default is /DELETE.

Example

```
$ omni omnidosv50, -  
  spoola.lis/nodelete/printer=lst1 -  
  /server=best_server
```

Related

/[NO]QUEUE, page CFG-34

/[NO]FLAG

/FLAG causes a flag page to be printed at the beginning of each listing. When /NOFLAG is used, no flag page is printed.

/[NO]FLAG is ignored when specified with /NOQUEUE or /AUX_PORT. It is relevant only in conjunction with /QUEUE.

A flag page is an additional page that precedes your data, showing your username and the job entry number. This information helps identify output for correct distribution.

Syntax

/FLAG
/NOFLAG

The default is /NOFLAG.

Example

```
$ omni omnidosv50, spoola.lis/printer=lst1/flag -  
/server=best_server
```

Related

/[NO]QUEUE, page CFG-34
/[NO]TRAILER, page CFG-42

/[NO]FLUSH

/FLUSH specifies that the print buffer will be flushed manually, rather than automatically. The default key for manually flushing the buffer depends on the type of workstation or terminal you have; often, it is Ctrl-Z. You can define or change the Flush key using the keyboard mapping utilities.

When using /FLUSH, premature flushing of the print buffer results in data loss. Make sure all data have been sent before flushing the buffer manually.

/NOFLUSH selects automatic flushing of the print buffer. When this qualifier is used, the printer data will be flushed after five seconds of printer I/O inactivity. The five-second interval may be re-defined with the XSET utility.

/[NO]FLUSH is ignored when specified with /AUX_PORT. It is relevant only in conjunction with /[NO]QUEUE.

Syntax

```
/FLUSH  
/NOFLUSH
```

The default is /NOFLUSH.

Example

```
$ omni omnidosv50, spoola/flush/serv=best_server
```

Related

/[NO]CLOSE, page CFG-17
XSET, page DOS-66
“Keyboard Mapping Utilities,” page VMS-22

/FORM

This qualifier specifies that a particular form name is used when printing the list file. /FORM is ignored when specified with /NO-QUEUE or /AUX_PORT. It is relevant only in conjunction with /QUEUE.

For a list of available forms, give the SHOW QUEUE /FORM command at the \$ prompt or ask your system manager.

Syntax

/FORM=formname

where *formname* is a valid form name on your system. If you specify an invalid *formname*, an error message is generated when you attempt to initiate the Omni-Ware session.

If this qualifier is absent (or the *formname* parameter is omitted), the default value is the printer queue's default form.

Example

```
$ omni omnidosv50, -  
  spoola.lis/printer=lst1/form=narrow -  
  /server=best_server
```

Related

/[NO]QUEUE, page CFG-34

/[NO]HOT_KEY

The /HOT_KEY qualifier enables the Hot key feature, which allows your Omni-Ware session to continue running while you switch back to VMS. The default Hot key is Ctrl-?; you may define a different one with the KEYUTIL keyboard mapping utility.

When you press the Hot key, a VMS subprocess is spawned. To return to Omni-Ware, give the LOGOUT command at the VMS prompt.¹

/NOHOT_KEY disables the Hot key.

This qualifier is ignored for window systems 2 and 3.

Syntax

```
/HOT_KEY
/NOHOT_KEY
```

The default is /NOHOT_KEY.

Example

```
$ omni omnidosv50 /hot_key /server=best_server
```

Related

/[NO]BREAK, page CFG-15
 /COMMAND, page CFG-18
 /INPUT, page CFG-28
 "Keyboard Mapping Utilities," page VMS-22

¹If you press Ctrl-Y after you use the Hot key, your Omni-Ware session will stop processing but will not terminate. When you give the LOGOUT command, the VMS prompt appears. Before entering anything else, give the CONTINUE command, and your Omni-Ware session will continue from the point at which you pressed Ctrl-Y.

[/NO]HRDDSKBSY

The */HRDDSKBSY* qualifier is required when using older OmniWare hardware with certain BIOS programs, such as some versions of the Phoenix BIOS.

These BIOS programs test the hard disk controller in an unusual way. In order for OmniWare to respond as the BIOS expects, you must include */HRDDSKBSY* when you initiate the session; otherwise there will appear to be no hard disk installed on the server.

This qualifier is only needed if you boot the server from logical disk.

If you purchased your OmniWare hardware with version 1.66 or later, you should not need the */HRDDSKBSY* qualifier. If, however, you purchased your hardware with an earlier OmniWare version and you use one of the affected BIOS programs, you will need */HRDDSKBSY* regardless of the OmniWare software version you have.

Syntax

/HRDDSKBSY
/NOHRDDSKBSY

The default is */NOHRDDSKBSY*.

Example

```
$ omni omnidosv50 /hrddskbsy /server=serv1
```

/IBM

This qualifier indicates that your printer is an IBM PC-compatible printer, rather than a Sixel or other DEC printer. PC-to-DEC character set translation is *not* performed on print data, ensuring that multinational characters print properly.

Syntax

/IBM

The /DEC, /IBM, and /LN03 qualifiers are mutually exclusive; specify only one per OMNI command. If none of the three is specified, the default is /DEC.

Example

```
$ omni omnidosv50, -  
  spoola.lis/printer=lst1/queue=proprinter -  
  /ibm/binary, -  
  /server=best_server
```

Related

/AUX_PORT, page CFG-13
/BINARY, page CFG-14
/DEC, page CFG-20
/LN03, page CFG-30
/[NO]QUEUE, page CFG-34

/INPUT

This qualifier specifies the name of a file containing input data for a Hot key subprocess.

If /INPUT is used *without* the /COMMAND qualifier, the input file is treated as a command procedure, and the commands in the file are executed. If used *with* the /COMMAND qualifier, the input file is treated as data for the DCL command indicated with /COMMAND.

In either case, you are returned to your DOS session after the commands finish executing.

This qualifier is ignored for window systems 2 and 3.

Syntax

/INPUT=filespec

where *filespec* indicates the name of the input file.

Example

```
$ omni omnidosv50 /hot_key/input=data.com -  
  /server=best_server
```

Related

/COMMAND, page CFG-18
/[NO]HOT_KEY, page CFG-25

/KEYMAP

This qualifier lets you override the default keyboard mapping for your workstation or terminal.

Syntax

```
/KEYMAP=filename
/KEYMAP=dirname
```

where *filename* is the name of the file created using a keyboard mapping utility, and *dirname* is the name of a directory containing keyboard data files.

You may specify a directory path as part of *filename*.

If you specify the *dirname* parameter, Omni-Ware looks for the appropriate default file (with file extension or type .MD2) in the specified directory. This feature allows you to modify copies of the keyboard files provided with the Omni-Ware distribution, store them in your own directory, and have Omni-Ware automatically load one of them depending on the type of workstation or terminal you are using.

Examples

```
$ omni omnidosv50, windows, mydisk -
  /keymap=[.kybds]test1/server=best_server

$ omni omnidosv50, windows, mydisk -
  /keymap=tweety$user:[mydir.kybds] -
  /server=best_server
```

Related

“Keyboard Mapping Utilities,” page VMS-22
 “Keymap Directory File,” page SMG-19

/LN03

This qualifier indicates that your printer is a DEC Sixel printer, such as the LN03 or LN03PLUS. When /LN03 is specified, OmniWare performs IBM ProPrinter-to-Sixel conversion and PC-to-DEC character set translation on print data, which lets you access most printer features from the PC session. Within your PC applications, define the printer as an IBM ProPrinter.

Include the /BINARY qualifier when using /LN03 to ensure that graphics are processed properly.

If neither /LN03 nor /IBM is specified, the printer is assumed to be a non-Sixel DEC printer. In this case, PC-to-DEC character set translation is performed on print data. The /LN03 qualifier should *not* be used when printing to a non-Sixel LN03 printer, such as the LN03R. Instead, specify /DEC.

Syntax

/LN03

The /DEC, /IBM, and /LN03 qualifiers are mutually exclusive; specify only one per OMNI command. If none of the three is specified, the default is /DEC.

Example

```
$ omni sys$omniware:omnidosv50/share, -  
  spoola.lis/ln03/binary/queue=ln03$lta2 -  
  /server=best_server
```

Related

/AUX_PORT, page CFG-13

/BINARY, page CFG-14

/DEC, page CFG-20

/IBM, page CFG-27

/[NO]QUEUE, page CFG-34

/TEXT, page CFG-39

/NOCTRL_SQ

- ▲ **Important:** Use this qualifier *only* when you have a PC running Logcraft's Term-Ware product!

This qualifier indicates that no XON/XOFF should be done on terminal I/O; that is, Omni-Ware will ignore any ^S and ^Q characters that control output to your terminal screen.

With /NOCTRL_SQ, you can still press Ctrl-S and Ctrl-Q to pause and resume the display. However, this action will be interpreted *only* by the terminal. Any data sent by the Omni-Ware server will be lost unless it is buffered by the terminal.

This qualifier is ignored for window systems 2 and 3.

Syntax

```
/NOCTRL_SQ
```

Example

```
$ omni omnidosv50 /noctrl_sq /server=best_server
```

/OUTPUT

The /OUTPUT qualifier is used with batch (non-interactive) processes.

With a batch job, the output that would otherwise be displayed on a terminal screen is written to a VMS file. The /OUTPUT qualifier indicates the name of the file. Because the output file includes screen positioning escape sequences, it should not be printed.

This qualifier is ignored when submitted from an interactive process. It takes effect only when the OMNI command is issued from a batch job.

Syntax

/OUTPUT=filespec

where *filespec* indicates the name of the batch output file; it may be any valid VMS file specification to which you have write access. The file is created in SYS\$LOGIN (your login directory) unless you include directory and/or device information as part of *filespec*. If you omit *filespec*, the default output file is SYS\$LOGIN:BATCH.SCRIPT.

Example

```
$ omni omnidosv50 /output=screen.sav -  
  /server=best_server
```

/[NO]PASSALL

The /PASSALL qualifier indicates that when the list file is queued automatically to the VMS print queue, the VMS PRINT command's /PASSALL qualifier should be specified.

/PASSALL bypasses symbiont formatting; use it to prevent graphics data from becoming garbled, particularly when printing to a non-DEC printer, such as an HP LaserJet.

/[NO]PASSALL is ignored when specified with /NOQUEUE or /AUX_PORT. It is relevant only in conjunction with /QUEUE.

For additional information, refer to DEC's documentation or on-line help regarding the VMS PRINT command's /[NO]PASSALL qualifier.

Syntax

```
/PASSALL  
/NOPASSALL
```

The default is /NOPASSALL. If /PASSALL is specified and neither /BINARY nor /TEXT is included, /BINARY is assumed.

Example

```
$ omni omnidosv50, spoola/que=laser/passall -  
  /server=best_server
```

Related

```
/BINARY, page CFG-14  
/[NO]QUEUE, page CFG-34  
/TEXT, page CFG-39
```

/[NO]QUEUE

The /QUEUE qualifier specifies that when the list file is closed, it should be queued automatically to a VAX/VMS print queue. /NOQUEUE specifies that the list file should not be queued automatically.

Syntax

```
/QUEUE=queuename  
/NOQUEUE
```

where *queue*name is the name of a valid VMS queue. If you omit this qualifier (or you do not specify a value for the *queue*name parameter), the default is /QUEUE=SYS\$PRINT.

/[NO]QUEUE and /AUX_PORT are mutually exclusive; specify only one per OMNI command.

Example

```
$ omni omnidosv50, -  
  spoola.lis/queue=post/flag -  
  /server=best_server
```

Related

/BINARY, page CFG-14	/IBM, page CFG-27
/[NO]CLOSE, page CFG-17	/LN03, page CFG-30
/DEC, page CFG-20	/[NO]PASSALL, page CFG-33
/[NO]DELETE, page CFG-21	/TEXT, page CFG-39
/[NO]FLAG, page CFG-22	/[NO]TRAILER, page CFG-42
/[NO]FLUSH, page CFG-23	

/READ_ONLY

This qualifier indicates that the logical disk is read-only, rather than read/write.

Syntax

ldisk /READ_ONLY

where *ldisk* is the disk to make read-only.

If you specify a logical disk with neither this qualifier nor /SHARE, read/write access is assumed.

Example

```
$ omni sys$omniware:omnidosv50 /read_only, -  
  dosdisks:lotus/share, sys$login:dosdata -  
  /server=best_server
```

Related

/[NO]SHARE, page CFG-38

/[NO]RESET

The /NORESET qualifier prevents the Omni-Ware server from resetting at the start of a user session, if possible. Use this qualifier in conjunction with the QUIT or QUITTSR command.

/NORESET is ignored if this is the first session established on the server since it was powered up or if the previous session was terminated with the BYE command.

You can include /NORESET to continue a session that was terminated by selecting the Quit item from the File pull-down menu or with the Break key, or one that was accidentally aborted (e.g., by killing the X window for the session), provided that the original session was established with /NORESET.

The Info utility indicates whether the previous session on a server was terminated with QUIT.

/RESET causes the server to reset before starting the user session, even if the previous user ended his or her session with QUIT.

Syntax

/RESET
/NORESET

The default is /RESET.

Example

```
$ omni /noreset /server=serv1
```

Related

/[NO]BREAK, page CFG-15
QUIT and QUITTSR, page DOS-23
"The Info Utility," page VMS-20
"File Menu," page CFG-60

/SERVER

This qualifier identifies the server to use for your Omni-Ware session.

Syntax

```
/SERVER=srvname  
/SERVER=ethaddr  
/SERVER=srvgroup  
/SERVER=BEST_SERVER
```

Include the *srvname* parameter to indicate the name of the server you want to use. For XNS servers, you can specify the Ethernet address of the server, rather than the name, if you prefer.

To use the least busy server in a server group, specify the logical name associated with the group.

If you use /SERVER=BEST_SERVER, your session will be established on the least busy 386Ware server available.

Examples

```
$ omni omnidosv50 /server=serv1  
$ omni omnidosv50 /server=00-00-4f-00-20-23  
$ omni omnidosv50 /server=mktng_srvrs  
$ omni omnidosv50 /server=best_server
```

Related

“Balancing Server Load,” page SMG-17

[/NO]SHARE

/SHARE specifies that a logical disk is read-only and can be shared with other users. /NOSHARE specifies that a logical disk cannot be shared with other users.

The /SHARE qualifier allows you to store software or common data files in a single location for use by more than one user, provided that the users do not require write access to the files.

The /NOSHARE qualifier, in conjunction with /READ_ONLY, is useful for providing read-only access to applications software for which you have only a single-user license. By specifying both /READ_ONLY and /NOSHARE, you ensure that only one user can access the software at a time.

Syntax

ldisk/SHARE

ldisk/READ_ONLY/NOSHARE

where *ldisk* indicates which disk to set read-only and shareable or not shareable. Note that /SHARE implies /READ_ONLY; you do not need to include both qualifiers.

The default is /NOSHARE.

Example

```
$ omni sys$omniware:omnidosv50 /share, -  
  dosdisks:acctg/read/noshare, -  
  sys$login:dosdata/server=best_server
```

Related

/READ_ONLY, page CFG-35

/TEXT

This qualifier specifies that printer output sent to the list file is in text format. DOS to VMS text conversion is performed on this data to match the VMS text record format.

Syntax

/TEXT

/TEXT and /BINARY are mutually exclusive; specify only one per OMNI command.

If /TEXT and /BINARY are both omitted and /PASSALL is *not* specified, /TEXT is the default. If /PASSALL is specified, /BINARY is the default.

Example

```
$ omni omnidosv50. spool.lis/text -  
  /server=best_server
```

Related

/BINARY, page CFG-14
/[NO]PASSALL, page CFG-33

/TIMER_1, /TIMER_2, /TIMER_3

These qualifiers specify the values, in milliseconds, for OmniWare's three keyboard timers. The timers are relevant only if you use a VT terminal.

- **Timer 1.** When you press a terminal key, OmniWare pauses to see if you type any more; if so, OmniWare can send the keystrokes as a single transmission, reducing network load. The length of the pause is determined by the first timer. The longer the pause, the more likely it is that keystrokes can be transmitted together; however, a longer pause also results in a delay between the time you press a key and the time you see the character on the screen.
- **Timer 2.** Some keys on VT terminals produce key sequences that identify the key you pressed. The second timer specifies how long OmniWare waits to receive a complete key sequence. If OmniWare does not receive a complete sequence from the terminal before the timer expires, it sends whatever has been received so far.
- **Timer 3.** With a PC, a value is returned when a key is pressed and again when it is released. ANSI terminals, however, return a value only when a key is pressed. The third timer designates the time before a key is considered to be released.

If you set the timer values too low, the result will be poor network performance. If the values are too high, there will be an unreasonable delay between the time a key is pressed and the time it is echoed to the screen.

The OmniWare start-up file sets system-wide default values for the timers by defining logical names in the logical name table LOGICRAFT_PARAM_TABLE. To change the timer values for all sessions, edit the start-up file accordingly. Use /TIMER_1, /TIMER_2, or /TIMER_3 to specify a different value for a specific DOS session. /TIMER_1 and /TIMER_2 are ignored unless you have SYSNAM privilege.

Syntax

```
/TIMER_1=timer1  
/TIMER_2=timer2  
/TIMER_3=timer3
```

where *timer1*, *timer2*, and *timer3* specify the values for OmniWare's three timers in milliseconds. For *timer1*, specify a value between 30 and 500 (inclusive). For *timer2*, specify a value between 500 and 5000 (inclusive). For *timer3*, specify a value between 30 and 5000 (inclusive).

As mentioned, the defaults are defined in the OmniWare start-up file; usually, they are 30 for `/TIMER_1`, 100 for `/TIMER_2`, and 250 for `/TIMER_3`.

Examples

```
$ omni omnidosv50 /timer_3=900/server=best_server  
$ omni omnidosv50 /timer_1=75 /timer_2=125 -  
  /server=serv1
```

`/[NO]TRAILER`

`/TRAILER` causes a trailer page to be printed at the end of each listing. `/NOTRAILER` indicates that no trailer page is printed.

`/[NO]TRAILER` is ignored when specified with `/NOQUEUE` or `/AUX_PORT`. It is relevant only in conjunction with `/QUEUE`.

A trailer page is an additional page that follows your data, showing your username and the job entry number. This information helps identify output for correct distribution.

Syntax

```
/TRAILER  
/NOTRAILER
```

The default is `/NOTRAILER`.

Example

```
$ omni omnidosv50 -  
  spoola.lis/que=ansi/noflag/trailer -  
  /server=best_server
```

Related

```
/[NO]FLAG, page CFG-22  
/[NO]QUEUE, page CFG-34
```

/[NO]XTNPRTN

The /NOXTNPRTN qualifier is *required* in the following circumstances to ensure correct operation:

- when using DOS version 4.01 or later to FDISK and FORMAT a partitionable logical disk created with the DOSMAKE /PARTITION command. Once the disk partitions have been formatted, you do not need this qualifier to use the disk with Omni-Ware.
- when booting from a standard logical disk and using FDISK to partition a secondary local hard disk.
- when *installing* OS/2. Once OS/2 is installed, you do not need to include this qualifier to use OS/2 with Omni-Ware.

You should only need /NOXTNPRTN when using logical disks on the *primary* disk controller. If you boot the server from a local hard disk, do *not* use this qualifier.

The /NOXTNPRTN (no extended partitions) qualifier effectively restricts the hard disk emulation for the first drive to the primary DOS partition. If the disk mounted on the first drive is a partitionable logical disk, you will not be able to access any logical drives in this disk's extended partition. If standard logical disks are mounted, only the first disk is recognized (because all standard logical disks except the first appear as logical drives in the extended partition.)

- ▲ **Important:** If you configure two or more standard logical disks *and* you include /NOXTNPRTN when establishing the session, all of the disks are mounted, even though you can access only the first disk. The SHOW DISKS utility will display information about all of the disks, and any disk configured for exclusive access will be unavailable to other users.

The FDISK utility included with DOS version 4.01 and later attempts to locate all extended partitions of any configured drives.

//NOXTNPRTN

If you boot the server with a standard logical disk, then invoke FDISK, you will see “unable to access drive” errors. To avoid these errors, include /NOXTNPRTN when you establish the session. Alternatively, you can mount four standard logical disks; this ensures that FDISK will find all of the drive letters it expects to find in the extended partition.

- ▲ **Important:** The drive access errors reported by FDISK are not an indication that anything is wrong with your disk. If you forget /NOXTNPRTN, you can “ignore” the error messages and continue your session.

The installation program for OS/2 tests for the presence of extended partitions in an unusual way and can fail when used with Omni-Ware. Configuring the Omni-Ware session with /NOXTNPRTN allows you to perform the OS/2 installation. Once installed, you do not need to include this qualifier to use OS/2 with Omni-Ware.

For additional information, refer to “More about Logical Disks” on page DSK-17, “Using Both Logical Disks and a Local Hard Disk” on page DSK-12, and “Partitionable Logical Disks” on page DSK-25 of *Logical & Local Disks*.

Syntax

```
/XTNPRTN  
/NOXTNPRTN
```

The default is XTNPRTN.

Examples

```
$ omni disk_os2 /noxtnpnrtn /server=serv1  
$ omni omnidosv50, physdisk -  
  /noxtnpnrtn /server=serv2
```

Pull-Down Menus

As mentioned earlier, you can use the window system 2 pull-down menus to configure your Omni-Ware session. These menus allow you to take advantage of some options that are specific to window system 2.

Unless you indicate otherwise, window system 2 is the default if you have a workstation or X terminal. Refer to “Logicraft Window Systems” on page CFG-2 for information on the three available window systems.

To use the pull-down menus, give the following command:

```
$ omni
```

To edit an existing command procedure, choose Load... from the File menu, then type in the name of the file you want to edit.

Overview

The pull-down menus use standard “widgets,” including push buttons, option buttons, sliders and scales, text entry fields, and toggle buttons. You should be familiar with the operation of these items and with using your workstation or X terminal and mouse.

Most of the dialog boxes include push buttons labeled OK, Apply, Reset, and Dismiss or Cancel. The following table describes these buttons.

Button	Description
OK	Stores the changes you've made in the dialog box and files the screen away. Click OK if all the changes you have made are correct and you're ready to return to the previous window.
Apply	Stores the changes you've made in the dialog box, but does not file the screen away. Click Apply if you want to store the current changes and then make additional changes.
Reset	Restores the dialog box to the default settings (the settings that were displayed initially). In other words, the screen looks as it did when you first opened it. You can then start all over again to make any changes.
Dismiss or Cancel	Discards any changes you've made since you opened the dialog box (or since you clicked the Apply button) and files away the screen.

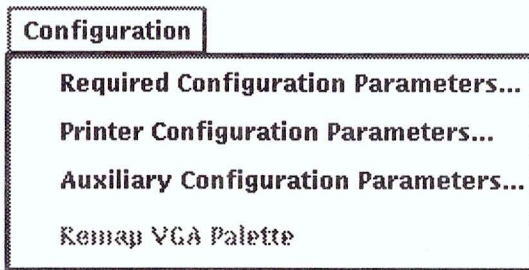
Figure 4: Pull-Down Menu Buttons

The following pages give detailed information about the pull-down menus. Each dialog box from each of the menu items is shown, and its fields are explained. The sample screens are for Motif, unless otherwise noted. The screens for DECwindows have a similar appearance and contain the same fields, unless the text indicates otherwise.

Where appropriate, the corresponding configuration qualifiers are given for the dialog box prompts.

Configuration Menu

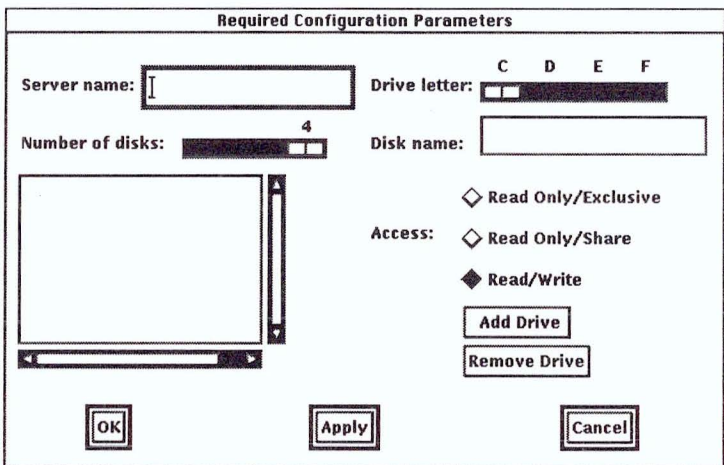
The Configuration Menu looks like this:



Each of the items on this menu is discussed below.

Required Configuration Parameters...

The Required Configuration Parameters dialog box is used to specify the server name and the logical disks for the PC session. This dialog box looks like the following:



Disk Name

Indicates the file specification for the logical disk you want to include in your file. If the file type or extension is .DOS or .DSK, you can omit it.

Access

Specifies the disk access protection for this logical disk. The options are:

Read/Write. Allows you to read information from and store information on the disk with no restrictions. Only one person can use the disk at a time.

Read Only/Exclusive. Allows you to read information from the disk, but you cannot save data on it. Exclusive access means that only one person can use the disk at a time. Corresponding qualifier: /READ_ONLY (page CFG-35).

Read Only/Share. Allows you to read information from the disk, but you cannot save data on it. Share access means that more than one user is allowed to read information from the disk at the same time. Corresponding qualifier: /[NO]SHARE (page CFG-38).

Drive Letter

Specifies which drive letter to associate with the logical disk named in the Disk Name field. Unless you boot the server from a local hard disk or floppy drive, the disk associated with the C: drive must be a bootable system disk (i.e., it must contain the PC operating system files).

Number of Drives/Disks

This slider is used for other Logcraft products and has no effect for Omni-Ware.

Server Name

Indicates the name of the Omni-Ware server on which to establish the session. If you have XNS servers, you can specify the Ethernet address instead of the name.

You can also specify a logical name that defines a server group, requesting a session on the least busy member of the group. Server groups are discussed in "Balancing Server Load" on page SMG-17 of *System Manager's Guide*.

To request a session on the least busy available server, specify the keyword `BEST_SERVER`. This keyword is resolved to an actual server name when you click OK or Apply, and the actual name is stored if you save the configuration.

If the `BEST_SERVER` cannot be resolved, an error is displayed. Try entering `BEST_SERVER` again for the server name, then click OK; often this will solve the problem. However, the "unable to resolve" message may reappear. In this case, enter an actual server name.

Corresponding qualifier: `/SERVER` (page CFG-37).

Add/Remove Drive Buttons

When you have specified the Logical Disk Name, Access, and Current Drive letter, click the **Add Drive** button to add the information to your configuration. You can then enter information for another logical disk, up to the maximum of four disks.

To *remove* a disk from your configuration, highlight the disk you want to remove by clicking the mouse on the disk information in the box next to the Add and Remove buttons, then click the **Remove Drive** button.

Printer Configuration Parameters...

The Printer Configuration Parameters dialog box is used to specify information for printing from the Omni-Ware session. This dialog box looks like the following:

Printer Configuration Parameters

LST Device LST1
 LST2

Queue
Output option No queue
 Aux

Close after flush

List file name

Form of output Text
 Binary

Printer type DEC LN03 Printer
 DEC Printer (other)
 IBM Compatible Printer

SYS\$PRINT
Printer queue

1
Number of copies

LOGICRAFT_DEFAULT_FORM
Printer form

Delete upon queue completion
 Print flag page
 Print traller page
 Ignore printing format

OK Apply LST1 Reset LST1 Cancel

LST Device

Indicates the printer assignment you are configuring. For Omni-Ware, only the LST1 printer assignment is relevant.

Output Option

Determines what happens to your printer output once the list file is closed:

Queue. Directs output to a VMS print queue. Corresponding qualifier: `/[NO]QUEUE` (page CFG-34).

No Queue. Saves printer output in the list (spool) file name you specify. If you select No Queue, many of the items in the dialog box disappear, as they are no longer relevant. Corresponding qualifier: `/[NO]QUEUE` (page CFG-34).

Aux Port. Directs output to a printer attached to the auxiliary port on your workstation or X terminal. If you select Aux Port, many of the items in the dialog box disappear, as they are no longer relevant. Corresponding qualifier: `/AUX_PORT` (page CFG-13).

Close after Flush

Indicates whether the list file should be closed whenever the print buffer is flushed.

Toggle On. The list file is closed, and subsequent print data are stored in a new version of the list file.

Toggle Off. The list file is not closed, and subsequent print data are appended to the same list file. In this case, a single version of the list file remains open until the PC session is terminated.

Corresponding qualifier: `/[NO]CLOSE` (page CFG-17).

List File Name

Specifies the name of the VMS file that contains your printer output before it is actually printed. You may indicate any valid VMS file specification to which you have write access.

Printer Type

Indicates the type of printer:

DEC LN03. Indicates a Sixel printer. Corresponding qualifier: `/LN03` (page CFG-30).

IBM Compatible. Indicates an IBM PC-compatible printer. Corresponding qualifier: `/IBM` (page CFG-27)

DEC Printer (Other). Indicates a printer other than a Sixel or PC-compatible. Corresponding qualifier: /DEC (page CFG-20).

Specify the appropriate type of printer so that multinational characters and other special characters are printed correctly.

Form of Output

Indicates the type of printer output.

Text. For ASCII text files. Corresponding qualifier: /TEXT (page CFG-39).

Binary. For files containing graphics and/or special control sequences. Corresponding qualifier: /BINARY (page CFG-14).

Printer Queue

Indicates the name of the VMS queue to use when printing the list file. The default is SYS\$PRINT. Corresponding qualifier: /[NO]QUEUE (page CFG-34)

Number of Copies

Specifies how many copies of the list file to print. The default number is 1. Use the slider to change the number. The maximum number of copies is 255. Corresponding qualifier: /COPIES (page CFG-19).

Printer Form

Indicates the VMS form name to use when printing the list file. The default form is LOGICRAFT_DEFAULT_FORM, which represents the default printer form for the print queue you specify. If you specify an invalid form name, an error message is displayed. Corresponding qualifier: /FORM (page CFG-24).

Delete upon Queue Completion

Indicates whether the list file should be deleted after it is printed. Corresponding qualifier: `/[NO]DELETE` (page CFG-21).

Print Flag Page/print Trailer Page

Indicate whether a flag or trailer page should be added to the beginning or end of your print job to identify and separate your output from the output of other users. Corresponding qualifiers: `/[NO]FLAG` (page CFG-22) and `/[NO]TRAILER` (page CFG-42).

Ignore Printer Formatting

Indicates whether printer output from the Omni-Ware session should be interpreted by the VMS print symbiont.

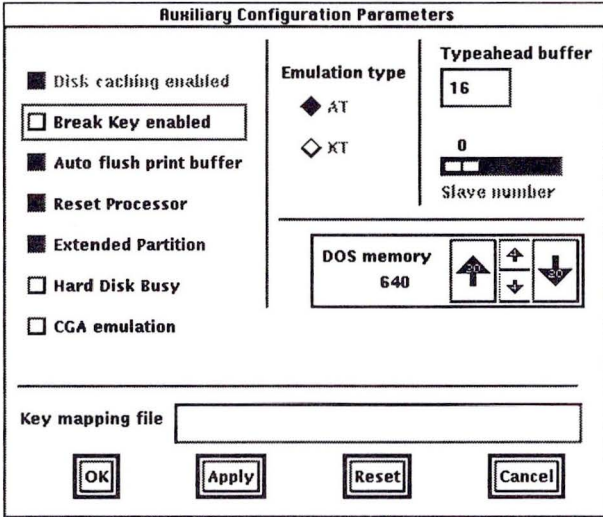
Toggle On. The VMS print symbiont does *not* interpret the PC printer output; it ignores any printer formatting. If you choose this option, specify Binary for "Form of output." This selection is equivalent to the `/PASSALL` qualifier for the VMS PRINT command.

Toggle Off. The VMS print symbiont interprets PC printer output.

Corresponding qualifier: `/[NO]PASSALL` (page CFG-33).

Auxiliary Configuration Parameters...

The Auxiliary Configuration Parameters dialog box is used to set additional configuration options; most users do not need to change the default settings. The dialog box looks like this:



- ◇ **Note:** A few items in this dialog box are dimmed or inoperable; they are used with other Logcraft products and are not relevant to Omni-Ware.

Break Key Enabled

Indicates whether to enable the Break key, which lets you terminate your session when you are unable to exit with the BYE command. Corresponding qualifier: /[NO]BREAK (page CFG-15).

Although you can configure the Break key within this dialog box, you cannot use it in window system 2 or 3, which ignore the Break key. However, if you save the configuration, then use it to establish a session in window system 0, you will be able to use the Break key.

Auto Flush Buffer

Indicates whether to flush the print buffer automatically.

Toggle On. Omni-Ware waits five seconds¹ after printing stops, then flushes the buffer.

Toggle Off. Disables automatic flushing of the print buffer. In this case, you flush the print buffer manually with the Flush key. (The default Flush key depends on your terminal type; often, it is Ctrl-Z²).

▲ **Important:** If you flush the buffer too soon, you will lose some of your print data.

Corresponding qualifier: `/[NO]FLUSH` (page CFG-23).

Reset Processor

Indicates whether to reset the Omni-Ware processor when the session is started. If the toggle is *on*, the processor is reset. Turn the toggle *off* to continue a previous session, if possible. Corresponding qualifier: `/[NO]RESET` (page CFG-36).

Extended Partition

To ensure correct operation, set this toggle off in the following situations:

- when installing OS/2.
- when using FDISK with DOS version 4.01 or higher.
- when mounting a partitionable logical disk that has not yet been partitioned and formatted with FDISK and FORMAT.

For further information, refer to the description of `/[NO]XTNPRTN` (page CFG-43).

¹You can change the five-second timer value by using XSET at the DOS prompt. Refer to page DOS-66 of *Utilities & Drivers for DOS* for information on this utility.

²You can redefine the Flush key. For details, refer to “Keyboard Mapping Utilities” on page VMS-22 of *Utilities for VMS*.

Hard Disk Busy

Set this toggle on when using Omni-Ware with certain BIOS programs. The toggle is necessary only for older Omni-Ware servers. For further information, refer to the description of `/[NO]HRDDSKBSY` (page CFG-26).

CGA Emulation

Indicates whether to use CGA emulation. Set the toggle *on* for CGA or *off* for Hercules. This option is ignored if your server hardware does not include CGA support or if you have the optional VGA board. Corresponding qualifier: `/[NO]CGA` (page CFG-16).

Key Mapping File

Indicates the name of a keyboard mapping file created with one of the keyboard mapping utilities. If the file is not in the current VMS directory, include appropriate device/directory information as part of the file specification. If you do not specify a file, the default mapping for your terminal or workstation is used. Corresponding qualifier: `/KEYMAP` (page CFG-29).

VGA Remap Palette

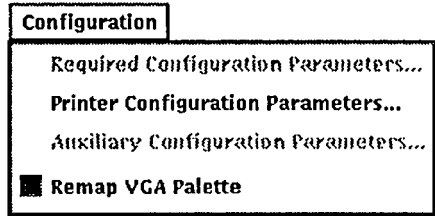
This item can only be selected after you have established a session on an Omni-Ware server that has the optional VGA board.

If you run PC software that uses all of the available colors on your X terminal or workstation, the Omni-Ware window takes over these colors, and other windows on your screen may become unreadable.

To avoid this situation, pull down the Configuration menu and select VGA Remap Palette. When this toggle is on, Omni-Ware uses any available colors for its own display without tampering with the colors in other windows. Instead, Omni-Ware remaps PC colors as necessary to the closest available colors.

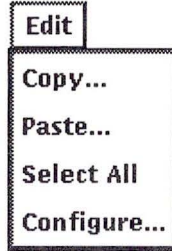
When remapping is enabled, the VGA Remap Palette item on the Configuration menu includes a toggle box, as shown.

You can disable remapping at any time by selecting VGA Remap Palette again. Omni-Ware will then use true VGA colors for the PC window.



Edit Menu

The first three options on the Edit menu are used to copy information within a window or from one window to another.



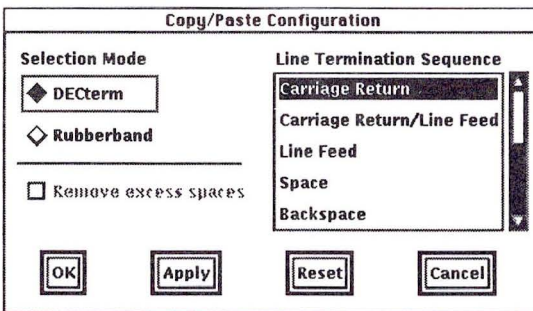
- Choose **Copy** to copy selected text to the clipboard.
- Choose **Paste** to insert the contents of the clipboard at the current cursor position.
- Choose **Select All** to copy the window's entire contents to the clipboard.

The **Configure...** option indicates how copy/paste works; it is described below.

For information on copying and pasting techniques, refer to "Using Copy and Paste" on page UG-8 of *User's Guide*.

Configure...

Selecting **Configure...** brings up the Copy/Paste Configuration dialog box, which looks like this:



Selection Mode

Indicates which copy/paste mode to use:

DECTerm or Standard. This mode allows you to copy the complete window or selected contiguous rows of the window to the clipboard. You cannot define the left and right margins of the selected rows; they are set to the left and right edges of the window.

Rubberband. This mode lets you copy selected contiguous columns of the window to the clipboard, allowing you to copy columns of data or text that are not the full width of the screen. If you select Rubberband, the "Remove excess spaces" toggle button is no longer dimmed.

Line Termination Sequence

Indicates the sequence to put at the end of each line when the data is initially copied to the clipboard. In DECTerm or standard mode, the last line copied is not given a line termination sequence.

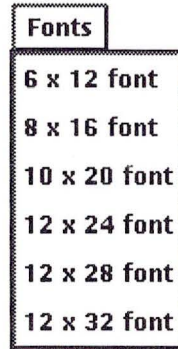
Remove Excess Spaces

If this toggle is *on*, all of the spaces and non-visible characters prior to the first text character and after the last text character on every selected line are removed.

Fonts Menu

The options on the Fonts menu allow you to select the size of the font displayed in your window. Each option describes the width and height of the characters in pixels. For example, characters in the 6 x 12 font are 6 pixels wide by 12 pixels high. If you do not select otherwise, the 8 x 16 font is used.

When you select a font, the window is automatically resized to accommodate the new character size. For example, if you select the 6 x 12 font, the window is resized to the smallest size; if you select the 12 x 32 font, the window almost fills the screen.

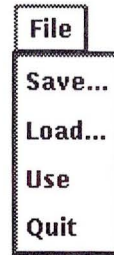


File Menu

The items on the File menu are used to save the current session configuration, load a configuration saved earlier, use the current configuration to establish a session, and quit the current session. These items are discussed below.

Save...

This option saves the entire set of configurations (as currently identified with the Configuration menu options) in the file name you specify. You may indicate any valid VMS file specification to which you have write access. Unless you indicate otherwise, the default file type is .COM.



Load...

This option restores a configuration you have already created. You can then establish an Omni-Ware session based on that configuration (by selecting Use from the File menu, as described below), or you can change or add information.

If you have changed any of the default parameters on the configuration menus, Selecting Load... changes these values to the ones in the loaded file.

Use

This option establishes an Omni-Ware session using the configuration parameters you have defined (with the other pull-down menus). You can select this option to use the current configuration even if you have not saved it.

Once you select "Use," you cannot change the required or auxiliary configuration parameters without first ending your Omni-Ware session. You are allowed to change the printer configuration parameters and the copy/paste configuration.

Quit

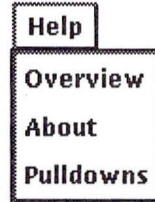
This option closes the MS-DOS window:

- If you have established an actual Omni-Ware session with the Reset Processor toggle *on*, selecting Quit is equivalent to the BYE command, discussed on page DOS-4 of *Utilities & Drivers for DOS*.
- If the session was established with the Reset Processor toggle *off* (or with the /NORESET configuration qualifier), this action is equivalent to the QUIT command, described on page DOS-23, which allows you to resume the session later. Refer also to the description of /NORESET on page CFG-36.

The Reset Processor toggle is discussed on page CFG-55.

Help Menu

The Help menu brings up the DECwindows Help facility and includes these options:



- **Overview.** Opens a Help window that contains an overview of Omni-Ware.
- **About.** Opens a Help window that contains general information about Omni-Ware.
- **Pulldowns.** Opens a Help window that contains information on the pull-down menus available in window system 2. Additional topics discuss each of the dialog boxes.

Each of these three options brings up a Help window with the following items on the menu bar:

- **File Menu.** Includes options to exit from Help or save Help text in a file.
- **Edit Menu.** Includes options to Copy selected text to the clipboard or Select All text in the window.
- **View Menu.** Includes options to go to the topic selected in the Additional Topics list, go back to the previous topic, or go to the Overview.
- **Search Menu.** Includes options to search for a topic, a title, or a keyword. For example, you could list all topics related to printing or copy and paste.
- **Using Help Menu.** Gives information about using the DECwindows Help facility.

For more information about the Help window's menu options and for information on the DECwindows Help facility in general, refer to DEC's documentation.

LOGICRAFT

LOGICAL & LOCAL DISKS

Omni-Ware for VMS

*Release 2.0
October 8, 1992*

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Introduction

This section discusses how Omni-Ware provides for disk storage. A number of concepts are introduced and explained in detail; depending on your server configuration, some sections may not apply to you.

The following table summarizes the topics in this section.

Topic	Page
Overview. Explains some basic concepts and terms.	DSK-2
Booting from Logical Disk. Discusses what you need to know if you boot from logical disks, including how to create a bootable standard logical disk.	DSK-6
Booting from Local Disk. Discusses what you need to know if you boot from a local hard disk.	DSK-10
Using Both Logical Disks and a Local Hard Disk. Explains how to access both logical disks and a local hard disk, regardless of which boots the server.	DSK-12
More about Logical Disks. Explains some of the concepts and terminology used with PC hard disks, discusses how Omni-Ware's disk emulation fits the PC model, and introduces partitionable logical disks.	DSK-17
Partitionable Logical Disks. Discusses how to configure, partition, format, and use partitionable logical disks.	DSK-25

Figure 1: Summary of Topics, Logical and Local Disks

Overview

One of Omni-Ware's most flexible features is its mechanism for providing disk storage. Three scenarios are possible:

- If your server does not have its own local hard disk, you use *logical disks* to store PC files, including operating system, applications software, and user data.
- If your server has a hard disk, you can boot the server from the hard disk and use logical disks for additional storage.
- If the server has a hard disk, you can boot the server from a logical disk and access the local disk for additional storage.

Logical Disks

A *logical disk* is a VMS file that has been initialized to emulate a PC hard disk for use with Omni-Ware. Unless you plan to boot the Omni-Ware server from a local hard disk (or from floppy), each user needs access to a bootable logical disk containing the PC operating system files. Logical disks are also used to store individual work and PC applications software.

Omni-Ware supports two types of logical disks. The first type, called a *standard logical disk*, emulates a single partition or logical drive of a fixed disk and can be from 360 kilobytes to 32 megabytes. These disks are suitable for most purposes. The second type, called a *partitionable logical disk*, emulates an entire PC/AT fixed disk and can be from one to 480 megabytes. This type of disk may be required to use certain software applications.

For information on booting the Omni-Ware server from logical disk, refer to "Booting from Logical Disk" on page DSK-6.

Local Hard Disk

If your server includes a local hard disk, you need to decide whether to boot the server from the hard disk or from logical disks.¹

You should also determine what types of data (applications, user files, etc.) will be stored on the hard disk. In making this decision, keep in mind that the local disk provides faster access and improved performance compared with logical disks. However, all users have access to all of the files on the hard disk. With logical disks, you can take advantage of VMS security mechanisms (e.g., file protections and ACLs) to control access.

Disk Storage for Users

Each user will need some place to store his or her own work (PC data and document files). If your server has a local hard disk, users can store their personal work there, or they can use logical disks.

If your server does not have a local hard disk, each user will need at least one logical disk for personal work.

Because a logical disk is a VMS file, it takes up space in its VMS directory. You will need at least 360 kilobytes to create a logical disk; this size is equivalent to a standard 360K PC floppy diskette. A logical disk occupies *all* of the disk space assigned to it, regardless of how much of the disk is occupied by PC data; if you create a 360K logical disk, 360 kilobytes (720 VMS blocks) are used, even if the logical disk is empty of PC files.

¹If you purchased the server from Logcraft with the disk already installed, it should already be configured as either the bootable or the secondary disk, according to your specifications. If you purchased a board-level server, refer to the *Board-Level Hardware Installation* booklet for information on configuring the server to boot from local hard disk or logical disk.

Disk Storage for Applications Software

You also should decide how to provide access to the PC applications your site uses.

If you have a local hard disk, you may prefer to install applications on it, rather than logical disks, to provide faster access and improved performance. In this case, managing the applications is virtually the same as using an actual PC.

With logical disks, you can create shared or public disks to contain PC applications software. Users can then access applications read-only from the common disk(s), saving any data files on their private logical disks. This technique is useful if you have more than one server or a multi-user server because it allows several users to access the disk simultaneously.

- ▲ **Important:** Before allowing multiple users simultaneous access to a single-user version of a PC application, verify that your license agreement permits you to do so. If you aren't sure, contact the software vendor for information.

You can use either of two approaches for installing PC software on logical disks:

- **Create a separate logical disk for each application.** Users mount only the disks for the software they plan to use.
- **Create one large logical disk to hold all of your PC applications software,** then install each software package onto this "library" disk. A drawback to this method is that once created, a logical disk cannot be enlarged, so it is essential to create a large enough disk. In addition, the logical disk occupies all of the VMS disk space assigned to it, even if the disk itself is empty of PC software.

To install applications software, establish a session including the logical disk on which the software will be installed, then follow the vendor's instructions.

Primary vs. Secondary Disks

If your server has a local hard disk, you can access both the local disk and logical disks simultaneously, and you can configure the server to boot from either logical disks or local disks.

To boot from local disk, the hard disk must be configured on the *primary* disk controller, and the Omni-Ware COP configured to emulate the *secondary* controller. In this case, logical disks are accessed via Logcraft's OMNIDISK.SYS secondary disk driver.

To boot from logical disk, the Omni-Ware COP must be configured to emulate the *primary* disk controller, and the local disk's controller must be configured as *secondary*. In this case, the local disk is accessed via Logcraft's OMNIDISK.SYS secondary disk driver.

For information on using both logical and local disks, refer to "Using Both Logical Disks and a Local Hard Disk" on page DSK-12.

Booting from Logical Disk

If you plan to boot the Omni-Ware server from logical disk, each user needs access to a logical disk containing the PC operating system files. If you have more than one server (or a multi-user server), many users can share a single bootable logical disk for read-only access.

If your server has a local hard disk, you can boot the server from logical disk and still access the local disk. For details, refer to "Using Both Logical Disks and a Local Hard Disk" on page DSK-12.

Unless noted otherwise, the information below pertains to both standard and partitionable logical disks. For further information about these two logical disk types and the advantages and disadvantages of each, refer to "More about Logical Disks" on page DSK-17.

The Distribution Logical Disk

If you ordered MS-DOS or OS/2 from Logicaft, the software installation included a standard logical disk called either OMNIDOSV50.DOS or OMNIO2V13.DOS. You should make this distribution logical disk available to your users.

If you ordered neither operating system, you received a standard logical disk called OMNI_UTIL.DOS; the files on this logical disk are also included on a floppy diskette. For information on creating a bootable logical disk containing the files from OMNI_UTIL.DOS or the utilities floppy, refer to "Creating a Bootable Logical Disk" on page DSK-8.

Creating a Standard Logical Disk

Use the DOSMAKE command to create a logical disk. Brief instructions for creating standard logical disks are given below; for further information, refer to “More about Logical Disks” on page DSK-17, “Partitionable Logical Disks” on page DSK-25, and to the description of DOSMAKE on page VMS-12 of *Utilities for VMS*.

The DOSMAKE command syntax for creating standard logical disks looks like this:

```
DOSMAKE size file_spec
```

where *size* indicates how big to make the logical disk and *file_spec* is any valid VMS file specification indicating the name of the VMS file to use for the disk. The default extension or file type is `.dos`.

The *size* parameter can be specified as VMS blocks,¹ kilobytes, or megabytes. To specify kilobytes, append K to the number; to specify megabytes, append M to the number. If neither K nor M is appended, VMS blocks are assumed. For standard logical disks, the minimum value for *size* is 360K or 720 blocks; the maximum is 32M or 65,536 blocks.

- ▲ **Important:** Once you create a logical disk, you *cannot* change its size, so make sure you indicate a size large enough to accommodate your needs.

If you discover later that your logical disk is too small, you will have to create a new disk of the appropriate size. Then copy everything from the original disk to the new one. (Further information is given on page VMS-14 of *Utilities for VMS*.) If you plan to use the logical disk for an application package, check the software documentation for an indication of how much disk space is required.

¹One VMS block is 512 bytes or half a kilobyte.

You can specify disk sizes up to 480 megabytes if you use partitionable logical disks. In addition, some software applications will operate properly only if they are installed on this type of disk. Refer to "Partitionable Logical Disks" on page DSK-25.

Example

To create a 360-kilobyte logical disk called DATA.DOS in the default directory, give this command:

```
$ dosmake 360k data
```

To create a 20-megabyte logical disk called BIGDISK.DOS in the default directory give this command:

```
$ dosmake 20m bigdisk
```

Creating a Bootable Logical Disk

To create a standard logical disk containing the MS-DOS system files, follow the steps below.

- ▲ **Important:** The following instructions are specific to *standard* logical disks. If you want to install MS-DOS on a partitionable logical disk, refer to "Partitionable Logical Disks" on page DSK-25.

1. Create a new logical disk of the size you want. Use a command like this to create the disk:

```
$ dosmake 25m msdos
```

This command creates a 25-megabyte standard logical disk called msdos in the current directory. You can give the disk any valid VMS file name and locate it in whatever directory you like (as long as you have write access to the VMS file specified).

2. Establish an Omni-Ware session. Boot the server with an existing bootable logical disk, such as OMNIDOSV50.DOS, or insert a DOS system diskette in the server's A: drive. Include the new logical disk in the session configuration. For example, use a command like this:

```
$ omni omnidosv50, msdos /server=serv1
```

where "msdos" is the name of the disk created in Step 1 and "serv1" is the name of your Omni-Ware server. If you boot from floppy, you should include the OMNI_UTIL.DOS logical disk, which contains the Logcraft utilities.

3. At the DOS prompt, give the following commands:

```
C:\>label d:  
Label: press Return  
  
C:\>sys d:  
C:\>copy command.com d:  
  
C:\>label d: disk_name
```

4. Copy the files from the OMNIDOSV50 or OMNI_UTIL logical disk to the new disk. Use a command like this:

```
C:\>xcopy c: d: /s /e /v
```

If you booted from floppy, copy the MS-DOS files from your operating system diskette(s) to the new logical disk to ensure that all DOS commands are available.

You can now use the MSDOS logical disk to establish a new Omni-Ware session.

Booting from Local Disk

If you plan to boot the Omni-Ware server from local disk, managing the server disk is essentially the same as using an actual PC. Establish an Omni-Ware session, then use standard DOS commands and utilities to create and access directories and files on the disk.

If you boot from local disk, you can still access logical disks. For details, refer to "Using Both Logical Disks and a Local Hard Disk" on page DSK-12.

Configuring the Hard Disk

Logicraft configures the Omni-Ware server and hard disk to your specifications, if possible.¹ Check your server's configuration sheet to verify that it is configured as a bootable disk and that the operating system (if you ordered it) is installed.

If you add a hard disk to an existing server or your converted your own PC/AT, you will need to:

- ensure that the server is configured to boot from the local disk. Refer to "OGA Board DIP Switch Settings" on page INS-5 of *Installation* if your server includes an OGA board (one with DIP switches visible above the Ethernet connectors). For older COPs, refer to *Board-Level Hardware Installation*, part number 15-146.
- partition (FDISK) and format the disk, if necessary, and install the operating system. Refer to your operating system manual for details.

¹Logicraft configures the hard disk for you if you purchased the server and hard disk together or if you returned an existing server to the factory for a hard disk upgrade. The disk is configured as primary (bootable) or secondary, according to your specifications. If you also purchase the operating system from Logicraft, the system is installed on the hard disk for you, along with the Logicraft utilities.

- copy the Logcraft DOS utilities from floppy (included with your server) to the hard disk. The utilities are located in the \OMNI directory. Use a DOS command like this:

```
A>xcopy a:\omni c: /s /v
```

The floppy also contains sample AUTOEXEC.BAT and CONFIG.SYS files for use with Omni-Ware. You should update these files on the hard disk to include the relevant information from the versions on floppy. (If the hard disk doesn't have AUTOEXEC.BAT and CONFIG.SYS, copy the ones from floppy, then double-check their contents.)

In particular, it is important to configure OMNINTFC.SYS in the CONFIG.SYS file. This driver, discussed on page DOS-17 of *Utilities & Drivers for DOS*, lets you use the Logcraft DOS utilities.

Using Both Logical Disks and a Local Hard Disk

To use both logical disks and a local hard disk, load an MS-DOS device driver called OMNIDISK.SYS in the CONFIG.SYS file; this driver allows you to access the drive associated with the secondary disk controller.¹

In order to configure OMNIDISK.SYS, you will need to know the number of cylinders (tracks), heads, and sectors per track for the secondary disk:

- If you are using standard logical disks on the secondary controller (i.e., the server boots from the local disk), the cylinders, heads, and sectors are 1024, 15, and 17, respectively.
- If you are using partitionable logical disks on the secondary controller, use the DOSSTAT utility to determine the number of cylinders, heads, and sectors. Refer to page VMS-16 of *Utilities for VMS* for information on DOSSTAT.
- If you are using a local hard disk on the secondary controller, (i.e., the server boots from a logical disk), check your drive's documentation for the disk configuration. If you purchased your drive from Logcraft, check the configuration sheet enclosed with your server.²

You do *not* need to alter your server's CMOS set-up to reflect the secondary disk's configuration.

¹The disk associated with the primary controller is the one used to boot the server, either logical or local. The *other* disk type is associated with the secondary controller. So, if you boot the server from a local disk, configure OMNIDISK.SYS to access logical disks. If you boot from logical disks, configure OMNIDISK.SYS to use the local disk.

²In order to use a local hard disk as the secondary drive, you must set the hard disk controller as the secondary drive and disable the IRQ 14 interrupt signal. *Not all controllers can be configured in this way.* If you did not purchase the drive and controller from Logcraft, refer to your hardware documentation for configuration information.

Loading the OMNIDISK.SYS Driver

- ▲ **Important:** The OMNIDISK.SYS driver *must* come *after* the OMNINTFC.SYS driver in the CONFIG.SYS file.

If you boot from a *logical* disk and want to access a *local* disk, add a line like the following to CONFIG.SYS:

```
DEVICE=C:\OMNI\OMNIDISK.SYS /C:cyl /H:hds /S:sects
```

If you boot from a *local* disk and want to access *logical* disks, add a line like the following to CONFIG.SYS:

```
DEVICE=C:\OMNI\OMNIDISK.SYS /C:cyl /H:hds /S:sects /L
```

where:

- cyl* Indicates the number of cylinders for the secondary disk drive; may be 1 – 1024 (inclusive).
- hds* Specifies the number of heads for the secondary disk drive; may be 1 – 16 (inclusive).
- sects* Specifies the number of sectors per track for the local disk drive; may be 1 – 63 (inclusive).
- /L* Indicates logical disks.

For example, the following line configures the driver for a local disk with 820 cylinders, 6 heads, and 27 sectors:

```
device=c:\omni\omnidisk.sys /c:820 /h:6 /s:27
```

This line configures the driver for standard logical disks:

```
device=c:\omni\omnidisk.sys /c:1024 /h:15 /s:17 /L
```

When you establish a DOS session with the driver, a message indicates the drive letters assigned to the secondary disk. This message looks like the following:

```
Omni-Ware Secondary Hard Disk Driver vx.xx  
Copyright (c) 1992, Logicaft, Inc.  
DOS Drives G - I Loaded.
```

The actual text of the message depends on how the disk is partitioned and whether you use standard logical disks or partitionable logical disks or both. The first available drive letter is assigned to the primary partition of the secondary disk, and subsequent letters to any logical drives in the extended partition.

If you boot the server from a local hard disk that contains a single partition, the first available drive letter for secondary logical disks will be D:.

If you boot the server with a standard logical disk and do not specify any partitionable disks, the first available drive letter for a secondary local disk will be G:. If you use partitionable logical disks, the first available drive letter depends on the disk configuration. Refer to "More about Logical Disks" on page DSK-17 for further information on drive letter assignments.

If you have not partitioned the secondary disk (with FDISK), the OMNIDISK.SYS driver displays the following message:

```
Omni-Ware Secondary Hard Disk Driver vx.xx  
Copyright (c) 1992, Logicaft, Inc.  
No DOS Drives Loaded.
```

Note that this message also appears if the driver cannot locate the secondary disk controller.

Additional information regarding OMNIDISK.SYS is given on page DOS-17 of *Utilities & Drivers for DOS*.

Using FDISK with OMNIDISK.SYS

When using OMNIDISK.SYS to access a secondary *local* disk,¹ you can use the same combinations of standard and partitionable logical disks that are valid when OMNIDISK.SYS is not loaded. However, certain considerations arise if you want to use the FDISK utility.

Standard Logical Disks

If you use only *standard* logical disks (no partitionable disks), include the /NOXTNPRTN configuration qualifier when configuring an Omni-Ware session during which you plan to use FDISK. Otherwise, FDISK will not find the local hard disk, even if it is properly configured with OMNIDISK.SYS.

For additional information about /NOXTNPRTN, refer to page CFG-43 of *Session Configuration*.

Partitionable Logical Disks

If the server's CMOS set-up is configured to recognize *one* partitionable disk and you load OMNIDISK.SYS to access a local disk, you can run FDISK without problems. If you want to partition the secondary local disk, change FDISK's current drive to Drive 2.

If the server's set-up is configured to recognize *two* disks and you load OMNIDISK.SYS, you will *not* be able to run the FDISK utility. For example, if you boot with a standard logical disk and use a partitionable logical disk, or if you use two partitionable disks, you will not be able to use FDISK if OMNIDISK.SYS is loaded.

¹If the server boots from the local disk, FDISK will work properly; the information in this section does not apply.

The work-around for this problem depends on which disk you plan to partition:

- To use FDISK on a local disk configured as the *secondary* disk, establish a session with a bootable logical disk that loads OMNIDISK.SYS. Change the server's CMOS set-up to remove any configuration information for drive 2. (If you use a standard logical disk, include /NOXTNPRTN, as mentioned above.)

Run FDISK, then change the current drive to drive 2 (the secondary local disk). Partition the disk. When the server reboots, you can change the CMOS set-up again to include configuration information for drive 2.

- To use FDISK on a partitionable logical disk configured as the second drive in CMOS, establish the session, remove the command that loads OMNIDISK.SYS from the CONFIG.SYS file and reboot the session with Ctrl-Alt-Del. After the session boots, change the CONFIG.SYS to again load OMNIDISK.SYS.

Run FDISK, then change the current drive to Drive 2. Partition the disk. When the server reboots, OMNIDISK.SYS is loaded, and both the partitionable logical disk assigned to drive 2 and the secondary local disk will be accessible.

More about Logical Disks

As mentioned earlier, Omni-Ware supports two types of logical disks: a *standard* logical disk emulates a single PC/AT fixed disk partition or logical drive; a *partitionable* logical disk emulates an entire PC/AT fixed disk.

The following pages explain some of the terms used with PC/AT fixed disks and MS-DOS and discuss Omni-Ware's disk emulation and the two logical disk types.

Overview and Terminology

The PC/AT supports two fixed disk devices, called drive 1 and drive 2.¹ When a fixed disk is installed on the primary disk controller, the PC's CMOS set-up program needs to reflect the disk's type or hardware configuration—including the number of cylinders, heads, and sectors—before the disk can be accessed.² If the disk type is set incorrectly, an error is reported when the system is booted.

Partitions

Each fixed disk can be divided into areas called *partitions*. MS-DOS allows for two partition types: *primary* and *extended*. The primary partition is required to use DOS on the fixed disk. With DOS version 3.3, the primary partition can be a maximum of only 32 megabytes; DOS version 4.0 (and higher) removes this size restriction. If you use version 3.3 and your disk is larger than 32 megabytes, the remaining space can be used with DOS if it is assigned to the extended partition.

¹Sometimes these drives are referenced as "disk 0" and "disk 1" or as "drive C:" and "drive D:"; this documentation uses drives 1 and 2 throughout.

²If the disk is associated with the secondary controller, the software driver used to access the disk needs to be configured with the hardware information.

One reason to divide the disk into separate partitions is to allow more than one operating system on the same hard disk, although you can use only one operating system at a time. For example, one partition might contain MS-DOS; another, SCO UNIX. By designating the *active* partition, you can boot the system with either MS-DOS or SCO UNIX.

Logical DOS Drives

An extended DOS partition can be further divided into one or more *logical DOS drives*. As with the primary MS-DOS partition, the maximum size for each logical drive depends on what version of MS-DOS is used. With DOS version 3.3, each logical drive can be a maximum of 32 megabytes; DOS version 4.0 removes this size restriction.

FDISK and FORMAT

MS-DOS includes a utility called FDISK for creating primary DOS partitions, extended DOS partitions, and logical drives on a fixed hard disk. Once the partitions/logical drives are created, the FORMAT utility formats them for DOS use. After the disk has been partitioned and formatted, files can be stored on it.

Drive Letters

When you start DOS, the primary partition and any logical drives in the extended partition are assigned drive letters. If you have only *one* disk, the primary partition is assigned the drive letter C: and logical drives in the extended partition are given drive letters in alphabetical order. If you have two logical drives defined, for example, the first is drive letter D: and the second is E:.

If you have two disks, the letter assignments are a little trickier. The first disk's primary partition is assigned to the C: drive, and second disk's primary partition is assigned to the D: drive. Drive letters are then assigned to any logical drives in drive C:'s extend-

ed partition (if there is one). Finally, drive letters are assigned to any logical drives in drive D:'s extended partition (if there is one).

For example, assume the first disk's extended partition has two logical drives and the second disk's extended partition has three logical drives. In this case, DOS assigns drive letters C: and D: to the primary partitions of the first and second disks, respectively; E: and F: to drive C:'s logical drives; and G:, H:, and I: to drive D:'s logical drives.

Omni-Ware's Disk Emulation

Omni-Ware's disk emulation is patterned after an actual PC/AT, and it supports two types of logical disks, standard and partitionable, as discussed earlier. The following pages explain how the two types of logical disks emulate their PC/AT counterparts and detail the advantages and disadvantages for each disk type. Figure 2 on page DSK-22 compares the two types of disks.

Standard Logical Disks

Omni-Ware allows you to mount up to four standard logical disks, each of which can be from 360 kilobytes to 32 megabytes. To PC software running on the server, the first standard logical disk looks like the primary DOS partition of drive 1; the other standard logical disks look like logical drives in the extended DOS partition of drive 1.

In other words, if you use only standard logical disks, MS-DOS thinks the server has a single fixed disk, even if you mount four logical disks. Further, the disk type or hardware configuration for this fixed disk is always the same: 1024 cylinders, 15 heads, and 17 sectors, as discussed in "Checking Your Server's Set-Up" on page INS-43 of *Installation*.

Because Omni-Ware makes the decisions about the disk configuration for standard logical disks, these disks are easier to use than the partitionable logical disks, and they are interchangeable. As a

result, you can MOUNT and DISMOUNT standard logical disks from within a DOS session. In addition, when you create a standard logical disk, the DOSMAKE command formats the disk for you so that the disk is ready for use.

Standard logical disks are also fully compatible with Logicaft's 386Ware family of servers. If you have both Omni-Ware and 386Ware, you may prefer to use standard logical disks, which can be accessed from either server type. Partitionable logical disks can be used only with Omni-Ware; they cannot be used with 386Ware.

Certain applications may expect to see all four standard logical disks, even if you have mounted fewer disks. Generally, this results in "drive not ready: abort, ignore, or retry" errors. If you indicate "ignore," the package will likely continue without error (unless you specifically attempt to access the missing drive letter). One package that behaves this way is the Microsoft Windows File Manager. Installing the package on a partitionable logical disk eliminates the problem.

Because standard logical disks are limited to a maximum of 32 megabytes, you may prefer to use partitionable logical disks if you have an operating system that supports larger disks, such as DOS version 5.0. In addition, some recent operating systems and software applications require absolute compatibility with PC/AT fixed disks. You cannot use these packages with standard logical disks; however, they will work with partitionable logical disks.

Partitionable Logical Disks

As mentioned, a partitionable logical disk behaves exactly like an actual PC/AT fixed disk. As with the PC/AT, Omni-Ware supports two fixed disks, each of which can be assigned a partitionable logical disk. When creating this type of logical disk, you can specify a disk size from one to 480 megabytes.

Unlike standard logical disks, Omni-Ware makes no assumptions about partitionable logical disks. As a result, you can create a logical disk that emulates any type of PC/AT fixed disk; however, this flexibility makes partitionable logical disks somewhat more difficult to use than standard logical disks.

When you create a partitionable logical disk, the DOSMAKE command does not format the disk for you because it has no way of knowing how you want the disk partitioned. Instead, you perform the same steps that would be necessary after installing a fixed disk in an actual PC: change the server set-up to match the disk type,¹ use FDISK to partition the disk to suit your needs, then use FORMAT to format each partition and logical drive. These steps are discussed in detail below.

Partitionable logical disks, as the name implies, can be divided into partitions. With MS-DOS, you can create a primary and an extended partition, and you can define logical drives on a partitionable logical disk, just as with the PC and an actual fixed disk. You can also use different operating systems in separate partitions, as mentioned earlier.

Partitionable logical disks can be configured only when the session is initiated (i.e., with the OMNI command); you cannot use the MOUNT and DISMOUNT utilities at the DOS prompt to access these disks.

¹If you are accessing the partitionable disk on the secondary controller, the parameters on the OMNIDISK.SYS driver must match the disk type.

Summary

The following table summarizes the differences between standard and partitionable logical disks:

Standard Logical Disks	Partitionable Logical Disks
minimum size is 360 kilobytes; maximum size is 32 megabytes	minimum size is one megabyte; maximum size is 480 megabytes
formatted by DOSMAKE	must be FDISK'ed and FORMAT'ed before use
always the same disk type; server set-up does not need to change	disk type depends on disk characteristics; server set-up must be changed to match
up to four per session	up to two per session
you can use MOUNT and DISMOUNT after starting the session to use different disks	disks can be configured only when the session is initiated
some software will not work; some packages may look for drives that are not there if fewer than four disks are mounted	complete compatibility with PC/AT fixed disks
compatible with 386Ware	cannot be used with 386Ware

Figure 2: Standard vs. Partitionable Logical Disks

Using Both Types of Logical Disks

If you use only partitionable logical disks, you can specify a maximum of two per Omni-Ware session. If you include any standard logical disks when configuring the session, however, you can use only one partitionable logical disk. In this case, the standard logical disks *always* appear as drive 1 (as described on page DSK-19) and the partitionable logical disk as drive 2.

If you assign a partitionable logical disk to drive 1, you cannot use the MOUNT utility to mount any standard logical disks once the session is established.

Using both types of disks affects DOS drive letter assignments, as discussed below.

Assigning Drive Letters

MS-DOS assigns drive letters to Omni-Ware's logical disks using the same rules as for a PC/AT (discussed on page DSK-18). If you use only standard logical disks or only partitionable logical disks, the drive letter assignments are straightforward. If you use both types of disks, however, the drive letter assignments may not seem as obvious.

The following table summarizes drive letter assignments for Omni-Ware.

If you use...	Drive letters are assigned like this... ¹
one or more standard disks, ² no partitionable disks	C: first standard disk
	D: second standard disk
	E: third standard disk
	F: fourth standard disk
no standard disks, one partitionable disk	C: primary DOS partition
	D: + logical DOS drives in the extended DOS partition, if they exist
no standard disks, two partitionable disks	C: primary DOS partition of first disk
	D: primary DOS partition of second disk
	E: + logical DOS drives in the extended DOS partition of the first disk, if they exist, then logical DOS drives in the extended partition of the second disk, if they exist
one or more standard disks, ² one partitionable disk	C: first standard disk
	D: primary DOS partition of partitionable disk
	E: + second, third, and fourth standard disks, if they exist, then logical DOS drives in the extended partition of the partitionable disk, if they exist.

Figure 3: Drive Letter Assignments

¹The table assumes that logical disks are used to boot the server. The drive letter assignments are similar if logical disks are configured on the secondary controller (i.e., the server boots from a local disk). In this case, the first drive letter for logical disks depends on the configuration of the local disk; however, subsequent drive letters are assigned in the same way as listed in the table.

²If the /NOXTNPRTN qualifier is included when the Omni-Ware session is initiated, only the first standard logical disk will be accessible.

Partitionable Logical Disks

The following pages explain how to use Omni-Ware's partitionable logical disks. You should be familiar with the concepts discussed in "More about Logical Disks" on page DSK-17 before continuing. As mentioned in that discussion, standard logical disks are generally appropriate for most needs, and they are easier to use than partitionable disks. However partitionable logical disks are required in the following situations:

- to take advantage of logical disks larger than 32 megabytes (when using an operating system that supports these larger disks).
- to use software that requires absolute compatibility with PC/AT fixed disks. If you have difficulty installing a software package on a standard logical disk, using a partitionable disk may solve the problem.

To use a partitionable logical disk, follow these basic steps:

1. If you boot the server from a logical disk, determine what fixed disk types are recognized by your server's set-up program. Choose the disk type appropriate for your needs, noting the number of cylinders, heads, and sectors.

If you boot from a local disk, determine how large the partitionable disk should be.

2. Use the `DOSMAKE /PARTITION` command to create the logical disk, specifying the necessary parameters to match the disk configuration or size information you chose in Step 1.
3. If you boot the server from a *logical* disk, initiate an Omni-Ware session with the new disk, and change the server's CMOS set-up to recognize the disk type.

If you boot from a *local* disk, modify the `CONFIG.SYS` file to include an appropriate `OMNIDISK.SYS` command, then initiate a server session with the new partitionable disk.

4. Use FDISK to partition the disk and create any logical drives, then use the FORMAT utility to format them. If you plan to boot the server from the partitionable disk using MS-DOS, use FDISK to set the active partition accordingly.

These steps are discussed below, followed by detailed examples.

Choose a Disk Type

In order to use a partitionable logical disk with your server *and* boot from logical disks, the partitionable disk's configuration must match one of the disk types supported by the server's set-up program. (If you boot from a local disk, you don't need to worry about disk type; just determine the size disk you want and skip to "Create the Disk" on the next page.)

The disk type sets characteristics such as number of cylinders, heads, and sectors; disk size; landing zone; and write precompensation. Choose the type that best suits your needs.

Note that many set-up programs allow you to specify your own disk type by providing values for the number of cylinders, heads, etc. In this case, you can skip this step, create the disk by letting DOSMAKE choose the size, then specify the appropriate values for your own disk type in set-up.

The decision regarding disk type may be based entirely on the disk size you want. Keep in mind that the logical disk will always occupy *all* of the VMS disk space assigned to it. To conserve disk space, choose the smallest disk size that suits your needs.

If you plan to use different partitionable logical disks for different sessions, it is easiest to use the same disk type for all of your partitionable disks.

A similar consideration results if the server will be used with both standard and partitionable logical disks. If so, you may want to choose a disk type with 1024 cylinders, 15 heads, and 17 sectors, with a disk size of 128 megabytes. With this approach, you can use

the server either with standard logical disks or with a 128-mega-byte partitionable logical disk without having to change the server set-up (or OMNIDISK.SYS) to match.

Whatever disk type you choose, make a note of the number of cylinders, heads, and sectors; you will need this information when you create the logical disk.

Create the Disk

When you create a partitionable logical disk, you can specify the number of cylinders, heads, and sectors; this lets you match exactly one of the disk types recognized by your server's CMOS set-up program.

Alternatively, you can have the DOSMAKE command choose values for cylinders, heads, and sectors, based on the size you specify for the disk; however, you should use this approach only if (1) you boot from a local hard disk, or (2) your server's set-up program allows you to specify a user-defined disk type.

Specifying the Disk Configuration

If you chose a predefined disk type, use the following syntax to create a partitionable logical disk of that type:

```
DOSMAKE/PARTITION=(C:cyl, H:hds, S:sect) size filespec
```

where *cyl*, *hds*, and *sect* indicate the number of cylinders, heads, and sectors, respectively, for the disk type you want; *size* is any valid disk size (such as 1M), and *filespec* is the VMS file specification for the logical disk.

- ▲ **Important:** With this command syntax, the value for the *size* parameter is *ignored*.

The actual size of the created disk is calculated from the values for *cyl*, *hds*, and *sects*, *not* from the *size* parameter. (The size of the disk, in bytes, will be *cyl* times *hds* times *sect* times 512.)

For example, to create a 128-megabyte partitionable logical disk called PDISK with 1024 cylinders, 15 heads, and 17 sectors, give the following command:

```
$ dosmake /part=(c:1024,h:15,s:17) 1m pdisk
```

Although this command indicates "1m" for the size, *the actual disk is 128 megabytes*.

Letting DOSMAKE Choose the Configuration

To have DOSMAKE choose the disk parameters, use the following syntax to create a partitionable logical disk:

```
DOSMAKE /PARTITION size filespec
```

where *size* is the disk size you want and *filespec* indicates the VMS file specification for the disk.

The *size* parameter can be specified as VMS blocks, kilobytes, or megabytes. To specify kilobytes, append K to the number; to specify megabytes, append M to the number. If neither K nor M is appended, VMS blocks are assumed. The minimum value for *size* is 1M; the maximum is 480M.

For example, to create a five-megabyte partitionable logical disk called pdisk, give the following command:

```
$ dosmake/partition 5m pdisk
```

When DOSMAKE creates the disk, it reports on the disk configuration used. Make a note of the number of cylinders, heads, and sectors; you will need this information for the server's set-up program or the OMNIDISK.SYS driver.

The DOSSTAT command gives information about the configuration of a logical disk. Refer to page VMS-16 of *Utilities for VMS*.

Change the Server Set-Up/OMNIDISK.SYS

Once you have created the partitionable logical disk, change the server's set-up program or OMNIDISK.SYS to match the disk type for the logical disk. Establish an Omni-Ware session, including the partitionable logical disk.

Booting from Logical Disk

If you boot from logical disk, you can assign the new disk to either drive 1 or drive 2. If you want to use the partitionable disk as drive 1, however, you will need an MS-DOS system diskette to boot the server from its floppy drive. In addition, make sure you have the FDISK utility on a floppy diskette.

You may prefer to set up the server to use the partitionable disk as drive D: until the disk is partitioned and formatted with the MS-DOS operating system files. You could then change the server set-up to use the logical disk as drive C:. Refer to the example below.

- ▲ **Important:** If you use DOS version 4.01 or higher and boot the server from a standard logical disk (such as OMNIDOSV50.DOS), include the /NOXTNPRTN qualifier when establishing an Omni-Ware session to use the FDISK utility. Otherwise, you may encounter drive errors when you invoke FDISK.

For example, if you want to use OMNIDOSV50.DOS as disk 1 and the partitionable disk PDISK.DOS as disk 2, give a command like this:

```
$ omni omnidosv50, pdisk /noxtnpnrt /server=serv1
```

where "serv1" represents the name of the Omni-Ware server.

Next, go into the server's set-up program. Change the disk type for the first or second disk, depending on which drive you assigned to the partitionable logical disk.

- ▲ **Important:** If you see a "Drive Failure" error, your set-up either does not match the partitionable logical disk, or the disk failed to mount.

Once the C: prompt appears, give the SHOW DISKS command to ensure that the all of the logical disks included on the Omni-Ware command are mounted. (The SHOW DISKS command is discussed on page DOS-41 of *Utilities & Drivers for DOS*.)

Booting from Local Disk

If you boot from a local disk, edit the CONFIG.SYS file to include an appropriate OMNIDISK.SYS command, specifying the number of cylinders, heads, and sectors for the partitionable disk and including the /L switch. For details, refer to "Using Both Logical Disks and a Local Hard Disk" on page DSK-12.

Establish an Omni-Ware session, including the partitionable disk. OMNIDISK.SYS should indicate that "no DOS drives were loaded" (because the partitionable disk has not yet been partitioned and formatted.)

Use FDISK and FORMAT

After you create a partitionable logical disk and change the server set-up accordingly, you must FDISK and FORMAT the logical disk before you can use it, just as you would for an actual hard disk.

Use the FDISK utility to create a primary DOS partition and, if necessary, an extended DOS partition with logical drives. For details on FDISK, refer to your MS-DOS manual.

Once you have created one or more partitions and logical drives, you must format them with FORMAT before copying files onto the disk. Refer to your DOS manual for details about the FORMAT utility.

- ▲ **Important:** Do *not* attempt to store files on the disk until you have used FDISK and FORMAT. *Otherwise, your data will be corrupted and unusable!*

Setting the Active Partition

If you plan to boot the server from this partitionable logical disk, you must set the active partition accordingly, using FDISK. To do this, the partitionable disk *must* be assigned to the C: drive, and you must boot the server from a floppy disk. If you have not already copied the MS-DOS operating system files to the partitionable logical disk, you will need these files on floppy as well.

Once the Omni-Ware session has been established, the steps are essentially the same as if you were installing MS-DOS for the first time on an actual PC/AT hard disk.

Example, Booting from Logical Disk

This example assumes the following:

- an Omni-Ware server called SERV1 will be used with both standard logical disks and a partitionable logical disk, but not at the same time. Most users will use the standard logical disk OMNIDOSV50.DOS. Some users need access to a software application that must be installed on a partitionable disk.
- the partitionable disk will have a primary partition that occupies the entire disk.
- the server does not have a local hard disk.

Another example (booting from local disk) begins on page DSK-38.

Choose the Disk Type

To make it easy for users to boot the server from either the standard or partitionable disk, the partitionable logical disk can be the same disk type as standard logical disks. This allows the same server set-up to work for both groups of users.

The partitionable disk will be 128 megabytes.

Create the Disk

To create the partitionable logical disk with the correct characteristics, give the following command:

```
$ dosmake/part=(c:1024,h:15,s:17) 128m bigdisk
```

```
Percent Complete: 10 20 30 40 50 60 70 80 90 100
Disk Geometry:
  Cylinders      : 1024
  Heads         : 15
  Sectors/track : 17
  Capacity      : 133693440 bytes
```

```
logical disk BIGDISK.DOS created
```

- ▲ **Important:** If you indicate values for c, h, and s: on the DOSMAKE command, the disk size is calculated from those values—no matter what size you specify. In this example, the disk will occupy 128 megabytes.

Change the Server Set-Up

Once the disk is created, the next step is to establish a session and change the server set-up. You can do this in either of two ways:

- assign BIGDISK to the C: drive and boot the server from a floppy diskette; or
- boot the server from the standard disk OMNIDOSV50.DOS and assign BIGDISK to the D: drive. In this case, you need to change the server set-up *twice*. The first time, change the disk type for the second drive, then use FDISK and FORMAT to partition and format BIGDISK and set the active partition. Then, change the set-up again to remove the disk type for the second drive.

This example uses the second approach.

To establish the session, give the following command:

```
$ omni omnidosv50, bigdisk /noxtnpnrt /server=serv1
```

Remember that the /NOXTNPRTN qualifier is required when using DOS v. 5.0 and FDISK.

Change the server set-up such that the disk type for the second fixed disk is the same as the one shown for the first disk:

CMOS SETUP (C) Copyright 1985-1990, American Megatrends Inc.,						
Date (m/date/year):	Sun, Apr 21 1991	Base memory size :	640 KB			
Time (hour/min/sec):	11 : 46 : 08	Ext. memory size :	7168 KB			
Floppy drive A:	: 1.2 MB, 5¼"	Numeric processor :	Installed			
Floppy drive B:	: 1.44 MB, 3½"					
Hard disk C: type :	32	Cyl	Head	UFcom	LZone	Sect. Size
		1824	15	65535	1824	17 128 MB
Hard disk D: type :	32	1824	15	65535	1824	17 128 MB
Primary display :	160 on EGA					

(The actual screen depends on your server's set-up program.)

After saving the changes in set-up, the boot sequence continues, and the DOS prompt appears. Next, check that both logical disks were mounted:

```
C:\>show disks
.
.
.
Disk C : OMNIDOSV50
Disk D : BIGDISK
```

Use FDISK and FORMAT

After verifying that the logical disks were mounted, run the FDISK utility:

```
C:\>fdisk
```

Choose **5. Select next fixed disk drive**. This allows you to create partitions for the disk assigned to the second drive (D:).

Next, choose **1. Create DOS Partition or Logical DOS Drive**.

Choose **1. Create Primary DOS Partition**. The following prompt appears:

```
Do you wish to use the maximum available size for
a Primary DOS Partition (Y/N)?
```

Press Return to use all available space for the primary DOS partition. FDISK confirms that the partition is created.

Press Esc to return to the main menu, then press Esc again to return to DOS. The following message appears:

```
System will now restart

Insert DOS Install diskette in drive A:
Press any key when ready . . .
```

Because you booted the server from the C: drive and you have not changed its characteristics with FDISK, you do not need to insert

a diskette in drive A. Press a key to continue; the server will boot from drive C:.

When the server has rebooted, the next step is to format the primary DOS partition you just created, which is assigned to the D: drive. Because the partitionable disk will be used to boot the Omni-Ware, you want to format the D: drive with the system files.

Give the following command to format the disk:

```
C:\>format d: /s

WARNING, ALL DATA ON NON-REMOVABLE DISK
DRIVE D: WILL BE LOST!
Proceed with Format (Y/N)? y

Format complete
System transferred

Volume label (11 characters, ENTER for none)?
bigdisk

134217728 bytes total disk space
  118784 bytes used by system
134098944 bytes available on disk
.
.
.

C:\>
```

You can now store files on the partitionable logical disk. Because the disk will be used to boot the server, you should copy the files from the OMNIDOSV50.DOS logical disk. Use the following command:

```
C:\>xcopy c: d: /s /e /v
```

This command copies all the files and subdirectories from the C: drive to the D: drive. (For further information about XCOPY, refer to your MS-DOS manual.)

In order to set the active partition for the partitionable disk (allowing it to boot the server), you need to establish a session using a

bootable floppy disk. To create this disk, insert a floppy in the server's A: drive, then give a command like the following:

```
C:\>format /s a:
```

When the format has completed, leave the floppy in the drive, and quit the Omni-Ware session:

```
C:\>bye
```

Change the Server Set-Up Again and Set the Active Partition

The next step is to re-establish the session using only the partitionable disk, change the server set-up accordingly (removing the second fixed disk), then run FDISK to set the active partition on the partitionable disk, allowing it to be used to boot the server.

Give the following command to re-establish the session:

```
$ omni bigdisk /server=serv1
```

Enter the server set-up program, and remove the configuration for the second disk, as shown:

CMOS SETUP (C) Copyright 1985-1990, American Megatrends Inc.,						
Date (m/date/year):	Sun, Apr 21 1991	Base memory size :	640 KB			
Time (hour/min/sec):	11 : 56 : 34	Ext. memory size :	7168 KB			
Floppy drive A:	: 1.2 MB, 5¼"	Numeric processor :	Installed			
Floppy drive B:	: 1.44 MB, 3½"					
Hard disk C: type :	32	Cyl	Head	HPcom	LZone	Sect Size
Hard disk D: type :	Not Installed	1824	15	65535	1824	17 128 MB
Primary display :	UGA or EGA					

(Again, the actual screen depends on your server's set-up program.)

Save the new set-up, then exit.

The server will boot from the floppy diskette that was left in the A: drive. (If the floppy drive does not contain a system diskette, the server will fail to boot and a message like "No ROM BASIC" is usually displayed.)

Run FDISK:

```
A>c:\dos\fdisk
```

The main menu appears. Choose **2. Set active partition**. A prompt appears asking for the number of the partition to make active. Indicate the appropriate number; usually, this will be partition 1 (the primary DOS partition).

Press Esc to return to the main menu, then Esc again to exit FDISK. The DOS prompt reappears.

The server can now be booted from either the standard logical disk OMNIDOSV50.DOS or from the partitionable logical disk BIGDISK.DOS.

Example, Booting from Local Disk

This example assumes the following:

- an Omni-Ware server called SERV1 boots from a local disk that contains a single partition. The server will be used with a 50-megabyte partitionable logical disk as the secondary drive.
- the partitionable disk will have a primary partition that occupies the entire disk.

Create the Disk

To create the partitionable logical disk, give the following command:

```
$ dosmake /partition 50m bigdisk
Percent Complete: 10 20 30 40 50 60 70 80 90 100
Disk Geometry:
  Cylinders      : 256
  Heads          : 10
  Sectors/track : 40
  Capacity       : 52428800 bytes
Logical disk BIGDISK.DOS created
```

Make a note of the disk geometry.

Add OMNIDISK.SYS to CONFIG.SYS

Once the disk is created, the next step is to establish an Omni-Ware session and change the server's CONFIG.SYS file.

Edit CONFIG.SYS to include the following OMNIDISK.SYS command:

```
device=c:\omni\omnidisk.sys /c:256 /h:10 /s:40 /1
```

Terminate this DOS session, then establish a new one, including the partitionable disk. Use a command like this:

```
$ omni omnidosv50. bigdisk /server=serv1
```

When OMNIDISK.SYS is loaded, it should report “no DOS drives loaded” because the partitionable disk has not yet been partitioned and formatted.

Use FDISK and FORMAT

Next, run the FDISK utility:

```
C:\>fdisk
```

Choose 5. **Select next fixed disk drive.** This allows you to create partitions in the partitionable disk.

Choose 4. **Display partition information** to verify that you are partitioning the correct disk! The resulting display should indicate that no information is configured.

Choose 1. **Create DOS Partition or Logical DOS Drive.**

Choose 1. **Create Primary DOS Partition.** The following prompt appears:

```
Do you wish to use the maximum available size for  
a Primary DOS Partition (Y/N)?
```

Press Return to use all available space for the primary DOS partition. FDISK confirms that the partition is created.

Press Esc to return to the main menu, then press Esc again to return to DOS. The following message appears:

```
System will now restart
```

```
Insert DOS Install diskette in drive A:  
Press any key when ready . . .
```

Because you booted the server from the local disk and you have not changed its characteristics with FDISK, you do not need to insert a diskette in drive A. Press a key to continue; the server will boot from drive C:.

When the server has rebooted, OMNIDISK.SYS should report that it has loaded D: drive.

The next step is to format the partition you just created.

Give the following command to format the disk:

```
C:\>format d:
```

```
WARNING, ALL DATA ON NON-REMOVABLE DISK  
DRIVE D: WILL BE LOST!  
Proceed with Format (Y/N)? y
```

```
Format complete
```

```
Volume label (11 characters, ENTER for none)?  
bigdisk
```

```
52428800 bytes total disk space
```

```
·  
·  
·
```

```
C:\>
```

You can now store files on the partitionable logical disk.

LOGICRAFT

SYSTEM
MANAGER'S
GUIDE

Omni-Ware for VMS

*Release 2.0
October 8, 1992*

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Introduction

This section is written for the system manager, that is, for the person who is responsible for providing users with access to OmniWare.

For the most part, the topics in this section can be explored in any order; any prerequisite information is noted at the beginning of the topic. Before continuing with this section, however, you should be familiar with the information in *Session Configuration*.

Enabling Remote Boot Service

When you switch on your Omni-Ware server's power, it requests a remote boot from the network. In order for this remote boot to be successful, one or more VAXes on your network must have remote boot service enabled, and the server must be configured in the DECnet database.

If remote boot service is not already enabled on this VAX, the Omni-Ware software installation asks if you want to enable it. If you indicate yes, the installation sets up the VAX for remote boot service.

In addition, if you specified server information (name, network address, etc.) during the installation, this information is added to the DECnet database.

If you chose not to enable remote boot service or add server information during the software installation, you need to complete these steps manually before you can use your server.

Configuring the VAX for Remote Boot Service

- ▲ **Important:** The NCP commands given below may disrupt current users of DECnet or LAT.

To enable remote boot service, give the following VMS commands:

```
$ run sys$system:ncp
NCP>show known circuits
```

NCP responds with a "Known Circuit Volatile Summary." Note the name listed under the "Circuit" heading. Next, give the following commands:

```
NCP>set circuit name state off
NCP>set circuit name service enable
NCP>set circuit name state on
NCP>exit
$
```

where *name* is the circuit name you noted above.

Adding Omni-Ware Servers

If you did not add server information during installation or if you have already installed the Omni-Ware software and want to add a new Omni-Ware to your network, follow these steps:

1. If you have not already done so, install the new server hardware and connect it to the Ethernet, as discussed in *Installation*. Note the new server's Ethernet address (included on the configuration sheet you received with the server).
2. Choose a name for the new server, from one to six characters.
3. Determine a DECnet node address for the new server. Ensure that the address has not already been assigned to any of your existing DECnet nodes.
4. Execute `ADD_OMNIWARE_ETHERNET.COM`, located in the `SYS$OMNIWARE` directory:

```
$ @sys$omniware:add_omniware_ethernet "trnsprt"
```

where *trnsprt* is XNS, TGV, or UCX, as appropriate. You need `SYSPRV` and `OPER` privileges to execute this procedure.

`ADD_OMNIWARE_ETHERNET` prompts you for the information needed to add the server. The procedure then modifies the Omni-Ware start-up file, adding a definition for the new server name; adds the server as a new node in the DECnet database using the name and address you provided.

When the command procedure finishes executing, you can power on the new server.

Changing Ethernet Addresses

XNS Servers: If you specified any incorrect Ethernet addresses during the VMS software installation or when adding XNS servers to the network, edit the Omni-Ware start-up file to reflect the correct addresses.

UCX and TGV Servers: Use the EDOWI utility, discussed below, to change any incorrect Ethernet addresses.

The EDOWI Utility (UCX and TGV Only)

When the Omni-Ware server requests a remote boot, the VMS host downloads an image file called OMNIWARE_TCP.SYS. For UCX and TGV, this image file contains, among other necessary information, the server's Internet address. This address is included in a table of Ethernet-to-Internet address mappings; the Omni-Ware server selects the one that matches its own Ethernet address. In this fashion, a number of Omni-Ware servers can be booted from a single image file.

Logiccraft includes a utility, called EDOWI (for EDit Omni-Ware Image), to edit the address table in the Omni-Ware image.

Syntax

```
EDOWI -A ethaddr,IPaddr [-F imagefile]  
EDOWI -C  
EDOWI -D ethaddr  
EDOWI -L
```

Parameters

- A** Adds information about a server.

- ethaddr* Indicates the server's Ethernet address in the form *xx-xx-xx-xx-xx-xx*.

- IPaddr* Specifies the Internet address in the form *nnn.nnn.nnn.nnn*.

- F *imagefile*** Indicates the Omni-Ware image file to download. The default file is `SYS$OMNIWARE:OMNIWARE_TCP.SYS`.

- C** Clears the address table (deletes all entries).

- D** Deletes the entry for the specified Ethernet address from the table.

- L** Lists all entries.

Logical Name Summary

The following table gives a brief description of the logical names recognized by Omni-Ware.

LOGICRAFT_ALLIN1

Define as ON to use Omni-Ware from ALL-IN-1. Refer to "Omni-Ware and ALL-IN-1" on page SMG-29.

LOGICRAFT_BLINK_MODE

Determines whether blinking text should be displayed for window system 2 or 3. Value is ON or OFF, as appropriate. Default is OFF.

LOGICRAFT_BOLD_FONT

Determines whether font used in Omni-Ware window is bold. Value is 0 for bold font off, 1 for bold font on. Default is 1. Ignored for text mode on VGA-equipped systems when using the 8x16 font. Not relevant for graphics mode.

LOGICRAFT_DOSENV

Lets you pass information to the Omni-Ware session. If this logical is defined, the XSET ENV command (at the DOS prompt) will set a DOS variable called ENV with the same definition. Refer to page DOS-66 of *Utilities & Drivers for DOS*.

LOGICRAFT_ERROR

If this logical name is defined and the OMNI command generates an error, the definition is changed to the error message text. In addition, dialog boxes are not displayed for fatal errors when using window system 2 or 3.

LOGICRAFT_FATAL_ERROR

If this logical name is defined, all OMNI command error conditions are considered fatal.

LOGICRAFT_ICON_IMAGE

Lets you replace the Omni-Ware icon with one of your own. Value is the name of the file containing the icon to use. For Motif, the icon file format should be bitmap, and the maximum icon size is 48x48. For DECwindows, the icon format is bitmap, size 32x32 or 16x16. For best results, the icon should be square (width=height).

LOGICRAFT_ICON_TEXT

Indicates the text to incorporate in the Omni-Ware icon. Value is a text string specified in double-quote characters. Default is MS-DOS.

LOGICRAFT_ICON_X

Specifies horizontal location for the Omni-Ware icon. Value is pixels. Default is 0. Has no effect with Motif and window system 3.

LOGICRAFT_ICON_Y

Specifies vertical location for the Omni-Ware icon. Value is pixels. Default is 0. Has no effect with Motif and window system 3.

LOGICRAFT_IMAGE_BIT_ORDER

LOGICRAFT_IMAGE_BYTE_ORDER

Allow you to adjust a black & white bitmap display. Occasionally when logging in remotely and setting display back, data appears backwards on the screen. A value of 1 sets the most significant bit/byte first; a value of 0 sets the least significant byte first.

LOGICRAFT_INACTIVITY_TIMEOUT

Defines the number of seconds a session can remain idle before it is automatically disconnected. A session is considered idle if no keyboard, display, or mouse activity takes place.

LOGICRAFT_LOG_FILE

Indicates the log file for Omni-Ware's logging utility. Refer to "Omni-Ware Logging Utility" on page SMG-25.

LOGICRAFT_MICROGNOSIS_KYBD

Define as ON when using the Micrognosis keyboard. Allows shifted , and . to be used as < and >, respectively.

LOGICRAFT_NORWAY_FONT

Determines the default PC character set. Value is 1 for Norway/Denmark, 0 for US. Default is 0. Ignored for text mode on VGA-equipped systems when using the 8x16 font. Not relevant for graphics mode. See also the logical name MULTINATIONAL, described below.

LOGICRAFT_START_ICONIFIED

Determines whether the Omni-Ware session is opened as an icon or a window. Value is 1 for starting as an icon, 0 for starting as a window. Default is 0. Has no effect with Motif and window system 3.

LOGICRAFT_TEMPORARY

Indicates the parent directory for Omni-Ware's temporary directory TMP.DIR. Defined in system or process table. Refer to "Logicraft's Temporary Directory" on page SMG-23.

LOGICRAFT_TITLE_TEXT

Indicates the text to incorporate in the Omni-Ware window title bar. Value is a text string specified in double-quote characters. Default is MS-DOS.

LOGICRAFT_VGA_HIRES

Define as 0 (zero) to disable the VGA screen doubler feature. Does not effect the 1.5x screen expander. For additional information, refer to "VGA/EGA Video Option" on page SMG-11.

LOGICRAFT_VGA_RESIZEALL

Define as 1 to allow doubling of the VGA window even if the screen is not large enough to accommodate the entire window. Does not effect the 1.5x screen expander. Refer to "VGA/EGA Video Option" on page SMG-11.

LOGICRAFT_WINDOW_HEIGHT

Indicates the Omni-Ware window's height. Value is given in pixels. Default is 400. Relevant only for text mode; does not affect graphics mode.

LOGICRAFT_WINDOW_SYSTEM

Defines the Logicraft window system. Value may be 0, 2, or 3. Refer to "Logicraft Window Systems" on page CFG-2 of *Session Configuration* for additional information.

LOGICRAFT_WINDOW_WIDTH

Indicates the Omni-Ware window's width. Value is given in pixels. Default is 640. Relevant only for text mode; does not affect graphics mode.

LOGICRAFT_WINDOW_X

Specifies horizontal start-up location for the Omni-Ware window, measured from the upper left corner of the screen. Value is given in pixels. Default is 0. Has no effect with Motif and window system 3.

LOGICRAFT_WINDOW_Y

Specifies vertical start-up location for the Omni-Ware window, measured from the upper left corner of the screen. Value is given in pixels. Default is 0. Has no effect with Motif and window system 3.

MULTINATIONAL

Determines whether to use the US or Norway/Denmark PC character set when translating from the PC character set to DEC's multinational character set. Value indicates the translation file to use; Omni-Ware comes with two files (in the SYSS\$OMNIWARE directory): MULTINATIONAL.US and MULTINATIONAL.NR, for the US and Norway/Denmark character sets, respectively. Default is US character set.

SYSS\$OMNIWARE

Points to the directory containing Omni-Ware's files. Defined in the system table.

SYS\$LOGICRAFT_COMMON

Points to the directory containing files that are common to Omni-Ware and 386Ware. Defined in the system table.

TIMER_1

Defined in start-up file. Determines system-wide value in milliseconds for TIMER_1. Default is 30. Can be overridden with the /TIMER_1 qualifier on the OMNI command; see this qualifier's description on page CFG-40 of *Session Configuration*.

TIMER_2

Defined in start-up file. Determines system-wide value in milliseconds for TIMER_2. Default is 100. Can be overridden with the /TIMER_2 qualifier on the OMNI command; see this qualifier's description on page CFG-40 of *Session Configuration*.

TIMER_3

Defined in start-up file. Determines system-wide value in milliseconds for TIMER_3. Default is 250. Can be overridden with the /TIMER_3 qualifier on the OMNI command; see this qualifier's description on page CFG-40 of *Session Configuration*.

VGA/EGA Video Option

LogiWare's optional VGA/EGA support for Omni-Ware is 100% BIOS compatible. It allows color workstations and X terminals to run applications that use VGA and EGA resolution graphics. If you have the VGA board, note the following:

- Only standard VGA is supported for Omni-Ware; you cannot display "enhanced" or "super" VGA. In addition, applications that bypass the BIOS (i.e., write to the video card's registers directly) will not work properly with Omni-Ware. These applications will cause the top row of the MS-DOS window to flash or appear "fuzzy," and text may appear pushed over to the right. (These symptoms also appear if you use OS/2 and you do not have LogiWare's special drivers installed properly.)

A program called VGAWATCH can be used to alleviate display problems caused by software that bypasses the BIOS. Refer to the description of this program on page DOS-43 of *Utilities & Drivers for DOS*. Note that this program slows performance and should only be used as a last resort.

- Sixteen-color (4-plane) workstations and X terminals can use Omni-Ware with the VGA/EGA emulation. All standard VGA modes will work correctly *except* 256-color mode. (Colors may not appear as they should in 256-color mode because only 16 colors are available.)
- When using VGA emulation from an 256-color (8-plane) workstation or X terminal, all standard VGA modes are supported. If you are running an application in 256-color mode and the MS-DOS window is selected, the colors in *other* windows will change. If focus is removed from the MS-DOS window (that is, you select a different window on your screen), the other windows will change back to their correct colors. These color changes are necessary for Omni-Ware to provide the exact 256 colors requested by the VGA application.

If you prefer, you can have Omni-Ware remap the VGA colors, preserving the system colors such that the colors in other windows do not change when running a 256-color application.

Refer to "VGA Remap Palette" on page CFG-57 of *Session Configuration*.

- You *cannot* use your server from a *monochrome* workstation or X terminal with Logcraft window system 2 or 3. To use a monochrome workstation, you must disable the VGA emulation on the coprocessor (with DIP switch 6) *and* remove the VGA board from the server.
- It is possible to use your server from a non-X terminal or from window system 0 without disabling the VGA emulation; however, only text mode is available (no graphics support). *This approach is not recommended.*

Resizing the VGA Window

You can resize an Omni-Ware VGA graphics window, provided that your display can accommodate the new window size. To double the VGA window, your display needs a minimum resolution of 1280 x 960. For smaller screens, a 1.5x screen expander is available.

If your screen is not large enough to accommodate the larger window size, the window will "bounce back" to the closest available size.

You can disable the screen doubler (but not the 1.5x expander) by setting the logical name LOGICRAFT_VGA_HIRES to 0.

If your screen cannot display a doubled window, you can set the logical name LOGICRAFT_VGA_RESIZEALL to 1. This allows the window to be resized larger than the screen (i.e., with some of the screen not visible). If you use this approach, however, note the following important points:

- Some window managers do not allow windows to be larger than can be completely displayed on the screen. If you attempt to double the VGA window on one of these platforms,

Omni-Ware will continuously resize the window between double and normal size until you kill the window.

- If part of the VGA window is off the screen and the Logcraft mouse driver is loaded, it's possible to stack your windows such that the mouse cursor is captive to a non-visible window. In this case, you must restack the windows such that the one with the mouse cursor becomes visible. (If you cannot do so without using the mouse, you're stuck!)

To minimize the likelihood of this problem, make sure that part of the VGA window is visible before enabling the PC mouse. If the PC mouse cursor disappears, you can then move the mouse until its cursor is in the visible portion of the Omni-Ware window, disable the PC mouse, and regain the use of your workstation/X terminal mouse.

- If you use Motif, you may experience problems if you resize the window larger than the screen. You may have trouble returning the window back to normal size without switching to text mode. In addition, the mouse may seem out of sync, particularly when near the edges of the window.

For these reasons, enabling the resize feature is *not recommended* if you use Motif and your screen is not large enough to accommodate the double-size window. Instead, use the 1.5x screen size.

Workstation Floppy Drives

Omni-Ware allows you to read from and write to pre-formatted floppy diskettes in workstation floppy drives. Because these drives do not support the PC's BIOS INT13, they cannot be used to install copy-protected software. However, they provide a means of loading and off-loading files.

To avoid possible data corruption, you should disable VMS SHARE privilege before establishing an Omni-Ware session in which you plan to use the workstation floppy drive. Give the following command:

```
$ set process/privilege=noshare
```

SHARE privilege allows more than one user to access the drive simultaneously. If you have SHARE privilege and you choose *not* to disable it, use extreme caution when accessing the floppy drive, particularly when writing data.

Accessing the Drive

To use a workstation floppy drive, ensure that the CONFIG.SYS file (on the disk from which the Omni-Ware session is booted) loads the WSFLOPPY.SYS driver:

- If you boot the server from *logical disk*, include a command like this:

```
DEVICE=C:\OMNI\WSFLOPPY.SYS
```

- If you boot the server from a *local hard disk*, include a command like this:

```
DEVICE=C:\OMNI\WSFLOPPY.SYS /S
```

When the Omni-Ware session is initialized and the WSFLOPPY.SYS driver is loaded, a message like the following is displayed:

Omni-Ware Workstation Diskette Driver vx.xx
Copyright (C) 1992, Logicaft Incorporated
DOS Drive G Loaded.

This message indicates on which drive letter you can mount the workstation floppy drive.

To mount the drive, use the following command syntax at the DOS prompt:

```
MOUNT drive device [READ_ONLY] [EXCLUSIVE]
```

where:

drive Indicates the drive letter displayed by the WS-FLOPPY.SYS driver.

device Specifies the device name of the workstation floppy drive.

READ_ONLY Mounts the drive for read-only access. If you omit this optional keyword, the drive is mounted for read/write access.

EXCLUSIVE Specifies that the floppy drive cannot be accessed by other users.

Once you have mounted the workstation floppy drive, you can use it as you would a PC floppy drive. To change diskettes, remove one diskette and replace it with another.

Notes

- **Important:** Do *not* mount the workstation floppy drive on a drive letter *other* than the one reported by WSFLOPPY.SYS!
- Omni-Ware allows you to access one floppy drive at a time. If your workstation has more than one drive, you cannot access both simultaneously. However, you can switch from one drive to another by issuing a DISMOUNT command, followed by a MOUNT command using the same drive letter.

- Do *not* use an RX drive with Omni-Ware to read from or write to *low-density* (360K or 720K) MS-DOS floppy diskettes.

Examples

```
Omni-Ware Workstation Diskette Driver vx.xx  
Copyright (C) 1992, Logicaft Incorporated  
DOS Drive G Loaded.
```

```
C:\>mount g mkb500 read_only
```

Related

WSFLOPPY.SYS, page DOS-44
MOUNT, page DOS-11
DISMOUNT, page DOS-5
RXFMT, page DOS-24

Formatting a Diskette

Omni-Ware's RXFMT utility can be used from a PC session to format a floppy in an RX drive. However, if the floppy has never been used before, you should issue the following VMS command *before* mounting the RX drive for Omni-Ware:

```
$ initialize/density=double drive_name: label
```

where *drive_name*: is the device name for the RX drive and *label* is the volume label for the disk.

To format a diskette, access the drive as discussed above, then use the following command syntax at the DOS prompt:

```
RXFMT drive size
```

where *drive* is the drive letter on which the RX drive is mounted, and *size* is either 1.2 (for a 5¼" floppy) or 1.44 (for a 3½" floppy).

Balancing Server Load

If you have more than one Omni-Ware (or you have a multi-user server), you can balance the load among all of your servers or among selected subsets.

All Servers

To balance the load among all servers automatically, use the `BEST_SERVER` keyword for the server name when establishing Omni-Ware sessions. This name is defined by Logcraft for this purpose and is internal to Omni-Ware's software.

The "best server" mechanism is also used by the Info utility to retrieve information about all available servers. (Refer to "The Info Utility" on page VMS-20 of *Utilities for VMS*.)

Logcraft's 386Ware product also uses the name `BEST_SERVER` to load-balance servers. If you have both Omni-Ware and 386Ware servers on your network, the name `BEST_SERVER` will choose the appropriate type of server based on the command used to start the session: If you use the `OMNI` command, your session will be established on an Omni-Ware server; if you use the `SRV` command, it will be established on a 386Ware server.

Defining Server Groups

In addition to using `BEST_SERVER` to select the least busy of all available servers, you can also balance the load among a subset of the available servers. To do so, define a logical name that references the names of the servers you want in the group, separating the names with spaces, tabs, or commas.

For example, assume that servers called `dept1a`, `dept1b`, `dept2a`, `dept2b`, and `dept2c` are defined. To allow load-balancing between

dept1a and dept1b and among dept2a, dept2b, and dept2c, define logical names with commands like the following:

```
$ define dept1 "dept1a, dept1b"  
$ define dept2 "dept2a, dept2b, dept2c"
```

To request an Omni-Ware session on either dept1a or dept1b (whichever is less busy), use a command like this:

```
$ omni sys$omniware:omnidsv50 /server=dept1
```

Similarly, to request a session on dept2a, dept2b, or dept2c, use a command like this:

```
$ omni sys$omniware:omnidsv50 /server=dept2
```

To request a session on the least busy of all five servers, use a command like this:

```
$ omni sys$omniware:omnidsv50 /server=best_server
```

Keymap Directory File

Omni-Ware includes a mechanism for ensuring that the correct default keyboard data file is used when starting a PC session from various X platforms. This mechanism, which consists of a special keymap directory file and a program to update it, eliminates the need to specify a keyboard mapping file when establishing a session from an X terminal or workstation.

You should only need to worry about the keymap directory file in the following cases:

- you use Omni-Ware from an X platform for which you have created a keyboard mapping file with the KeyUtil_X utility.
- you want to specify a different default keyboard mapping file for one of the X platforms supported by Logcraft (that is, platforms for which a keyboard data file is provided).
- Omni-Ware does not recognize the correct keyboard data file for a particular X platform.

In these cases, use the ADDKYBD utility discussed below to ensure that the keymap directory file contains the correct information for your X platform.

Data File Format

Information about X platforms and their corresponding keyboard files is stored in a file called `SYSS$LOGICRAFT_COMMON:KEYMAP.DAT`. Initially, this file contains information on the keyboard mapping files that Logcraft provides. The file includes lines like this:

```
AT&T6386WGSwithcolorHIRES(usingvt101)  intel      9  96
DECWINDOWSDigitalEquipmentCorp.        decwkey    86 251
IntergraphCorporation                    clipper    8  175
```

...

The first column is the X server vendor name, the second is the Logcraft keyboard data file, and the third and fourth are the minimum and maximum keycodes, respectively.

When a user attempts to start a PC session from an X device (without specifying a keyboard file), Omni-Ware looks at the X server vendor and attempts to match it to one in KEYMAP.DAT.

If the vendor is found, the corresponding keyboard data file is used. If the X platform is *not* found, the default keyboard mapping file is used.¹ With ADDKYBD, you can add the information to the keymap directory file, ensuring that the correct keyboard data file is used even if it is not explicitly specified.

Adding to the Data File

To use the ADDKYBD utility, you need write access to the file KEYMAP.DAT. In addition, you must execute this utility *from the X platform you are adding*. The utility interrogates the X device for its vendor information and records it in the keymap directory file along with the name of the keyboard data file you specify.

Execute the utility with the following command syntax:

```
ADDKYBD kybd_data_file
```

where *kybd_data_file* indicates the file name for the default keyboard mapping file to use for this X platform. If you do not specify otherwise, the data file is assumed to be in the directory SYS\$OMNIWARE.

Do *not* include the file type or extension (or even a period) when specifying the *kybd_data_file* parameter.

¹The default keyboard mapping is DECWKEY.DAT. To override the default, specify /KEYMAP when configuring the session. This qualifier is discussed on page CFG-29 of *Session Configuration*.

For example, assume KeyUtil_X was used to create a keyboard mapping called SYS\$OMNIWARE:BRANDX.MD2. To add the necessary information to the keymap directory file, give the following command, executed from the Brand X terminal:

```
$ addkybd brandx
```

```
Updating SYS$LOGICRAFT_COMMON:KEYMAP.DAT
```

```
Server vendor: NocturnalAviationComputersInc.  
Keyboard data: brandx  
Minimum keycode: 9  
Maximum keycode: 128
```

The relevant information is added to the end of the keymap directory file. If you then establish a PC session from this terminal, the brandx.md2 file is automatically used, unless you override this default by specifying an alternate keyboard data file.

If you attempt to execute the ADDKYBD utility from a non-X device, the following message is displayed:

```
Failed to open display
```

Checking the Data File

After you execute ADDKYBD, check KEYMAP.DAT for duplicate lines. If the first, third, and fourth columns of the new entry match an earlier line in the file, decide which data file you want as the default for this X platform, then remove the other line from the file.

For example, NCD X terminals are available with two keyboards: one looks like a DEC VT keyboard, the other like a PC keyboard. The default KEYMAP.DAT file includes the following line:

```
NetworkComputingDevicesInc. ncdvtkey 7 132
```

This line specifies that the data file is for the VT-style keyboard is the default for NCD. If the following command is executed from an NCD terminal:

```
$ addkybd ncdpckey
```

then this line is added to the end of KEYMAP.DAT:

```
NetworkComputingDevicesInc. ncdpckey 7 132
```

Note that the new line duplicates the earlier entry in the first, third, and fourth columns. If you establish a PC session from the NCD terminal without specifying a keyboard file, Omni-Ware searches KEYMAP.DAT for the file to use. The search is terminated when the first match is found, in this case, indicating the data file for the VT-style keyboard.

If you want the default to be the PC-style keyboard instead, you must remove the line that references `ncdvtkey` from the keymap directory file. If you then want to establish a session from an NCD terminal with a VT-style keyboard, you would have to reference the `ncdvtkey` keyboard file when configuring the session.

If two (or more) lines contain the same information in the first, third, and fourth columns, you should edit the file to remove the duplicate lines, even if the first line indicates the correct data file to use. Having duplicates will not cause errors; however, it will slow performance because Omni-Ware has to search through the redundant data for any entries that follow.

Logiccraft's Temporary Directory

Omni-Ware requires a temporary directory to which users have write access. Several Omni-Ware utilities, including the OMNI command, create small temporary files in this directory, which are then erased when no longer needed.

The installation creates a temporary directory for this purpose; it is the [.TMP] subdirectory of SYS\$LOGICRAFT_COMMON. The subdirectory is given the protection S:RWED, O:RWED, G:RWED, W:RWED, and the version limit on files is set to 5.

If Omni-Ware's temporary directory does not exist or its protections do not provide write access, users will see error messages when they execute the Omni-Ware utilities that require temporary files.

System-Wide Temporary Directory

If you prefer to have Omni-Ware write all its temporary files in single location other than in SYS\$LOGICRAFT_COMMON's [.TMP] subdirectory, follow these steps:

1. Create a subdirectory called [.TMP] in the directory of your choosing and set the protection on the subdirectory to allow read, write, and delete access for all.
2. Define the logical name LOGICRAFT_TEMPORARY to point to the *parent* directory. You can define the logical name in the process or system table.
3. If you use a system-wide logical name, add the definition to the Omni-Ware start-up file to ensure that the logical name is defined after each reboot.

For example, if you want all Omni-Ware temporary files to be written in a subdirectory of USER3:[TEMPDIR], give the following commands:

```
$ create/directory user3:[tempdir.tmp] -
_$ /protection=(s:rwd,o:rwd,g:rwd,w:rwd)
$ define/system logicraft_temporary -
_$ user3:[tempdir]
```

Add the "define" command to the Omni-Ware start-up file. You can then delete SYS\$LOGICRAFT_COMMON:TMP.DIR.

Temporary Directory for Each User

If you prefer to define a separate temporary directory for each user, follow an approach like this:

1. Create a [.TMP] subdirectory of each Omni-Ware user's login directory. Ensure that the user owns the directory and that the protection allows for owner read, write, and execute access.
2. Add the following command to Omni-Ware's symbol declaration file, OMNIWARE_SYMBOL_DECLARATION.COM:

```
$ define/process logicraft_temporary -
'F$logical("sys$login")
```

- ▲ **Important:** Make sure that you place this command in the symbol declaration file, *not* the Omni-Ware start-up file.

For example, to create a temporary directory for username JONES, whose login directory is TWEETY\$USER:[JONES] and whose UIC is [100,15], give the following command:

```
$ create/directory tweety$user:[jones.tmp] -
_$ /owner_uic=[100,15] -
_$ /protection=(s:rwd,o:rwd,g:rwd,w:rwd)
```

Omni-Ware Logging Utility

Logicraft DOS servers include a logging utility that allows you to monitor how often the available servers and logical disks are being used and by whom. (If you have Omni-Ware and 386Ware servers, usage information is logged for both.)

Enabling the Logging Utility

If the logical name LOGICRAFT_LOG_FILE is defined in the logical name table LOGICRAFT_PARAM_TABLE, Omni-Ware's logging utility is enabled, and usage data are saved in the file assigned to the logical name. Information is logged whenever an attempt is made to establish a DOS session on a server, a session is terminated, or an attempt is made to mount a logical disk.

For example, to have the utility log information to the file SYS\$OMNIWARE:SERVER.LOG, use the following command to define the logical name:

```
$ define/table=logicraft_param_table -
  _$ logicraft_log_file sys$omniware:server.log
```

To ensure that this logical name is defined whenever the system is rebooted, add the DEFINE command to Omni-Ware's start-up file.

Reading the Log File

The log file is written in a compact format to save disk space; it is not a text file that you type or edit. Once you have enabled logging, you can read the log file at any time by using the program, SYS\$OMNIWARE:READ_LOG.EXE. Give the following command:

```
$ run sys$omniware:read_log
```

READ_LOG displays information on the screen. If you want to re-direct the output to a file or a printer, redefine **SYSS\$OUTPUT**, run the **READ_LOG** program, then deassign **SYSS\$OUTPUT**.

Sample READ_LOG Output

The following sample output shows one connection, to server **BASSALE**. Four logical disks were mounted from the command line (**OMNIDOSV50**, **FLIGHT**, **WORD5_CGA**, and **QUATTRO**). The user mounted another disk, **MEMACS**, from the DOS session.

Statistic Logger vx.xx Copyright 1988-1992 by Logcraft, Inc.

```
* * * * TIME STAMP - 2-JAN-1992 12:49:26.42 * * * *
Username: SAMADAMS   Node: ZEKE   PID: 2E2040D3
Action: Initiating connection with server BASSALE.
Status: 0 Hex, (Successful)
```

```
* * * * TIME STAMP - 2-JAN-1992 12:59:46.58 * * * *
Username: SAMADAMS   Node: ZEKE   PID: 2E202041
Action: Attempting to mount. SYS$OMNIWARE:DOS;1.
Status: 10001 Hex, (Successful)
```

```
* * * * TIME STAMP - 2-JAN-1992 12:59:46.91 * * * *
Username: SAMADAMS   Node: ZEKE   PID: 2E202041
Action: Attempting to mount.
ZEKE$DUA4:[DOS_DISKS]FLIGHT.DOS;1.
Status: 10001 Hex, (Successful)
```

```
* * * * TIME STAMP - 2-JAN-1992 12:59:47.30 * * * *
Username: SAMADAMS   Node: ZEKE   PID: 2E202041
Action: Attempting to mount.
ZEKE$DUA4:[DOS_DISKS]WORD5_CGA.DOS;1.
Status: 10001 Hex, (Successful)
```

```
* * * * TIME STAMP - 2-JAN-1992 12:59:47.61 * * * *
Username: SAMADAMS   Node: ZEKE   PID: 2E202041
Action: Attempting to mount.
ZEKE$DUA4:[DOS_DISKS]QUATTRO.DOS;1.
Status: 10001 Hex, (Successful)
```

```
* * * * TIME STAMP - 2-JAN-1992 12:59:47.86 * * * *
Username: SAMADAMS   Node: ZEKE   PID: 2E202041
Action: Attempting to mount. DISKG.
Status: 18292 Hex, (Unsuccessful)
```

```
* * * * TIME STAMP - 2-JAN-1992 12:59:48.09 * * * *  
Username: SAMADAMS Node: ZEKE PID: 2E202041  
Action: Attempting to mount, DISKH.  
Status: 18292 Hex, (Unsuccessful)
```

```
* * * * TIME STAMP - 2-JAN-1992 13:14:37.29 * * * *  
Username: SAMADAMS Node: ZEKE PID: 2E202041  
Action: Attempting to mount,  
ZEKE$DUAO:[SAMADAMS]MEMACS.DOS;1.  
Status: 10001 Hex, (Successful)
```

```
* * * * TIME STAMP - 2-JAN-1992 13:59:57.63 * * * *  
Username: SAMADAMS Node: ZEKE PID: 2E202041  
Action: Terminating connection with server.  
Buffered IO: 256  
Direct IO: 71  
CPU time: 0 00:00:01.13  
Status: 10001 Hex
```

Using OMNIHISTORY.COM and WRITE_LOG.EXE

The OMNIHISTORY.COM procedure and WRITE_LOG.EXE program, both included in the SYS\$OMNIWARE directory, augment the logging information discussed above. Every fifteen minutes, OMNIHISTORY calls WRITE_LOG, which polls available servers for information. (You can change the fifteen-minute time period by editing the command procedure.)

To use OMNIHISTORY and WRITE_LOG, first enable logging by defining the logical name LOGICRAFT_LOG_FILE as discussed earlier. Next, submit the OMNIHISTORY command procedure to a batch queue. Give a command like this:

```
$ submit/nolog/noprint sys$omniware:omnihistory.com
```

When OMNIHISTORY executes the WRITE_LOG program, information like the following is recorded (in addition to the logging information discussed earlier).

Statistic Logger vx.xx Copyright 1988-1992 by Logicaft, Inc.

* * * * TIME STAMP - 2-JAN-1992 12:48:27.38 * * * *
Server: MOLSON Logged on: 1 / 16 (6%) Failed attempts:0

* * * * TIME STAMP - 2-JAN-1992 12:48:27.59 * * * *
Server: BASSALE Logged on: 4 / 16 (25%) Failed attempts:0

* * * * TIME STAMP - 2-JAN-1992 12:48:28.95 * * * *
Server: COURAGE Logged on: 3 / 4 (75%) Failed attempts:1

For each server polled, WRITE_LOG records the server name,¹ the number of users currently logged in, the maximum number of users allowed on the server, the percentage of available logins in use, and the number of failed attempts. The most common reason for a failed attempt is that a session was requested when the maximum number of users were already logged on the server.

If you would like information on the format of Omni-Ware's log file, perhaps to write your own utility to manipulate this data, contact Logicaft Customer Support.

¹WRITE_LOG will record the Ethernet address for XNS servers whose names are not defined in the logical name table LOGICRAFT_SERVER_TABLE.

Omni-Ware and ALL-IN-1

To use Omni-Ware from DEC's ALL-IN-1, define the logical name LOGICRAFT_ALLIN1 to be ON. The software looks for this definition first in the process table, then in the logical name table LOGICRAFT_PARAM_TABLE (which applies to all users).

- ▲ **Important:** Do *not* define this logical name in user mode (i.e., with the DEFINE/USER command). This will *not* work properly, even if the next command is OMNI.

To define the logical name for all Omni-Ware users, give a command like the following:

```
$ define/table=logcraft_param_table -  
_ $ logcraft_allin1 on
```

To ensure that this definition is in effect after a system reboot, add the above command to the Omni-Ware start-up procedure.

To override a system-wide ON setting for a particular process, define the logical name to be 0 (zero) using a command like this:

```
$ define/process logcraft_allin1 0
```

Microsoft Windows and Omni-Ware

Omni-Ware comes with a floppy diskette containing special drivers for use with Microsoft Windows version 3.0 and 3.1.¹ To take advantage of these drivers, you must access Omni-Ware using Logicaft window system 2 or 3. (You cannot use Microsoft Windows from window system 0 or from a non-X terminal.)

To use the Logicaft Windows drivers, you include them in the Microsoft Windows Setup procedure. Instructions are given below.

If you have already installed the Logicaft drivers and want to update them with new versions, refer to page SMG-36.

Installing the Drivers

- ▲ **Important:** You will *not* be able to install Windows version 3.1 if you load Logicaft's OMNIMSE. Make sure that you do not load OMNIMSE (e.g., in AUTOEXEC.BAT) prior to running the Windows Setup program

In addition, you may have difficulty running Windows Setup (version 3.0 or 3.1) if you have executed DOS's SHARE.EXE program. Ensure that you have not executed this program before installing Windows.

To install the Logicaft Windows drivers, follow these steps:

1. Collect the following items:
 - Microsoft Windows version 3.0 or 3.1 diskettes.
 - Logicaft diskette containing the Windows drivers.

¹You cannot use the Logicaft's drivers with Windows versions *prior* to 3.0.

2. Unless you plan to use a local hard disk, create a logical disk on which to install Windows. You should plan to install all applications running under Windows on the same logical disk. (Although you can install these applications on separate disks, Windows works better if everything is on one disk.)

Once you have determined how much space you need for the software, create a larger disk to ensure some "breathing room"; add approximately 20% to 25% extra space.

You may prefer to install Windows on a partitionable logical disk to avoid possible "drive not ready" errors with the Windows File Manager. Refer to "Partitionable Logical Disks" on page DSK-25 of *Logical & Local Disks*.

3. Establish a DOS session using either window system 2 or 3. (You *cannot* perform the Windows installation from window system 0 or from a non-X terminal.) Use a command like the following:

```
$ omni omnidosv50, win31 /server=serv1
```

where "omnidosv50" is the name of your Omni-Ware's bootable logical disk, "win31" is the name of the logical disk on which to install Windows and "serv1" is the name of your Omni-Ware server.

4. After the session has booted, insert the first Windows diskette in the floppy drive, then run the Windows installation set-up procedure:

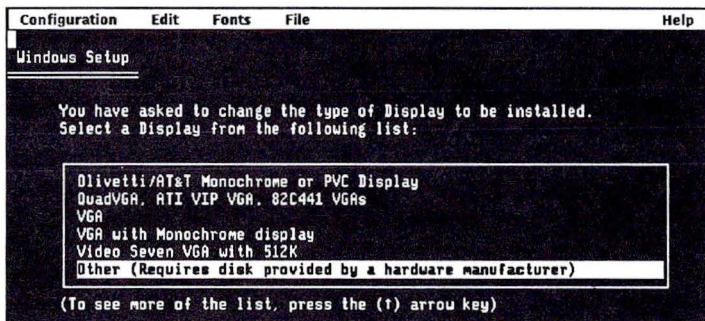
```
A:\>setup
```

Read the instructions on the initial screen, then press Return.

5. Follow the instructions for setting up the disk and directory on which to install Windows. Unless you specify otherwise, Windows assumes you want to install the software in the \WINDOWS directory on the C: drive.

If you established your DOS session using an Omni-Ware command like the one shown in Step 3, change the disk/directory information to reflect the D: drive instead.

- When Windows displays a screen that says "Setup has determined that your system includes the following hardware and software components...," use the arrow keys to select the line labeled **Display**; and press Return. A screen that allows you to select a different display appears.
- Use the arrow keys to select the line that says **Other (Requires disk provided by a hardware manufacturer)**. This choice may not be visible initially. Use the down arrow key until the line appears. Your screen should look like the following:



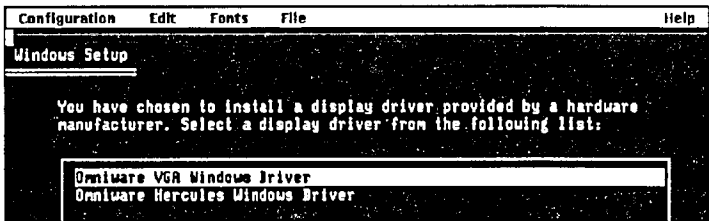
Press Return. Setup will prompt you to insert the display driver disk. Change the pathname for the driver to A:\WINDRV.

- Insert the Logcraft Windows Drivers floppy and press Return. A screen indicating the names of the Logcraft drivers appears.
- Two different display drivers are available; choose the one appropriate for your site:

Select **OmniWare VGA Windows Driver** if you have Omni-Ware's VGA option.

Select **OmniWare Hercules Windows Driver** if you do not have the VGA option.

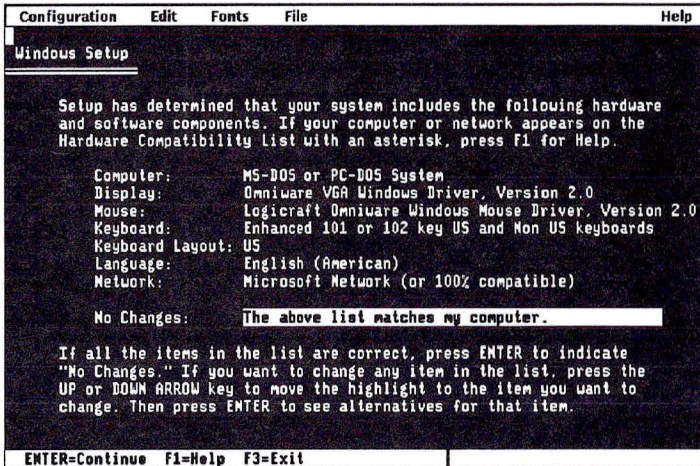
At this point, the top part of your screen should look like this:



When you have indicated the appropriate driver, Press Return.

10. Next, Windows asks you to insert several of the Windows disks. Be sure to follow the prompts because the disks may not be requested in numerical order. After copying several necessary files, Windows returns to the System Information Screen.
11. Select the line labeled **Mouse:** and press Return. A screen that allows you to select a different mouse appears.
12. Use the arrow keys to select the line that says **Other (Requires disk provided by a hardware manufacturer)**. This choice may not be visible initially; use the down arrow key until the line appears. (At this point, your screen should look much like the one shown in Step 7.) Press Return. Setup prompts you to insert the mouse driver disk.
13. Make sure the pathname for the driver is A:\WINDRV, then insert the Logisoft Windows drivers disk and press Return.
14. Select the line that says **Logisoft OmniWare Windows Mouse Driver**, then press Return.

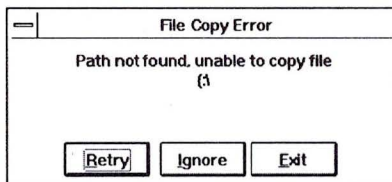
Setup loads the Logcraft driver and returns you to the System Information screen, which reflects all the changes you have made. The screen should look like the following:



15. Press Return, then finish setting up Windows according to Microsoft's instructions.

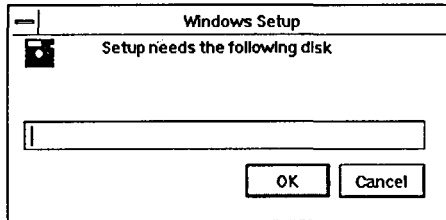
Partway through the installation, Setup recognizes the Logcraft Windows Drivers you installed. Your workstation or X terminal screen clears, and Windows Setup repaints the screen. At this point, the Logcraft Windows mouse is also operational.

In addition, you may see a message like the following during the installation:



Click on **Retry** to continue. (This error appears to be a problem within the Windows Setup program.)

Windows may also request that you insert a disk without telling you which disk. The screen looks like this:



Insert the next disk in numerical sequence. (For version 3.0, 5¼" disks, insert Disk 4.) Before pressing Return or clicking OK, ensure that the pathname box indicates A:\WINDRV.

After Windows copies its files to the logical disk, it displays a box indicating that Setup needs to modify your CONFIG.SYS and AUTOEXEC.BAT files:

If you are installing Windows on a local hard disk from which the server boots, you can have Setup make the changes for you, if you prefer.

If you are installing Windows on a logical disk or on a local hard disk that is *not* used to boot the server, Logcraft recommends that you make the necessary modifications later.

Windows then asks if you would like to save the changes it would make in back-up files called CONFIG.WIN and AUTOEXEC.WIN. If you want to see these changes, click on Save or press Return.

Changes are discussed in "The AUTOEXEC.BAT File" and "The CONFIG.SYS File" beginning on page SMG-39.

When you have completed the Windows Setup procedure, the Logcraft Windows drivers are installed and will be loaded automatically whenever you invoke Windows.

Updating the Drivers

Logiccraft often provides new versions of the Windows drivers with new releases of the Omni-Ware software. Unless otherwise indicated in the release notes, you do *not* need to reinstall Windows to upgrade the drivers.

The instructions for updating the drivers depend on whether you want to use the same drivers or change to different ones. For example, if you have already installed the Omni-Ware VGA driver and want to continue using the VGA driver, follow the instructions under "Using the Same Drivers."

Using the Same Drivers

- ▲ **Important:** These instructions should be used only if you are upgrading an existing Windows installation with the *same* Logiccraft drivers!

Follow these steps to update the existing Logiccraft Windows drivers with their new counterparts.

1. Make a back-up copy of the Windows logical disk. If you have installed Windows on a local hard disk, you should copy the Windows files to a logical disk. It is *strongly* recommended that you back up this disk before installing the new drivers!
2. Establish an Omni-Ware/DOS session to access the existing Windows software.
3. Change to the Windows directory, then to the .\SYSTEM directory:

```
D:\>cd \windows\system
```

This directory contains the existing Logiccraft drivers. To see which drivers are installed, give this command:

```
D:\WINDOWS\SYSTEM>dir omni*.drv
```

The Logcraft drivers have the following file names:

OMNIMOUS.DRV	Omni-Ware Windows Mouse Driver
OMNIVGA.DRV	Omni-Ware VGA Windows Driver
OMNIHERC.DRV	Omni-Ware Hercules Windows Driver

4. Insert the Logcraft Windows Drivers diskette into the server's floppy drive.
5. Copy the appropriate Logcraft drivers from the floppy to the Windows System directory. For example, if you use the VGA driver, give commands like these:

```
D:\>WINDOWS\SYSTEM>copy a:\windrv\omnivga.drv  
D:\>WINDOWS\SYSTEM>copy a:\windrv\omnimous.drv
```

Once the files are copied, the new drivers will take effect the next time Windows is started.

Changing to Different Drivers

Follow these steps to change which Logcraft Windows drivers are installed:

1. Make a back-up copy of the Windows logical disk. (If you have installed Windows on a local hard disk, you should copy the Windows files to a logical disk). It is *strongly* recommended that you back up this disk before installing the new drivers!
2. Establish an Omni-Ware/DOS session to access the existing Windows software.
3. Change to the Windows directory.
4. Run the Windows Setup program. Give a command like the following:

```
D:\WINDOWS>setup
```

Windows displays a system information screen describing your current hardware.

5. Select the line labeled **Display:** and press Return. A screen that allows you to select a different display appears.
6. Use the arrow keys to select the line that says **Other (Requires disk provided by a hardware manufacturer)**. This choice may not be visible initially. Use the down arrow key until the line appears. Press Return. Setup will prompt you to insert the display driver disk.
7. Make sure the pathname for the driver is A:\WINDRV. Setup, then insert the Logcraft Windows Drivers floppy and press Return. A screen indicating the names of the Logcraft drivers appears.
8. Choose the appropriate display driver. Refer to their descriptions on page SMG-32.
9. Select the line labeled **Mouse:** and press Return. A screen that allows you to select a different mouse appears. Use the arrow keys to select the line that says **Other (Requires disk provided by a hardware manufacturer)**. Press Return. Setup prompts you to insert the mouse driver disk.
10. Make sure the pathname for the driver is A:\WINDRV. Setup, then insert the Logcraft Windows drivers disk (if necessary) and press Return.
11. Select the line that says **Logcraft OmniWare Windows Mouse Driver** and press Return.
12. Setup loads the Logcraft driver. The System Information screen now reflects the changes you have made.
13. When Setup asks whether to change the CONFIG.SYS file, you should either make the modifications later or review and edit changes. Refer to "The CONFIG.SYS File" on page SMG-40 for further information.
14. Exit the Setup utility.

The new drivers are now installed and will be recognized the next time you use Windows.

The AUTOEXEC.BAT File

You should make the following changes to AUTOEXEC.BAT *only* in the following cases:

- if you installed Windows on a logical disk and you *always* plan to use the logical or local disk assigned to the C: drive in conjunction with the Windows disk. If the C: drive will be used to establish sessions without also mounting the Windows disk, include the following changes in a separate batch file that can be called whenever Windows is used.
- if you installed Windows on a local hard disk that is used to boot the server *and* you did not have the Windows Setup program make the changes for you.

If you installed Windows on a logical disk and you plan to set up the disk for read-only access, do not make changes to AUTOEXEC.BAT. Instead, refer to "Windows and Read-Only Access" on page SMG-43.

AUTOEXEC.BAT Changes

- Add the Windows directory to the *end* of the DOS path, indicating the drive letter for the Windows logical disk. Example:

```
path c:\;c:\dos;c:\omni;d:\windows
```

Putting the directory at the end of the path ensures that the path is set correctly even if the directory is not found (e.g., if the Windows logical disk is not mounted). Otherwise, Drive Not Ready errors will be issued when the DOS session is established.

- Set the TEMP variable to the Windows temporary directory. Add a line like the following to the AUTOEXEC.BAT:

```
set temp=d:\windows\temp
```

Sample AUTOEXEC.BAT

```
echo off
prompt $p$g
path c:\;c:\dos;c:\omni;d:\windows
set temp=d:\windows\temp
omnimse
```

The CONFIG.SYS File

The changes for CONFIG.SYS depend primarily on how much memory you have in your server. For a thorough discussion on configuring the available memory, see the chapter entitled "Optimizing Windows" in the *Microsoft Windows User's Guide*. This chapter includes sections on configuring 80386 and 80286 computers. Refer to the section appropriate for your server's hardware.

Using HIMEM.SYS

If your server has at least one megabyte of memory, ensure that you load the HIMEM.SYS driver, which is copied to the root directory of the C: drive during the Windows installation.

If you use logical disks, you may prefer to copy HIMEM.SYS to the Windows disk to ensure that it is always available when Windows is used. In this case, make sure you specify the correct path when loading the driver in CONFIG.SYS. This approach avoids problems, for example, if the Omni-Ware software is updated and a new bootable logical disk is made available.

Using SMARTDrive

Windows includes a disk-caching driver called SMARTDrive. You can improve the performance of Windows with Omni-Ware by loading the SMARTDrive disk-caching driver in CONFIG.SYS.

Due to the way disk-caching programs work, SMARTDrive may cause results that seem unusual if you MOUNT or DISMOUNT

logical disks once you have started the DOS session. In particular, you may see “residue” from a dismounted disk; for example, you might see a directory of files for a logical disk that is no longer mounted. However, your data will *not* be corrupted.

Files and Buffers

Microsoft recommends that you set the number of files and buffers in CONFIG.SYS to 30 and 20, respectively. If you load SMART-Drive, set the number of buffers to 10.

Sample CONFIG.SYS

```
FILES=30
BUFFERS=10
BREAK=ON
SHELL=\COMMAND.COM /E:1024 /P
DEVICE=D:\WINDOWS\HIMEM.SYS
DEVICE=D:\WINDOWS\SMARTDRV.SYS 1024 256
```

The “Optimizing Windows” chapter mentioned earlier discusses many techniques for improving system performance.

The SYSTEM.INI File

To prevent memory conflicts between the Omni-Ware COP and Microsoft Windows in enhanced mode, include a line like the following in the [386Enh] section of your Windows SYSTEM.INI file:

```
EMMEXCLUDE=C800-CFFF
```

Memory segment C800 is the default used for the Omni-Ware COP. If you have configured the COP to use a different address, specify that address instead. Include *one* of these lines, depending on which address you use:

```
EMMEXCLUDE=D800-DFFF
EMMEXCLUDE=E800-EFFF
EMMEXCLUDE=A800-AFFF
```

Using Windows with VGA

If you are using the VGA option, the colors in other windows may change if you run a PC application that requires all of the available colors. The VGA Remap Palette item on the Configuration pull-down menu can be used to restore the system colors. Refer to the description of this item on page CFG-57 of *Session Configuration*.

The Windows Mouse

When using Windows with the Logcraft drivers, the first and third mouse buttons of your workstation or X terminal mouse function as the left and right buttons, respectively on a Microsoft compatible mouse. Your mouse is automatically activated when Windows is running and the Omni-Ware window is active (given input focus).

Your mouse pointer may not be large enough to display the entire Windows mouse pointer. When the mouse pointer is an arrow, the difference is negligible; however, when Windows changes the pointer to an hourglass, you may see only a quarter of the hourglass on your screen, as shown at right. The I-beam text insertion pointer is affected in a similar fashion.



Windows and Read-Only Access

By default, Microsoft Windows assumes that the user can read from and write to the disk on which it is installed. This situation is adequate for a single-user, stand-alone PC. However, with Omni-Ware, you may prefer to restrict access to the Windows logical disk, allowing users to read from the disk but preventing them from writing to it. The following pages discuss the necessary steps for setting up Windows for read-only access.

Overview

It is possible to set up Windows so that the bulk of the software, including any applications used with Windows, resides on a read-only logical disk. To accomplish this, several Windows data and initialization files are copied to another logical disk that can be mounted read/write. You can then modify the appropriate Windows initialization file and give the necessary DOS commands to have Windows look for these components on this other disk.

With this set-up, users can be given their own copies of the logical disk containing the data and initialization files. A user who wants to access Windows would then configure the DOS session to mount the Windows disk read-only and the data disk read/write. Because of the nature of DOS and Windows, these two disks must be configured on specific drive letters or errors will occur. The following instructions assume that the Windows disk will be mounted on the D: drive and the data disk on the E: drive. (You can use different drive letters, if you prefer, provided you are consistent when referencing them.)

Once you have configured Windows according to the instructions below, many applications that run under Windows will automatically function properly for read-only and read/write access. However, some applications, such as Word for Windows, may require further set-up. Instructions for configuring Word for Windows are included below. If you encounter problems accessing other Windows applications from a read-only logical disk, contact Logcraft Customer Support for assistance.

Setting Up Windows

The steps below describe how to configure Windows for read-only access. Before continuing, you should have already installed Windows and the Logcraft drivers on a logical disk.

You can perform the following steps from a workstation or X terminal using any of the Logcraft window systems or from a non-X terminal. However, to verify that you have successfully configured Windows, you will need to use window system 2 or 3.

Before beginning the following procedure, please read through all of the steps.

1. Make a back-up copy of the logical disk containing Windows. Before you attempt the following procedures, it is *strongly* recommended that you back up the disk.
2. Create a logical disk for the Windows components requiring write access. The necessary data and initialization files occupy approximately 35 kilobytes. When creating the logical disk, keep in mind that files the user creates or modifies within Windows will be placed on this disk.
3. Initiate a DOS session, including configuration information for both the Windows logical disk and the disk created in Step 2. You need read/write access to both disks. For example, use a command like the following:

```
$ omni omnidosv50, win31, winuser -  
_ $ /server=serv1
```

where "omnidosv50" is the name of an Omni-Ware bootable logical disk, "win31" is the name of the logical disk containing Windows, "winuser" represents the disk created in Step 2, and "serv1" is the name of the server to use.

The following steps assume the Windows disk is mounted on the D: drive and the user/data disk on the E: drive.

4. Give the following commands to create two directories on the E: drive (the user/data disk):

```
C:\>md e:\windows  
C:\>md e:\windows\temp
```

5. Copy the data and initialization files from the Windows disk to the user/data disk. Give these commands:

```
C:\>copy d:\windows\*.grp e:\windows  
C:\>copy d:\windows\*.ini e:\windows
```

6. Delete these files from the Windows logical disk:

```
C:\>delete d:\windows\*.grp  
C:\>delete d:\windows\*.ini
```

(This prevents Windows from attempting to write to these files, which results in errors if the disk is mounted read-only.)

7. Modify the file PROGMAN.INI on the user/data disk to reference the E: drive, rather than the D: drive, as shown below.

original file	modified file
Window=100 76 904 608 1	Window=100 76 904 608 1
SaveSettings=1	SaveSettings=1
MinOnRun=0	MinOnRun=0
AutoArrange=0	AutoArrange=0
[Groups]	[Groups]
Group1=D:\WINDOWS\GAMES.GRP	Group1=E:\WINDOWS\GAMES.GRP
Group2=D:\WINDOWS\ACCESOR.GRP	Group2=E:\WINDOWS\ACCESOR.GRP
Group3=D:\WINDOWS\MAIN.GRP	Group3=E:\WINDOWS\MAIN.GRP

8. Create a batch file on the user/data disk (drive E:) to execute the necessary DOS commands. This file should contain at least the following lines:

```
path c:\dos;c:\omni;d:\windows;e:\windows  
append e:\windows  
set temp=e:\windows\temp
```

The PATH command can include whatever directories are appropriate for your site, as long as it includes both "d:\windows" and "e:\windows" as shown. The APPEND

command tells DOS where to look for data files if they are not found in the current directory. The SET command tells Windows where to put any data that it may need to store temporarily. (For further information about these commands and about batch files in general, refer to your MS-DOS manual.)

This batch file should be executed at least once per session *prior* to running Windows. The DOS commands remain in effect until the session is terminated.

You can include other commands in the batch file, depending on your site's needs. For example, you might include the command to invoke Windows.

Setting Up Word for Windows

If you have installed Word for Windows on the Windows logical disk, complete these three additional steps:

9. Copy the WINWORD.INI file from the \WINWORD directory of the Windows logical disk to the \WINDOWS directory on the user/data disk:

```
C:\>copy d:\winword\winword.ini e:\windows
```

It is not necessary to delete the WINWORD.INI file from the D: drive, although you can do so, if you prefer.

10. Modify the WIN.INI file on the E: drive. Add the line shown below, which defines a path that Word for Windows searches when it is executed.

original file	modified file
[windows]	[windows]
.	.
.	.
.	.
[Microsoft Word]	[Microsoft Word]
Conversion=Yes	Conversion=Yes
.	ini-path=E:\WINDOWS
.	.
.	.
.	.

Verifying Your Changes

Once you have completed these eight or ten steps, verify that you can run Windows. Give the following command¹ to remount the Windows disk for read-only access:

```
C:\>mount d: win31 read_only
```

where “win31” represents the name of the logical disk containing the Windows software. Next execute the batch file you created in Step 8. For example, if the file is called WINSETUP.BAT, give the following command:

```
C:\>e:winsetup
```

Invoke Windows, then exit. If you do not receive an error message, then Windows is set up properly.²

Once you have verified that Windows is configured properly, you can use the COPY command to make copies of the user/data disk. Each Windows user will need a copy. Remember that the user must configure the Windows disk and his or her copy of the user/data disk on the appropriate drive letters. If you followed the instructions above, configure these disks as the D: and E: drives, respectively, for proper operation of Windows.

¹If the Windows disk is a partitionable logical disk, you cannot use the MOUNT command. Instead, terminate your session and establish a new one, configuring the disk for read-only access.

²Windows attempts to write to the *.GRP files when you exit. If everything is configured correctly, Windows will write the files on the E: drive. Otherwise, it will attempt to write them on the D: drive, which results in an error because the disk is read-only.

OS/2 and Omni-Ware

- ▲ **Important:** OS/2 is supported *only* for Omni-Ware servers that have the optional VGA board installed.

If you purchased the OS/2 operating system from Logicaft, the software installation includes the OMNIO2V13.DOS logical disk. This disk contains the OS/2 system files, along with some special drivers for use with Omni-Ware. In addition, the CONFIG.SYS file on the logical disk is automatically set up to load these drivers for you.

If you install your own copy of OS/2 (rather than purchase a copy from Logicaft), you need to copy Logicaft's special mouse and display drivers to your OS/2 system disk. Omni-Ware comes with a floppy diskette containing these OS/2 drivers in a directory called \OS2DRV.

For the most part, installing OS/2 with Omni-Ware is the same as installing it on a PC/AT. Follow the instructions that came with the operating system software.

You can install OS/2 on either a standard or partitionable logical disk. You may prefer to install OS/2 on a partitionable disk to take advantage of a disk size larger than 32 megabytes. Refer to "Partitionable Logical Disks" on page DSK-25 of *Logical & Local Disks* for information.

When establishing the Omni-Ware session to install OS/2, be sure to include the /NOXTNPRTN configuration qualifier if you configure the session with any standard logical disks. The installation program for OS/2 tests for the presence of extended partitions and can fail when used with Omni-Ware. Configuring the Omni-Ware session with /NOXTNPRTN allows you to perform the OS/2 installation. Once installed, you do *not* need to include this qualifier to use OS/2 with Omni-Ware.

The Logcraft OS/2 Drivers

The Logcraft OS/2 drivers are OMNI_MSE.SYS, which is provided by Logcraft, and MOUSE.SYS, which is IBM's mouse driver, modified for use with Omni-Ware. Also included are DISPLAY.DLL and BVHVG.A.DLL. These files, like MOUSE.SYS, are provided by IBM as part of the standard OS/2 distribution, but they have been modified by Logcraft for Omni-Ware.

DISPLAY.DLL is the OS/2 display driver used by the mouse driver to draw the mouse cursor on the screen. Two versions of this file are included on the floppy: one in the .\SOFTWARE directory and the other in the .\HARDWARE directory.

Hardware Mouse Display Driver

The .\HARDWARE\DISPLAY.DLL file is the standard display driver that Logcraft supplies with OS/2. It provides real-time mouse movement using the hardware cursor on the X display. Only position and button information are transmitted; the appearance of the mouse cursor is handled by the X terminal or workstation. The disadvantage of this technique is that many X displays limit the mouse cursor to 16 x 16 pixels. Because OS/2 allows for a larger mouse cursor, you may see only the top left quarter of the cursor. The difference is negligible when the mouse cursor is an arrow; however, the I beam text insertion pointer, for example, is adversely affected.

Software Mouse Display Driver

In contrast, the .\SOFTWARE\DISPLAY.DLL file draws the mouse cursor on the display. That is, the driver transmits information regarding the appearance of the mouse cursor (from the VGA board's memory) in addition to transmitting position and button information. As a result, this mouse emulation is slightly slower than the hardware version and may have a "spongy" feel. However, the entire OS/2 mouse cursor is displayed.

After installing OS/2, these four driver files must be copied to the appropriate directories on your OS/2 system disk; the target directories are given in the table below. Except for OMNI_MSE.SYS, these files *replace* existing OS/2 files. You should rename the existing version *before* copying the files.

File	Target Directory
OMNI_MSE.SYS	\OS2
MOUSE.SYS	\OS2
DISPLAY.DLL	\OS2\DLL
BVHVG.A.DLL	\OS2\DLL

If you use the High Performance File System (HPFS), follow these steps to copy the drivers after installation: Reboot the server with the OS/2 set-up diskette, then press Esc at the first screen. This puts you in a DOS shell from which you can copy the files from the floppy.

Once the files are copied, modify the CONFIG.SYS file to reference the two mouse drivers. Include the following two lines:

```
DEVICE=C:\OS2\OMNI_MSE.SYS  
DEVICE=C:\OS2\MOUSE.SYS TYPE=LGOMN$
```

The CONFIG.SYS file probably already contains a reference to MOUSE.SYS. If it does, modify the line to look like the one given above.

Refer to your OS/2 manual for additional information on installing device drivers.

Using the Mouse

When you start an OS/2 session in window system 2 or 3, your mouse is still under the control of the VMS graphical user interface and will not function within PC applications. To pass control of the mouse to the Logcraft mouse driver, click the middle mouse button.

Once you activate the mouse, the first and third mouse buttons function as the left and right buttons, respectively, on a Microsoft compatible mouse.

When the mouse is under control of the Logcraft mouse driver, the mouse will not work outside the OS/2 window. You can use the middle mouse button to toggle between the PC mouse and the VMS mouse.

Removing the Omni-Ware Software

Omni-Ware includes a file in the SYS\$UPDATE directory called DEINSTALL_OMNIWARE.COM. Executing this command procedure removes all of Omni-Ware's files, including the files in the SYS\$OMNIWARE and SYS\$LOGICRAFT_COMMON directories and Omni-Ware's help libraries.

If you use DECwindows and/or Motif, the Logcraft fonts are also removed.

In addition to deleting files and directories, the deinstall procedure removes the logical disk commands (DOSCOPY, DOSMAKE, etc.) from DCLTABLES.EXE.

- ▲ **Important:** Deinstalling Omni-Ware removes files that are common to Logcraft's 386Ware. If you have 386Ware servers, you should *not* execute the DEINSTALL_OMNIWARE procedure unless you also plan to deinstall 386Ware.

The deinstallation procedure must be executed from the SYSTEM account, and it requires CMKRNL, NETMBX, SYSPRV, SYSNAM, and BYPASS privileges.

Troubleshooting

If it is apparent that something is wrong when attempting to use Omni-Ware, check the following areas. If you follow these guidelines and still experience problems, contact Logcraft Customer Support for assistance.

- If the status display indicates “Remote Boot Failed,” check that you have enabled remote boot service for this server. Refer to “Enabling Remote Boot Service” on page SMG-2.

For UCX and TGV, check that the server’s Ethernet-to-Internet address mapping is specified correctly. The Ethernet address should match the one on your server’s configuration sheet, and the Internet address should match the one configured with EDOWI. Refer to “The EDOWI Utility (UCX and TGV Only)” on page SMG-4.

- Verify that the network interface in your server is configured for the proper network type (thick wire or ThinWire). Refer to “Ethernet Installation” on page INS-8 of *Installation*.

If the status display indicates an error message (other than “remote boot failed”), you may have a hardware problem with the server. Ensure that you have noted the exact text of the message before contacting Logcraft Customer Support.

- If the server boots properly—that is, the status display is cycling through its normal sequence—but you cannot start an Omni-Ware session, verify the network connection by following the instructions on page SMG-56.
- If a VMS error message like the following is displayed:

```
%DCL-W-IVVERB, unrecognized command verb - check  
validity and spelling \OMNI\
```

it means you have not executed the Omni-Ware symbol declaration procedure. Give the following command:

```
$ @sys$omniware:omniware_symbol_declaration
```

then retry the OMNI command. For additional information, refer to “Omni-Ware’s Symbol Definitions” on page INS-26 of *Installation*.

- Attempt an Omni-Ware session from the SYSTEM account with all privileges enabled. If this succeeds but you cannot log in from a different username, check whether the user’s privileges and quotas are sufficient. Refer to “Setting Up User Accounts” on page INS-35 of *Installation*.

In addition, check the file protection on the Omni-Ware executable; it should allow execute access for those who need to run it. The executable name depends on your system and server configuration. Refer to “Installing Omni-Ware as a Shared Image” on page INS-28 of *Installation* for details.

- If an error message is displayed, check Appendix C for additional information.
- The session starts, but the message “No ROM BASIC” is displayed. This message indicates that the Omni-Ware couldn’t find the PC operating system. If you are booting with logical disks, ensure that the first disk in the session configuration contains the operating system (i.e., is bootable). Also, check that you have access to the first disk and that the disk is not being used by someone else for exclusive access.

Another way to clear this error is to insert a system (bootable) floppy in the Omni-Ware’s A: drive, then establish the session. Once the session initiates, use the SHOW DISKS command to determine whether the logical disk failed to mount.

- **For XNS servers:** If you have trouble connecting when specifying the BEST_SERVER keyword, try specifying the server name or Ethernet address instead. If this works, check to see if the Info utility’s detached process is running. Refer to “The Info Utility” on page VMS-20 of *Utilities for VMS*.
- **For XNS servers,** ensure that the Ethernet address you specified during the software installation is correct. The Omni-Ware start-up file defines a logical name for each Omni-Ware

that translates to the server's Ethernet address. Give a command like the following to see the server's definition:

```
$ show logical/table=logicraft_server_table -
_$ serv_name
```

where *serv_name* is the name of the server.

The network address shown by the server's status display should match the logical name definition for the server. If the Ethernet address defined in the logical name table does *not* match the one shown on the status display, edit the OmniWare start-up file to correct the discrepancy.

- **For XNS servers**, check to see if the network driver is loaded. Give these commands:

```
$ run sys$system:sysgen
SYSGEN>show /driver=kxdriver
```

You should see a display showing the driver, starting address and ending address. If you get only the column headers without a driver name and addresses, the driver is not loaded. Re-execute the OmniWare start-up file and repeat this step. If the driver is still not loaded, execute the start-up file again with verify mode set (SET VERIFY) to see the cause of the error.

- **For XNS servers**, check to see if the KXE0: device is created. Give this command:

```
$ show device kxe0: /full
```

This device should exist and it should display as OFFLINE. If the device does not exist, the driver is not loaded properly. Re-check the preceding step.

- **For XNS servers**, if you have multiple Ethernet controllers on the VAX, ensure that you have modified the start-up file accordingly. Refer to "Multiple Ethernet Controllers" on page INS-26 of *Installation*.

- For UCX and TGV servers, verify the network connection using the instructions below to determine whether there are any problems in the network connecting you, your server, and the VAX.
- If you still cannot access the server, try rebooting the VAX, if possible, particularly if you have Omni-Ware/XNS.

Verifying the Network Connection

If you experience problems connecting to an Omni-Ware server, it may be an indication of network difficulties in reaching the server. The following gives information on verifying the server's ability to communicate with the VAX.

The ECHO Utility (XNS Only)

The ECHO utility program, included with XNS servers, helps identify network problems in reaching the Omni-Ware server. This program sends a string of messages (packets) between the server and the VAX and echoes the result to your screen.

ECHO is included in the SYS\$LOGICRAFT_COMMON directory. It uses the following command syntax:

```
ECHO [-Haddr] [-Cxxx] [-Lyyyy] [-Tss] [-Vzz] [-Bn] [-A]
```

where:

- | | |
|---------------------|---|
| <code>-Haddr</code> | Indicates the Omni-Ware's Ethernet address. |
| <code>-Cxxx</code> | Specifies the number of packets to send. |
| <code>-Lyyyy</code> | Specifies the length of packet in bytes. |

- T*ss* Indicates the timeout between packets in seconds. The default is 2.
- V*zz* Verbose count. Determines how often a message is displayed (e.g., every packet, every ten packets, etc.). The default is 10.
- B*n* Indicates the number of buffers (for simultaneous packets).
- A Acknowledges which devices responded.

A useful ECHO command for Omni-Ware is:

```
$ echo -hab-00-04-af-af-af -v1 -a
```

where *ab-00-04-af-af-af* is the multicast address used by Logi-craft. This ECHO command gives you the Ethernet addresses of the Logicraft servers that respond. If a server responds, you know it is communicating and you can verify its address.

The UCX LOOP Command

The UCX LOOP command, part of DEC's UCX distribution, can be used to verify that the Omni-Ware server is accessible. Give a command like this:

```
$ ucx loop srvname
```

where *srvname* indicates the name of the Omni-Ware to check. If the server is reachable, LOOP responds with messages like this:

```
%UCX-I-LOOPACT, srvname is alive
```

The MultiNet PING Command

TGV MultiNet's PING command can be used to verify that the Omni-Ware server is accessible. Give a command like this:

```
$ multinet ping srvname
```

where *srvname* indicates the name of the Omni-Ware you want to check. If the server is reachable, PING will respond with messages like this:

```
PING srvname (nnn.nnn.nnn.nnn) : yy data bytes  
zz bytes from nnn.nnn.nnn.nnn: icmp_seq=0 time=zz ms  
.  
.  
.
```

If the unit is not reachable, no messages are displayed until you press Ctrl-Y, then PING indicates 100% packet loss.

XCP Control Program

XCP, the XNS control program, is used to manage the XNS Ethernet interface. The Omni-Ware start-up procedure contains the required XCP commands; you should *rarely* need to issue these commands manually. The following is provided for informational purposes only.

The XCP commands to start, stop, and configure the XNS Ethernet driver require CMKRNL and SYSPRV privileges.

START

The XCP START command starts the XNS driver.

Syntax

```
XCP START device [-M] [-Nxx-xx-xx-xx] [-Pxx-xx]
          [-Lnnn] [-Hxx-xx-xx-xx-xx-xx]
```

Parameters

- | | |
|---------------|---|
| <i>device</i> | Indicates the name of the Ethernet device, for example, <code>_XQA</code> : |
| -M | Indicates that the device is an "ES." The -M is required for this device type and must not be specified for any other type of device. |
| -N | Specifies a network number. Logcraft uses the default of 00-00-00-01. |
| -P | Specifies the protocol type. The default is 06-00. Logcraft uses AF-AF. |
| -L | Indicates the maximum size for Ethernet packets. Logcraft requires the default. |
| -H | Indicates the physical hardware address of the Ethernet controller for systems without DECnet. |

STOP

The XCP STOP command stops the XNS driver, terminating any active Omni-Ware and 386Ware sessions. Once stopped, the driver cannot be used until it is restarted with XCP START.

Syntax

```
XCP STOP
```

The XCP STOP command has no options or parameters.

SHOW

The XCP SHOW command displays information about the driver configuration.

Syntax

```
XCP SHOW [-I] [-P] [-H]
```

Parameters

- I Displays the XNS version number.
- P Gives various protocol parameters (typically not used with Omni-Ware).
- H Gives the host address to which that the driver is connected. This is calculated based upon the name of the device, e.g., `_XQA:`. There is no way to change it.

STATUS

The XCP STATUS command dumps the contents of the driver's internal counters. It displays information about packets sent, packets received, etc. This utility is not generally used with OmniWare.

Syntax

```
XCP STATUS [-A] [-C] [-R] [-Sn]
```

Parameters

- | | |
|-----|---|
| -A | Shows all sockets and the Ethernet address of the server to which it is connected. Each OmniWare user has two KX devices. |
| -C | Shows XNS protocol counters. |
| -R | Shows XNS routing table. |
| -Sn | Gives information about the specified socket <i>n</i> (where <i>n</i> is a decimal value). |

Note

- If no parameters are specified, then general information is shown about incoming and outgoing data counters.

LOGICRAFT

UTILITIES
& DRIVERS
FOR DOS

Omni-Ware for VMS

*Release 2.0
October 8, 1992*

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Introduction

This section discusses the utilities and drivers that are available, in addition to standard MS-DOS commands, in an Omni-Ware DOS session. The material is presented in a reference format, and a working knowledge of MS-DOS is assumed.

Omni-Ware provides a number of utilities that run in the MS-DOS environment and are invoked in the same manner as any other DOS command or program, by entering the name of the utility at the DOS prompt. In addition, several drivers are included; these drivers are configured in CONFIG.SYS.

In order to use the Logcraft DOS utilities, you first need to load the OMNINTFC.SYS driver. This interface driver lets the Omni-Ware coprocessor communicate with the PC/AT components of the server. It also checks the configuration of the server, ensuring there are no conflicts between the coprocessor and other boards. The CONFIG.SYS file included with the Omni-Ware distribution logical disk loads OMNINTFC.SYS for you at the initialization of each session. If you use a different bootable disk, you should add this program to your CONFIG.SYS.

The following pages describe each Logcraft utility and driver and associated options. Examples show how each utility is used and how each driver is configured. The utilities and drivers are listed in alphabetical order.

Unless otherwise noted, the programs described in the pages that follow are located in the \OMNI directory of the distribution logical disk.

Command Summary

The following gives brief descriptions of the utilities and drivers discussed on the following pages.

Utility/Driver	Description	Page
BYE	Terminates an Omni-Ware session and resets the server.	DOS-4
DISMOUNT	Releases a logical disk, workstation floppy drive, or printer list file defined in the session configuration or mounted with the MOUNT utility.	DOS-5
HELP	Displays on-line information about Omni-Ware/DOS topics.	DOS-9
MOUNT	Mounts a logical disk or workstation floppy drive on the drive letter you specify. Also used to mount a printer assignment and list file.	DOS-11
NETDISK.SYS	Controls the timeout value for logical disks (primary controller).	DOS-15
OMNIDISK.SYS	Allows access to a local hard disk and logical disks simultaneously. Also controls the timeout value for accessing logical disks (secondary controller).	DOS-17
OMNIMSE	Allows you to use your workstation or X terminal mouse with non-Windows applications.	DOS-20
OMNINTFC.SYS	Omni-Ware interface driver. Lets you use the Logcraft utilities.	DOS-22

Figure 1: Summary of Logcraft DOS Utilities/Drivers

Utility/Driver	Description	Page
QUIT QUITTSR	Terminate your DOS session without resetting the OmniWare server, allowing a subsequent session to continue where the initial session left off.	DOS-23
RXFMT	Formats a floppy diskette in the workstation floppy drive.	DOS-24
SETTERM	Alters the terminal emulation for your workstation or terminal. Not used with window system 2 or 3.	DOS-25
SHOW	Displays information about the OmniWare environment, including the server's configuration, the logical disks and workstation floppy drives currently mounted, and the list file associated with the LST1 printer assignment.	DOS-40
VGAWATCH	Alleviates display problems caused by software that writes directly to the VGA video card's registers.	DOS-43
WSFLOPPY.SYS	Lets you access a workstation floppy drive from the OmniWare session.	DOS-44
XPORT	Allows you to manipulate VMS and DOS files from within the DOS session.	DOS-46
XSET	Lets you change certain operation parameters of the session, including automatic print buffer flushing.	DOS-66

Figure 1: Summary of Logcraft DOS Utilities/Drivers (Continued)

BYE

The BYE command terminates your DOS session and resets the Omni-Ware server.

When the session is terminated, all logical disks are closed, peripheral devices are released, Ethernet links are terminated, printer buffer I/O (if any) is flushed and the printer list file closed, and you are returned to your VMS session.

If you use window system 2, you can also terminate your session by choosing Quit from the File menu as discussed on page CFG-61 of *Session Configuration*.

Syntax

BYE

The BYE command has no parameters or options.

Related

QUIT and QUITTSR, page DOS-23
/[NO]BREAK, page CFG-15

DISMOUNT

This utility releases a logical disk, workstation floppy drive, or printer assignment that you defined in your session configuration or mounted with the MOUNT utility. Once you have dismounted a resource, you can no longer access it without first remounting it.

Syntax

```
DISMOUNT drive  
DISMOUNT LST1
```

Parameters

<i>drive</i>	Indicates the drive letter associated with the logical disk, or workstation floppy drive to dismount. (The colon may be included or omitted.)
LST1	Indicates the printer assignment to dismount, LST1.

Important

Do *not* use this utility to dismount the drive for the logical disk containing the Logcraft DOS utilities! If you do so, you will be unable to access any of the DOS utilities available on that disk, including the MOUNT utility. As a result, you will not be able to mount a new logical disk for the drive.

In addition, the BYE utility will be unavailable, and you will not be able to terminate your session gracefully unless you use window system 2 or you enabled the Break key.

Notes

- You cannot dismount the current drive.
- The drive letters you can specify are usually C: through F:. However, these letters may be different if you use partitionable logical disks or if you boot from a local hard disk. Refer to "More about Logical Disks" on page DSK-17 and "Using Both Logical Disks and a Local Hard Disk" on page DSK-12 of *Logical & Local Disks* for further information.
- You cannot dismount a partitionable logical disk.
- When you use the BYE command or select Quit from the File pull-down menu, all mounted drives and the printer assignment are automatically dismounted.
- If you specify invalid syntax, a list of available options is displayed.

Related

MOUNT, page DOS-11

Examples

```
C:\>dismount e:
E: successfully dismounted.

C:\>dismount lst1
LST1: successfully dismounted.

D:\>dismount d
Unit could not be dismounted.
Unable to dismount current drive.

D:\>c:
C:\>dismount d:
D: successfully dismounted.

C:\>
```

HDFMT

This utility performs a low-level format on a local hard disk configured as the secondary drive. It may be necessary to perform this low-level format if you see a lot of read and write errors when accessing the disk and a DOS-level format does not solve the problem.

- ▲ **Important:** HDFMT should *only* be used as a *last resort*. Do *not* use this utility unless instructed to do so by Logcraft Customer Support.

For additional information on primary and secondary drives, refer to "Using Both Logical Disks and a Local Hard Disk" on page DSK-12 of *Logical & Local Disks*.

Syntax

HDFMT

The HDFMT utility has no parameters or options.

Notes

- *Using HDFMT destroys any data stored on the hard disk.* Consequently, the program asks you to confirm that you want to continue.
- If you purchased the local hard disk from Logcraft, the low-level formatting is done for you.
- In order to use HDFMT, the OMNIDISK.SYS driver must be loaded in the CONFIG.SYS file.
- Attempting to use HDFMT when the OMNIDISK.SYS driver has *not* been loaded results in the following message:

```
Logcraft Hard Disk Format Utility v.x.xx  
Could not find OmniDisk drive unit.
```

HDFMT

- After using HDFMT, you must run FDISK to partition the disk, then use FORMAT to format the partition(s). Only then should you attempt to store files on the disk.

Related

OMNIDISK.SYS, page DOS-17

Example

```
Omni-Ware Secondary Hard Disk Driver vx.xx  
Copyright (c) 1992, Logcraft Incorporated  
No DOS Drives Loaded.
```

```
.  
.  
.
```

```
C:\>hdfmt
```

```
Logcraft Hard Disk Format Utility v.x.xx
```

```
Total Cylinders: 820   Heads: 6 Sec/Track: 27  
Are you sure you want to format the drive? (y/N) y  
Cyl: xxx Head: y
```

```
Format complete. You must now run FDISK.
```

```
C:\>
```

HELP

The HELP command gives on-line information about OmniWare/DOS topics.

Syntax

```
C:\OMNI\HELP [/DIRECTORY=path] [/LINES=lines]  
[/NOPAUSE] [topiclist]
```

Parameters

- /DIRECTORY=**path* Indicates what path to search for help files.
- /LINES=**lines* Specifies the number of lines to display before pausing. The default is 23.
- /NOPAUSE* Prevents HELP from pausing at the end of each screen.
- topiclist* Indicates a list of one or more topics about which to display help. If more than one topic is listed, separate the topics with spaces or tabs. Topic names may contain DOS wildcard characters (? and *).

Notes

- If you use DOS v. 5.0, include the path to Logcraft's Help utility; otherwise, you will see DOS's help instead.
- All parameters are optional. The HELP command with no parameters displays information about using HELP.
- HELP's files all have a .HLP extension. Logcraft supplies help files in the \HELP directory of the OmniWare distribution logical disk.

- The /DIRECTORY, /LINES, and /NOPAUSE switches can each be abbreviated to one character.
- Help topic names may be abbreviated to their shortest unique spellings.
- HELP uses the following search order for help files:
 - a. If the /DIRECTORY switch is used, then the *path* specified is used for the help directory.
 - b. If /DIRECTORY is omitted and an MS-DOS environment variable called HELP is defined, then the variable's value is used for the help directory.
 - c. If /DIRECTORY is omitted and no HELP environment variable is defined, then files are searched for on the path \HELP.
- If no .HLP files are found, the following message is displayed:

No help available

MOUNT

This utility mounts a standard logical disk or workstation floppy drive on the drive letter you specify. You can access up to four standard logical disks simultaneously during your Omni-Ware session.

MOUNT is also used to mount a list file for the LST1 printer assignment.

Syntax

```
MOUNT drive stdldisk [READ_ONLY] [EXCLUSIVE]
MOUNT drive device [READ_ONLY] [EXCLUSIVE]
MOUNT LST1 listfile
```

Parameters

<i>drive</i>	Specifies the drive letter to associate with the logical disk or, device you are mounting. The colon is not required as part of <i>drive</i> .
<i>stdldisk</i>	Specifies the file name for the Omni-Ware standard logical disk to associate with <i>drive</i> . If the file type or extension is omitted, .DOS or .DSK is assumed.
<i>device</i>	Specifies the device name for the workstation floppy drive to associate with <i>drive</i> . You must configure the drive with the WSFLOPPY.SYS driver before you can MOUNT it.
<i>listfile</i>	Specifies the name of the list file to associate with the LST1 printer assignment. If the file type or extension is omitted, .LIS is assumed.

- READ_ONLY** Specifies that the mounted logical disk is write-protected. Any attempt to write to the disk results in a DOS error. Analogous to the /READ_ONLY configuration qualifier. This parameter is optional; if READ_ONLY is omitted, the disk allows for read/write access.
- EXCLUSIVE** Specifies that the mounted logical disk cannot be shared by other users. Analogous to the /NOSHARE qualifier. This parameter is optional; if omitted, exclusive access is assumed unless the READ_ONLY parameter is included, in which case shared access is assumed.

Important

Do *not* use this utility to mount a new disk/device on the drive containing the Logcraft DOS utilities! If the new logical disk does not contain the Logcraft DOS utilities, you will be unable to access any of these utilities, including MOUNT. As a result, you will not be able to mount a new logical disk for the drive.

In addition, the BYE utility will be unavailable, and you will not be able to terminate your session gracefully unless you use window system 2 or you enabled the Break key.

Although it is possible to use the MOUNT command to change from one disk containing the utilities to another, you should instead terminate your current session, then establish a new session with the correct logical disk.

Notes

- If a logical disk or device is already associated with the *drive* specified, the existing disk or device is dismounted before the new logical disk or device is mounted.
- The drive letters you can specify when mounting a logical disk are usually C: through F:. However, these letters may be different if you use partitionable logical disks or boot from a

local hard disk. Refer to “More about Logical Disks” on page DSK-17 and “Using Both Logical Disks and a Local Hard Disk” on page DSK-12 of *Logical & Local Disks* for further information.

- You cannot use the MOUNT utility to mount a partitionable logical disk.
- When mounting a workstation floppy drive, do not specify a drive letter other than the one reported by WSFLOPPY.SYS.
- If you omit all parameters or specify invalid syntax, the MOUNT utility’s syntax is displayed.
- The keywords READ_ONLY and EXCLUSIVE may each be abbreviated to the initial R and E, respectively.
- If you attempt to mount a logical disk to which you are not allowed access at the VMS level, the disk is not mounted and an error message is displayed.
- If you attempt to mount a logical disk that another user has mounted read/write or read-only exclusive, an error message is displayed. An error is also displayed if you attempt to mount a logical disk for read/write access when another user has it mounted.

Examples

```
C:\>mount d lotus
LOTUS successfully mounted as drive D:.
```

```
C:\>mount d [mydir.dos]
[MYDIR.DOS]LOTUS successfully
mounted as drive D:.
```

```
C:\>mount d lotus read_only
LOTUS successfully mounted as drive D:.
```

```
C:\>mount lst1: printer_output.txt
LST1: successfully mounted.
```

MOUNT

Related

DISMOUNT, page DOS-5
WSFLOPPY.SYS, page DOS-44
/READ_ONLY, page CFG-35
/[NO]SHARE, page CFG-38

NETDISK.SYS

This driver allows you to control the timeout value for accessing logical disks associated with the primary disk controller.

When a true IBM PC/AT attempts a disk read or write, it expects the disk to respond within a certain period of time. If the disk does not respond, the system attempts the disk access again, up to a certain number of retries.

By changing the timeout value with NETDISK.SYS, you can improve disk performance by reducing the number of retries. If your network is slow or heavily loaded, use NETDISK.SYS to allow a longer timeout value; otherwise, users may see "drive not ready" errors.

To control the timeout value on the secondary disk controller, use OMNIDISK.SYS.

Syntax

```
DEVICE=C:\OMNI\NETDISK.SYS /T:seconds
```

Parameters

<i>seconds</i>	Indicates the number of seconds for the timeout value. A value of 5 is recommended for most sites; choose a larger value if your network is heavily loaded. Specifying 0 indicates that the disks should never timeout.
----------------	---

Related

OMNIDISK.SYS, page DOS-17

Sample CONFIG.SYS File

```
files=20  
buffers=50  
break=on  
shell=c:\command.com /e:1024 /p  
device=c:\omni\omnintfc.sys  
device=c:\omni\netdisk.sys /t:5
```

OMNIDISK.SYS

This driver configures either logical disks or a local hard disk for the secondary disk controller, allowing you to access both logical disks and a local hard disk simultaneously. To configure the OMNIDISK.SYS driver, include a DEVICE command line in the CONFIG.SYS file on the boot disk.

In order to use a local hard disk as the secondary drive, you must set the hard disk controller as the secondary drive and disable the IRQ 14 interrupt signal. *Not all controllers can be configured in this way.* If you did not purchase the drive from Logcraft, refer to your hardware documentation for configuration instructions.

For additional information, refer to "Using Both Logical Disks and a Local Hard Disk" on page DSK-12 of *Logical & Local Disks*.

Syntax

```
DEVICE=C:\OMNI\OMNIDISK.SYS /C:cyl /H:hds /S:sects
[/L [/T:seconds]]
```

Parameters

- | | |
|-----------------|---|
| <i>/C:cyl</i> | Indicates the number of cylinders for the disk associated with the secondary drive. Valid range is 1 – 1024 (inclusive). When configuring standard logical disks as secondary, specify /C:1024. |
| <i>/H:hds</i> | Indicates the number of heads for the disk associated with the secondary drive. Valid range is 1 – 16 (inclusive). When configuring standard logical disks as secondary, specify /H:15. |
| <i>/S:sects</i> | Indicates the number of sectors per track for the disk associated with the secondary drive. Valid range is 1 – 63 (inclusive). When config- |

uring standard logical disks as secondary, specify /S:17.

- /L Specifies that the secondary disk controller is associated with logical disks. If omitted, the secondary controller is assumed to be associated with a local hard disk.
- /T:seconds Indicates the number of seconds for the timeout value; useful only in conjunction with /L. A value of 5 is recommended for most sites; choose a larger value if your network is heavily loaded. Specifying 0 indicates that the disks should never timeout.

Notes

- **Important:** The OMNIDISK.SYS *must* come *after* the OMNINTFC.SYS driver in the CONFIG.SYS file.
- When you establish a DOS session with the driver, a message indicates the drive letters assigned to the secondary disk. This message looks like the following:


```
Omni-Ware Secondary Hard Disk Driver vx.xx
Copyright (c) 1992. Logcraft, Inc.
DOS Drives G - I Loaded.
```
- The assigned letters depend on how the secondary disk is partitioned. If the disk has not yet been partitioned with FDISK, the message indicates "No DOS Drives Loaded."
- The /T switch sets the timeout value for logical disks configured on the secondary disk controller. To set the timeout value for logical disks on the primary controller, use NETDISK.SYS.
- In some circumstances, you cannot use FDISK if you load the OMNIDISK.SYS driver. For further information, refer to "Using FDISK with OMNIDISK.SYS" on page DSK-15 of *Logical & Local Disks*.

Related

NETDISK.SYS, page DOS-15

Sample CONFIG.SYS File

```
files=20
buffers=50
break=on
shell=c:\command.com /e:1024 /p
device=c:\omni\omnintfc.sys
device=c:\omni\omnidisk.sys /c:820 /h:6 /s:27
```

OMNIMSE

OMNIMSE is a terminate-and-stay-resident (TSR) program that lets you use your workstation or X terminal mouse with PC software applications. OMNIMSE.EXE is relevant only for window systems 2 and 3, and it must be run before the workstation or X terminal mouse can be used with a PC application.

Refer to "Using the PC Mouse" on page UG-6 of *User's Guide* for additional information.

Syntax

OMNIMSE

The OMNIMSE command has no parameters or options.

Notes

- Applications must be configured to use a software mouse interface. Select Microsoft Serial Mouse, if possible. Otherwise, try choosing Generic or Other.
- Once loaded, OMNIMSE remains resident for the entire DOS session.
- The mouse driver allows the first and third mouse buttons of the workstation or X terminal mouse to be used as the left and right buttons, respectively, of a standard Microsoft-compatible mouse. (Usually the first button is the left and the third is the right button; however, you can swap these for left-handed use with most window managers.)
- To activate the PC mouse after loading OMNIMSE, click the middle mouse button. When the mouse is under control of the Logcraft mouse driver, the mouse will not work outside the MS-DOS window. Use the middle button to toggle between the PC mouse and the host system mouse.

- OMNIMSE does not work within Microsoft Windows or Windows applications. For these, install Windows with the Logi-craft Windows drivers. Refer to "Microsoft Windows and Omni-Ware" on page SMG-30 of *System Manager's Guide*.
- OMNIMSE.EXE *cannot* be used with window system 0.
- The AUTOEXEC.BAT file included on the distribution logical disk calls the OMNIMSE program. If you boot the server from a different disk, you may want to add OMNIMSE to the AUTOEXEC.BAT file on that disk.
- A few software packages are known not to work with OMNIMSE, including IBM's DisplayWrite. If you are unsure about your package, check with Logicraft Customer Support.

Example

```
C:\>omnimse
```

```
Omni-Ware Mouse Driver v. x.xx  
Copyright (c) 1987-1992 by Logicraft Inc.
```

```
C:\>
```

OMNINTFC.SYS

Loads the interface driver that lets the Omni-Ware coprocessor communicate with the PC/AT components of the server. This driver must be loaded before you can use any of the Logcraft DOS utilities; it also checks the configuration of the server, ensuring there are no conflicts between the coprocessor and other boards.

The CONFIG.SYS file included with the Omni-Ware distribution logical disks calls OMNINTFC.SYS for you at the start of each new session. If you use a different disk to boot the server, you should add this driver to your CONFIG.SYS.

Syntax

```
DEVICE=C:\OMNI\OMNINTFC.SYS
```

The OMNINTFC.SYS driver has no parameters or options.

Sample CONFIG.SYS File

```
files=20  
buffers=50  
break=on  
shell=c:\command.com /e:1024 /p  
device=c:\omni\omnintfc.sys
```

QUIT and QUITTSR

The QUIT command terminates your DOS session but does *not* reset the Omni-Ware server. If the next session is established on the server with the /NORESET qualifier, the new session will continue at the point where the QUIT command terminated the previous session.

The QUITTSR program allows you to quit your session (without resetting the server) using the Alt-Right Shift key sequence. QUITTSR is a terminate-and-stay-resident program; once loaded, you can use Alt-Right Shift at any time, even within an application, to return to VMS. If you establish another session, specifying /NORESET, the new session will continue at the point where you pressed Alt-Right Shift.

Syntax

QUIT
QUITTSR

The QUIT and QUITTSR commands have no parameters or options.

Related

BYE, page DOS-4
/[NO]RESET, page CFG-36

RXFMT

This utility formats a diskette on a mounted RX23, RX23S, RX33, or RX33S drive.

Refer to "Workstation Floppy Drives" on page SMG-14 of *System Manager's Guide*.

Syntax

RXFMT *drive* 1.44
RXFMT *drive* 1.2

Parameters

<i>drive</i>	Indicates the drive letter on which the RX floppy drive is mounted; may be C - F. The colon is not required as part of <i>drive</i> .
1.44	Formats a 3½" diskette to 1.44 megabytes on an RX23 or RX23S drive.
1.2	Formats a high-density 5¼" diskette to 1.2 megabytes on an RX33 or RX33S drive.

Note

- Floppies formatted on a DECstation 316 are *not* compatible with the RX23 drive but may be used with an RX23S drive.

Example

```
C:\>mount g mkb500:  
MKB500: successfully mounted as drive G:.  
  
C:\>rxfmt g 1.44
```

SETTERM

If you use an ANSI (non-X) terminal or window system 0 to access Omni-Ware, execute the SETTERM utility to configure Omni-Ware for your type of display and keyboard characteristics.

Omni-Ware automatically recognizes display/keyboard characteristics for window systems 2 and 3, so SETTERM is not needed for these devices. Because SETTERM slows Omni-Ware's performance when used with window systems 2 and 3, avoid using SETTERM with these window systems.

When you execute SETTERM with no parameters, it polls the terminal to determine the available characteristics. SETTERM then establishes a default emulation based on the equipment's response.

You may override the default emulation SETTERM establishes for you, but you generally do not need to do so if you use a supported terminal. However, you should explicitly issue a SETTERM command in some situations. The following table summarizes the most common circumstances for which an explicit SETTERM command is needed.

Circumstances	SETTERM Parameter	Page
to display PC graphics using CGA emulation on a GraphOn, Microterm, Wyse, or a Tektronix terminal	GRAPHON 4560 99GT 4205 4207	DOS-31 DOS-30 DOS-30 DOS-29 DOS-29
to use 7-bit terminal escape sequences only (otherwise, SETTERM will set the terminal for 8-bit escape sequences)	7BIT	DOS-33

Figure 2: SETTERM Summary

Circumstances	SETTERM Parameter	Page
to prevent using the status line for the PC's 25 th line, speeding up terminal emulation	NOSTATUS	DOS-35
to use a split-screen VT420	SPLIT	DOS-29
to use the Norway/Denmark PC character set	PC_OUTPUT	DOS-34
to change how often SETTERM updates graphics images	GRAPH_WRITE GRAPH_MAX	DOS-31
to download a character set other than the default	DLCS	DOS-33
to prevent downloading a character set or remove one that has been loaded	NODLCS	DOS-34
to disable horizontal scrolling, either because the terminal does not support it or to speed up terminal emulation	NO_HSCROLL	DOS-34
if you have a terminal that does not support selective updating	NO_SELECT	DOS-32
if you have a black and white clone terminal that responds as a VT241 (color) terminal	SIXEL	DOS-32
if your terminal supports ReGIS, but not Sixel	REGIS	DOS-32
if you have a terminal that supports a status line but does not respond as accordingly	STATUS	DOS-35
if you have a terminal that supports selective updating but does not respond accordingly	SELECT	DOS-32

Figure 2: SETTERM Summary (Continued)

These and other SETTERM parameters are discussed in detail below.

Before you invoke the SETTERM utility, make sure the following line is included in your CONFIG.SYS file:

```
shell=c:\command.com /e:1024 /p
```

This increases the DOS environment space to accommodate Logi-craft's environment variables (described on page DOS-36). This SHELL command is included in the CONFIG.SYS file on the distribution logical disk.

Syntax

```
SETTERM [param] [param] ... [param]  
SETTERM ?
```

Parameters

The optional SETTERM parameters are listed below in the following categories: Video Emulation, Terminal Specific, Graphics Emulation, and Text Emulation parameters. Many of the parameters are mutually exclusive; you can specify only one of a group of parameters on the SETTERM command.

Use the SETTERM ? command to display the parameters for the SETTERM command.

Each SETTERM command overrides any characteristics set by a previous SETTERM. To set more than one characteristic, include all relevant parameters on the same SETTERM command.

As noted below, many parameters are relevant only for OmniWare sessions configured to use CGA emulation; this emulation requires that the server hardware provide CGA support.

Video Emulation Parameters

Specify only one of CGA, HERC, and MONO at a time.

CGA *Relevant only for CGA. Specifies color video emulation with CGA-resolution graphics. Applications used must be configured for CGA.*

HERC *Specifies monochrome video emulation with Hercules-resolution graphics. Applications used must be configured for Hercules.*

*To use HERC, your terminal must support Sixel graphics and have a screen resolution of at least 720x348 pixels. VT240 and VT241 terminals and window system 0 do *not* support Hercules.*

MONO *Specifies monochrome video emulation with no graphics capabilities. Applications used must be configured for the monochrome display adapter (MDA).*

Terminal Specific Parameters

Specify only one of these parameters at a time.

- 4205 Text and graphics support is specific to the Tektronix 4205 terminal. For proper operation with the VT200-style keyboard, ensure that the Tek light located in the lower right-hand corner of the main section of the keyboard is *off*. Graphics support is relevant only for CGA.
- 4207 Text and graphics support is specific to the Tektronix 4207 terminal. For proper operation with the VT200-style keyboard, ensure that the Tek light located in the lower right-hand corner of the main section of the keyboard is *off*. Graphics support is relevant only for CGA.
- IBMPC Specifies a PC running Logicaft's Term-Ware. This emulation uses the PC's keyboard without translation and makes use of the PC's video RAM. Do *not* use this parameter on a *non*-PC terminal! You should not need this parameter because SETTERM can recognize almost all PCs.
- SPLIT Specifies a VT420 terminal displaying two windows. The terminal must be set up properly for the two sessions. Refer to Appendix A for set-up information.

Graphics Emulation Parameters

- ◇ **Note:** Graphics support is *not* available for VT420, VT320, or VT220 terminals.

Specify only one of 241, 330, 340, 4560, 99GT, GRAPHON, REGIS and SIXEL at a time.

- 241 *Relevant only for CGA.* Uses VT241 color Sixel graphics for PC graphics emulation. Selective updating is *not* supported. This is the default if the terminal responds as a VT241. If you have a black and white clone terminal that responds as a VT241, override this default with the SIXEL parameter.
- 330 Uses VT330 gray-scale Sixel graphics for PC graphics emulation. This is the default if the terminal responds as a VT330.
- 340 Uses VT340 color Sixel graphics for PC graphics emulation. This is the default if the terminal responds as a VT340.
- 4560 *Relevant only for CGA.* Uses the Microterm 4560's Tektronix graphics for PC graphics emulation. This parameter is required to display PC graphics on this terminal. **Note:** The Microterm 4560 disables certain keys (such as the functions and arrow keys) when it enters graphics mode.
- 99GT *Relevant only for CGA.* Uses the Wyse 99GT's Tektronix graphics for PC graphics emulation. This parameter is required to display PC graphics on this terminal. **Note:** The the Wyse 99GT disables certain keys (such as the functions and arrow keys) when it enters graphics mode.

GRAPHON *Relevant only for CGA.* Uses the GraphOn 240/250's Tektronix graphics for PC graphics emulation. This parameter is required to display PC graphics on these terminals. For proper operation, ensure that the terminal is set for SHORT system commands (on the GENERAL set-up menu). **Note:** The GraphOn terminals disable certain keys (such as the functions and arrow keys) when they enter graphics mode.

GRAPH_MAX=*time*

Defines the maximum amount of time an application writes to video memory before SETTERM updates the terminal screen. The time is measured in $\frac{1}{18}$ -second intervals. You may specify a value from 1 to 255. The default is 255.

The GRAPH_MAX parameter is *required* when a package never stops writing to video RAM or when a package writes to RAM for a very long period of time. For additional information, refer to "Graphics Timers" on page DOS-38.

GRAPH_WRITE=*time*

Defines the amount of time to wait after a graphics application has written to video RAM before updating the screen on the terminal. The *time* is measured in $\frac{1}{18}$ -second intervals. You may specify a value from 1 to 255. The default is 4. For additional information, refer to "Graphics Timers" on page DOS-38.

PX=*pixels*

Used with Sixel to center graphics images. Specify the number of horizontal pixels on the screen. The default is 800 for VT graphics terminals, 640 for workstations. This parameter is rarely needed.

PY=*pixels*

Used with Sixel to center graphics images. Specify the number of vertical pixels on the screen. The default is 480 for VT graphics terminals, 400 for workstations. This parameter is rarely needed.

Specify only one of REGIS and SIXEL at a time.

REGIS *Relevant only for CGA.* Uses color ReGIS graphics for PC graphics emulation. Use this parameter if your terminal supports ReGIS (color) but *not* Sixel. Specify this parameter only as a last resort due to the slow speed of ReGIS graphics.

SIXEL Uses black and white Sixel graphics for PC graphics emulation. Specify this parameter if your terminal is a black and white VT clone that responds as a VT241 (color) terminal.

Specify only one of SELECT and NO_SELECT at a time.

SELECT Enables selective graphic updates, causing only those pixels that are changed by the application to be changed on the screen. Specify this parameter if your terminal emulates a VT241 and also supports selective updating. (VT241s do not support selective updating.) This parameter is ignored for SETTERM emulations that do not support selective updating, such as 99GT.

NO_SELECT Disables selective updating, causing the entire graphic image to be redisplayed whenever it is changed. This parameter is for terminals that do not support selective graphic updating.

Text Emulation Parameters

Specify only one of 7BIT and 8BIT at a time.

7BIT Uses 7-bit escape sequences for text emulation. This setting may be required for certain host or network configurations.

8BIT Uses 8-bit escape sequences for text emulation, providing better performance than 7-bit. This is the default in most cases.

Specify only one of BW and COLOR at a time.

BW Assumes the terminal does not support ANSI color text. Instead, any available attributes— bold, blinking, underlining, reverse video—are used to highlight text. This is the default for most terminals. (DEC terminals do not support ANSI color text.)

COLOR Uses ANSI color text for PC text emulation. This is the default if the terminal responds with ANSI color characteristics. Do *not* use this parameter with window system 2 or 3; the results are unpredictable.

Specify only one of DLCS and NODLCS at a time.

DLCS=file Uses the downloadable character set from the data file you specify, providing for full display of all 256 characters available on the PC. SETTERM searches your DOS path if it does not find the data file in the current directory.

Important: Workstations and X terminals do *not* provide for downloadable character sets. You will encounter problems if you try to load one.

Logcraft provides the following data files, located in the \OMNI directory of the Omni-Ware distribution disk:

File	Terminal
DLCS220.DAT	VT220
DLCS320.DAT	VT320
DLCS330.DAT	VT330, VT340
DLCS420.DAT	VT420, one window
DLCS420S.DAT	VT420, two windows (split screen)
DLCS99GT.DAT	Wyse 99GT

Figure 3: Downloadable Character Sets

NODLCS Indicates that no downloadable character set should be used.

NO_HSCROLL
 Disables horizontal scrolling. This parameter is useful for terminals that do not handle horizontal scrolling well and for terminals that do not support horizontal scrolling but respond as if they do. NO_HSCROLL is the default for the Wyse 99GT.

PC_OUTPUT=file
 Uses the specified data file to override the default character output table. This table maps each PC character into a host character set and offset within that character set.

If you use the Denmark/Norway keyboard, give one of the following commands to load the correct character output table:

```
C:\>setterm pc_output=danishdl.dat
C:\>setterm pc_output=danish.dat
```

Specify DANISHDL.DAT if you want to use the downloadable character set; otherwise, specify DANISH.DAT instead.

Specify only one of ROWS24 and ROWS25 at a time.

ROWS24 Indicates a 24-line display. The Toggle key (normally, the keypad comma key) switches between displaying rows 1 – 24 and rows 2 – 25. This is the default for VT200-series terminals.

ROWS25 Indicates a 25-line display. This parameter should *only* be used on terminals that support 25 rows (and are configured for 25 rows), *not* counting a status line. This is the default for workstations and X terminals.

Specify only one of STATUS and NOSTATUS at a time.

STATUS Uses the terminal's status line for the 25th row of the DOS screen, eliminating the need for a Toggle key. This is the default for VT300-series and VT420 terminals. Use this parameter if your terminal supports a status line but does not respond as a VT300-series or VT420 terminal.

NOSTATUS Disables the use of the status line as the 25th row of the DOS window. Use this parameter to improve performance if you don't need the 25th DOS row. This parameter is also useful for a terminal that responds as a VT300-series terminal but does not have a status line.

VT200 Uses VT200 escape sequences for PC text emulation. This is the default if the terminal responds as a VT200-series terminal.

Environment Variables

SETTERM stores information about your terminal's configuration in DOS environment variables. These variables may be viewed with the DOS command SET. (Refer to your DOS reference manual for details on the SET command.) You may find it useful to examine or test these environment variables in batch files.

The SETTERM environment variables and their possible values are described below.

LGFT_4010

- NO Specifies that Tektronix graphics are not used.
4205, 4207, 4560, 99GT, GRAPHON
Indicates a Tektronix 4205, Tektronix 4207, Microterm 4560, Wyse 99GT, or GraphOn 240 or 250 terminal.

LGFT_COLOR_TEXT

- YES Supports color text attributes.
NO Uses available attributes to highlight text.

LGFT_GRAPHICS

- YES Supports graphics for this configuration.
NO Does not support graphics for this configuration.

LGFT_HERC

- YES Indicates Hercules graphics emulation using either Sixel or workstation graphics.
NO Indicates no Hercules graphics emulation.

LGFT_ROWS

- | | |
|----|---|
| 24 | Specifies a terminal with 24 rows (uses status line or Toggle key for 25 th line). |
| 25 | Specifies a terminal with 25 rows (no Toggle key needed). |

LGFT_SELECTIVE

- | | |
|-----|--|
| YES | Updates graph changes selectively. |
| NO | Updates graph changes by first clearing then redrawing the screen. |

LGFT_TERM

LOGICRAFT_BW_WINDOW

LOGICRAFT_COLOR_WINDOW

Indicates a black and white or color device using window system 2 or 3.

PC

Indicates a PC using Term-Ware.

VT220, VT240, VT320, VT330, VT340, or VT420

Indicates the given terminal.

WKS

Indicates a device using window system 0.

Graphics Timers

SETTERM uses two timers to control when it updates the screen in graphics mode:

- The GRAPH_WRITE timer indicates how long SETTERM waits after a PC application stops writing to video RAM before updating the screen. If the application begins writing again before the GRAPH_WRITE timer expires, SETTERM resets the timer and does not update the screen. The default timer value is $\frac{1}{18}$ second (GRAPH_WRITE=4).
- The GRAPH_MAX timer indicates how long SETTERM waits (once detecting changes to video RAM) before updating the screen regardless of the PC application's activity. When this timer expires, SETTERM always updates the screen. The default timer value is $14\frac{3}{18}$ second (GRAPH_MAX=255).

For example, suppose a PC graphics package writes to RAM every $\frac{5}{18}$ second and that SETTERM's GRAPH_WRITE timer is set for $\frac{3}{18}$ second. Also, suppose that the application writes the characters in the word "math" in graphics mode to video RAM one character at a time.

In this example, the screen gets updated four times, once for each letter. The application writes the "m" to RAM. SETTERM detects its presence and waits $\frac{3}{18}$ second. The GRAPH_WRITE timer expires and the "m" is written to the screen. The application doesn't have time to write the "a" to RAM during the $\frac{3}{18}$ -second time-out period. Consequently, the "a" is written to the screen separately from the "m"; similarly, the "t" and "h" are written separately.

To have all four letters written to the screen at the same time, set GRAPH_WRITE equal to six. In this case, the application writes the "m" to video RAM. SETTERM waits $\frac{6}{18}$ second, during which time the application writes the "a", causing SETTERM to wait another $\frac{6}{18}$ second, and so on, until all four letters have been written. After the "h" is written to video RAM, SETTERM waits $\frac{6}{18}$ second, then updates the screen.

Notes

- If your terminal does *not* support selective updating, you should specify a high value for GRAPH_WRITE so that the screen is not constantly repainted.
- If your terminal *does* support selective updating, then the value for GRAPH_WRITE is application-specific and based on user preference. Some users, for example, may prefer to see a graph in AutoCAD written to the screen piece by piece as it is on an actual IBM PC; in this case, specify a low value for the GRAPH_WRITE parameter. Alternatively, users may prefer to have Omni-Ware write the entire graph all at once; specify a high value for GRAPH_WRITE.
- If the PC package never stops writing to video RAM (as in the case of a blinking cursor) or if the package writes to RAM for a very long period of time, set GRAPH_MAX to adjust how often the screen is updated.

SHOW

This utility displays information about the Omni-Ware environment.

Syntax

```
SHOW CONFIG
SHOW DISKS
SHOW LST
SHOW MEMORY
SHOW USER
```

Notes

- All of the parameters may be abbreviated to their shortest unique spellings. For example, you could type `SHOW C` for the `SHOW CONFIG` command.
- If you omit a parameter or specify invalid syntax, a list of available options is displayed.

SHOW CONFIG

This command describes your Omni-Ware server, including the revision levels of the hardware and software in your system, the server name (or network address), the floppy drive types, etc.

Example:

```

C:\>show config

SHOW CONFIG UTILITY
COP configuration:

  Date Of Manufacture..... 10/22/90
  Boot ROM Version..... 1.0
  Memory..... 8 MB
  Math Co-processor Present..... No

System configuration:

  VMS Task Image Version..... 2.0
  Network Protocol..... XNS
  Server Name..... FRED
  Executive Operating System Version..... 2.0
  MS-DOS Operating System Version..... 5.0
  AT ROM BIOS Date Of Manufacture..... 03/03/89
  Floppy drive A: type..... 5.25" 1.2 MB
  Floppy drive B: type..... 3.5" 1.44 MB

```

SHOW DISKS

This command describes the currently mounted logical disks and workstation floppy drives, including file or device name, node address, and access mode. Example:

```

C:\>show disks

SHOW DISKS UTILITY

User Number 1

Disk C : SYS$OMNIBARE:OMNIDOSV50.DOS
Disk D : ZEKE::ZEKE$DUA4:[DOS_DISKS]LOTUS22
Disk E : COOKIE$QA:LHOFFMANJSTUFF

  Disk      User      Node      Acc.  Shared  Local/  Disk
  -----  ----      -
  C         HOFFMAN   AA0001000C04  R/O   Shared  Local   Logical
  D         HOFFMAN   AA0001000C04  R/O   Excl.   Local   Logical
  E         HOFFMAN   AA0001000C04  R/W   Excl.   Local   Logical

C:\>

```

SHOW LST

This command displays information about the LST1 printer assignment, including the list file associated with it. If the printer assignment is associated with a terminal's auxiliary port, the keyword LST1 appears instead of a file name.

If you use the window system 2 pull-down menus to change the list file (in the Printer Configuration Parameters dialog box) after establishing a session, the SHOW LST command will not reflect the new list file name.

SHOW MEMORY

This command indicates how much memory is in the Omni-Ware server.

SHOW USERS

This command displays user information, including node, user-name, process ID (PID), and terminal ID.

VGAWATCH

VGAWATCH is a terminate-and-stay-resident (TSR) program that alleviates display problems caused by software that bypasses the BIOS and writes directly to the video card's registers. When using one of these software applications, your screen may flash or appear fuzzy or garbled. If you have one of these applications, load the VGAWATCH program before starting the application.

VGAWATCH monitors the VGA registers to see if they become corrupted. If so, the program puts the correct values back into the registers.

Because this program slows down the VGA video emulation, you should load VGAWATCH only when absolutely necessary.

Syntax

VGAWATCH

The VGAWATCH command has no parameters or options.

Example

```
C:\>vgawatch
```

```
VGAWATCH x.xx (C) 1992 Logcraft, Inc.  
This TSR monitors and fixes invalid VGA states.
```

```
C:\>
```

WSFLOPPY.SYS

This driver allows you to use a workstation floppy drive from an Omni-Ware session.

To configure the WSFLOPPY.SYS driver, include a DEVICE command line in the CONFIG.SYS file on the boot disk. When the session is initiated, the driver assigns a drive letter for the workstation floppy. You then need to issue a MOUNT command to mount the drive on the indicated letter.

For additional information, refer to "Workstation Floppy Drives" on page SMG-14 of *System Manager's Guide*.

Syntax

```
DEVICE=C:\OMNI\WSFLOPPY.SYS [/S]
```

Parameter

/S Indicates secondary disk controller emulation, that is, the server is configured to boot from a local hard disk.

Notes

- When you establish a DOS session with the driver, a message indicates the drive letter assigned to the workstation floppy drive. This message looks like the following:

```
Omni-Ware Workstation Diskette Driver vx.xx  
Copyright (c) 1992. Logcraft, Inc.  
DOS Drive G Loaded.
```

The assigned letter depends on whether you use standard logical disks or partitionable logical disks or both and whether a local hard disk is also configured.

- To mount the drive, use the following syntax at the DOS prompt:

```
MOUNT drive device [READ_ONLY] [EXCLUSIVE]
```

where *drive* indicates the drive letter displayed by the WS-FLOPPY.SYS driver and *device* is the device name of the workstation floppy drive.

Important: Do *not* mount the floppy drive on a drive letter other than the one reported by the WSFLOPPY.SYS driver!

Related

MOUNT, page DOS-11

Sample CONFIG.SYS File

```
files=20  
buffers=50  
break=on  
shell=c:\command.com /e:1024 /p  
device=c:\omni\omnintfc.sys  
device=c:\omni\wsfloppy.sys
```

XPORT

XPORT is a powerful utility that lets you manipulate VMS and DOS files from your DOS session. For example, you can copy files to and from DOS and VMS; display or delete files, list directories, and change working directories in either environment; and change the protection of VMS files.

The XPORT utility may be used in two ways: batch mode or interactive mode.

- In **batch mode**, you type XPORT commands directly at the DOS prompt, including any parameters. When XPORT finishes executing your command, you are returned to the DOS prompt.
- To use **interactive mode**, type the XPORT command with no parameters. XPORT then displays its own prompt, at which you type XPORT commands and parameters. When XPORT finishes with each command, you are returned to the XPORT prompt. To return to the DOS prompt, give the EXIT or QUIT command (discussed below).

Some of the command examples given below are shown in batch mode, some in interactive mode. Note the prompts shown in the examples to determine which mode is used: If the XPORT prompt appears, the command is shown in interactive mode.

Syntax

XPORT

XPORT *xportcmd* [*switches*] [*parameters*]**Parameters**

none If no parameters are specified on the XPORT command, XPORT enters interactive mode, and the prompt changes to XPORT's prompt, which includes the current DOS directory. For example, if you give the XPORT command with no parameters from the root directory of the C: drive, the prompt looks like this:

```
Xport C:\>
```

xportcmd Indicates the XPORT command to execute. These commands are detailed below.

switches Indicates optional switches that alter the way the *xportcmd* operates. The possible switches depend on what *xportcmd* you specify; see below.

parameters Indicates parameters on which the *xportcmd* operates. The possible *parameters* depend on what *xportcmd* you specify; see below.

XPORT Commands

The following table gives a brief description of each available XPORT command, along with the page number on which a detailed command description starts.

XPORT Command	Description	Page
CD CHDIR	Changes the current DOS or VMS directory.	DOS-50
CHAINCHR	Displays or changes the current XPORT chain character.	DOS-51
CHMOD	Sets a VMS file protection.	DOS-52
DELETE ERASE	Deletes DOS or VMS files.	DOS-54
DIRECTORY	Displays a DOS or VMS directory.	DOS-55
DOS	Executes MS-DOS commands.	DOS-57
EXIT QUIT	Exits from XPORT's interactive mode.	DOS-57
EXPORT	Copies files from DOS to VMS.	DOS-58
FREE	Displays the amount of free space on DOS disks.	DOS-60
HELP	Gives information about XPORT commands.	DOS-60
IMPORT	Copies files from VMS to DOS.	DOS-61
PROMPT	Changes XPORT's interactive prompt.	DOS-63
SWITCHAR	Displays or sets the XPORT switch character.	DOS-63
TYPE	Displays the contents of a DOS or VMS file.	DOS-64
UIC	Displays your host user identification code.	DOS-64
VERSION	Displays XPORT's version number.	DOS-64

Figure 4: Summary of XPORT Commands

Notes

- The CD, CHDIR, DELETE, DIRECTORY, ERASE, and TYPE commands accept file name and directory or path name arguments that can be either DOS or VMS. Square brackets or a version number identifies an argument as VMS. A back slash (“\”) character identifies an argument as DOS. Any file or path name where a single component is too long for DOS is assumed to be VMS. If XPORT cannot determine whether the argument is DOS or VMS, it assumes DOS.
- Most XPORT commands that affect VMS files may be used across DECnet nodes. For example, this command:

```
C:\>xport type foo::test$qa:[mydir]login.com;1
```

displays the file TEST\$QA:[MYDIR]LOGIN.COM on the remote DECnet node FOO.

- The CHMOD command cannot be used to change the protection of a VMS file on another DECnet node (due to limitations of VMS).
- Each *xportcmd* can be abbreviated to the fewest number of characters needed to make it unique from other commands. For example, the QUIT command can be abbreviated to Q because no other command begins with that letter.
- Each *switch* can be abbreviated to the fewest number of characters needed to keep it unique from other switches. (Currently, all switches can be abbreviated to one character.)
- In *interactive* mode, the current DOS drive can be changed by entering the new drive letter followed by a colon. Drive changes made in XPORT are still in effect when XPORT is terminated
- You can execute a group of XPORT commands by placing them in a file and entering the file name as an XPORT command (similar to DOS batch files). Refer to “Using XPORT Batch Files” on page DOS-65 for more information.

XPORT CD [*newdir*]
XPORT CHDIR [*newdir*]

Changes the currently active DOS or VMS directory to *newdir*. If *newdir* is omitted, the current DOS and VMS working directories are displayed.

Directory changes take effect immediately. Changes to your DOS directory remain in effect when XPORT is terminated. Changes to your VMS directory do *not* remain in effect when you quit XPORT; that is, when you terminate your DOS session, your default VMS directory will be the same as it was when the DOS session was established.

Examples

```
C:\>xport cd
```

```
DOS: C:\  
VMS: TWEETY$QA:[TEST.PRINT]
```

```
C:\>xport
```

```
Logiccraft Import/Export Utility vx.xx  
Copyright (c) 1987-1992 by Logiccraft Inc.
```

```
Xport C:\>chdir omni
```

```
Xport C:\OMNI>cd [-.dos]
```

```
Xport C:\OMNI>cd \help
```

```
Xport C:\HELP>cd
```

```
DOS: C:\HELP  
VMS: TWEETY$QA:[TEST.DOS]
```

```
Xport C:\HELP>cd ..
```

```
Xport C:\>quit
```

```
C:\>
```

XPORT CHAINCHR [*newchar*]

Changes the current XPORT chain character to *newchar*, which may be any alphanumeric character. If *newchar* is omitted, the current chain character is displayed.

The default chain character is the ampersand (&). Changing the chain character affects only the current XPORT session.

The XPORT chain character allows you to put more than one XPORT command on the command line. Each command is separated from the others with the chain character. The XPORT CHAINCHR command is useful only in interactive mode.

Examples

```
Xport C:\>chainchr
```

```
Current command chaining character is "&"
```

```
Xport C:\>chainchr #
```

```
Xport C:\>chainchr
```

```
Current command chaining character is "#"
```

XPORT CHMOD [*switches*] *filespec* [*ident=prot*]

Sets the protection for one or more VMS files, where:

<i>filespec</i>	Indicates the VMS file(s) to change, including version number; wildcards may be included.
<i>ident</i>	Specifies OWNER, GROUP, or WORLD; these may be abbreviated to O, G, or W, respectively.
<i>prot</i>	Specifies none, any, or all of R, W, and E (for Read, Write, and Execute access). Delete access is not explicitly supported; however, if Write permission is assigned, Delete access is also assigned at the VMS level.

You can also include either or both of two optional *switches* on the XPORT CHMOD command:

/CONFIRM	Asks you to confirm the changed protection for each matching file; the default response is No. If the <i>ident</i> parameter is omitted, this switch is ignored.
/PAUSE[=<i>nn</i>]	Pauses the display after <i>nn</i> lines. If <i>nn</i> is omitted, the default is 24 lines.

Notes

- XPORT CHMOD has no effect on DOS files.
- If *ident=prot* is omitted, the current protection and owner UIC for *filespec* are displayed.
- You *must* include the version number as part of the VMS file specification or XPORT CHMOD will indicate an error. You can use wildcards or include just the semi-colon to indicate the version number (see examples below).

- You may specify up to three *ident=prot* parameters on the XPORT CHMOD command, separated with spaces. In other words, you may change one, two, or three access categories (Owner, Group, and World) with a single command.
- If you change the OWNER access, the SYSTEM access is changed to the same protection. You cannot explicitly change the protection for SYSTEM access using the XPORT CHMOD command.
- You cannot use XPORT CHMOD to change the protection of a VMS file on another DECnet node.

Examples

```
Xport C:\>chmod 123.cmp;0
TWEETY$QA:[TEST]123.CMP;5
    UIC=[2,3]  OWNER:RWE  GROUP:RE  WORLD:
```

```
Xport C:\>chmod 123.cmp; w=re
TWEETY$QA:[TEST]123.CMP;5
```

1 file(s) changed

```
Xport C:\>xport chmod 123.cmp;*
TWEETY$QA:[TEST]123.CMP;5
    UIC=[2,3]  OWNER:RWE  GROUP:RE  WORLD:RE
TWEETY$QA:[TEST]123.CMP;4
    UIC=[2,3]  OWNER:RWE  GROUP:RE  WORLD:
```

```
Xport C:\>exit
```

```
C:\>xport chmod/conf [.docs]rpt.doc;* o=rwe g= w=
Change TWEETY$QA:[TEST.DOCS]RPT.DOC;8. [y/N]? y
Change TWEETY$QA:[TEST.DOCS]RPT.DOC;7. [y/N]? n
Change TWEETY$QA:[TEST.DOCS]RPT.DOC;6. [y/N]? n
```

1 file(s) changed

```
C:\>
```

XPORT DELETE [/CONFIRM] *filename*
XPORT ERASE [/CONFIRM] *filename*

Deletes the DOS or VMS file(s) specified as *filename*, which may contain wildcard characters. To delete a VMS file, the version number must be included. (You can use wildcards or include just the semi-colon to indicate the version number.)

If the optional /CONFIRM switch is included, XPORT DELETE asks you to confirm each file deletion; the default response is No.

Examples

```
Xport C:\>delete olddata.dat;1  
TWEETY$QA:[TEST]OLDATA.DAT;1
```

1 file(s) deleted

```
Xport C:\>delete [test.docs]rpt1.doc;-1  
TWEETY$QA:[TEST.DOCS]RPT1.DOC;1
```

1 file(s) deleted

```
Xport C:\>erase autoexec.bak  
AUTOEXEC.BAK
```

1 file(s) deleted

```
Xport C:\>erase/confirm [test]*.tmp;*  
Delete TWEETY$QA:[TEST]MYFILE.TMP;4 [y/N] n  
Delete TWEETY$QA:[TEST]JUNK.TMP;2 [y/N] y  
Delete TWEETY$QA:[TEST]JUNK.TMP;1 [y/N] y
```

2 file(s) deleted

```
Xport C:\>
```

XPORT DIRECTORY [*switches*] [*filespec*]

Displays a DOS or VMS directory, where *filespec* is a valid DOS or VMS file name and/or directory path indicating what files to list. Wildcards may be included. If *filespec* is omitted, the current DOS directory is displayed.

If no version number (or wildcard) is included when giving a VMS file specification for *filespec*, only the most recent version is displayed.

Valid *switches* include:

- /PAUSE[=*nn*]** Pauses the display after *nn* lines. If *nn* is omitted, the default is 24 lines.
- /WIDE** Displays file names in five columns (similar to the DOS command DIR /W). This switch works only when viewing DOS directories; it is ignored when viewing VMS directories.

Directory information includes file size (in bytes) and date/time, unless the /WIDE switch is included when displaying a DOS directory.

- ◊ **Note:** When using XPORT DIRECTORY to list a VMS directory on another DECnet node, the file size and date/time are displayed as 0.

Versions of VMS Prior to 5.3

For versions of VMS *prior* to 5.3, XPORT checks the file INDEXFSYS to obtain the size and date of VMS files. If you do not have access to INDEXFSYS, then XPORT DIRECTORY lists VMS file sizes and dates/times as 0. This problem is corrected if you are given read access to INDEXFSYS.

Examples

Commands for viewing DOS directories:

```
Xport C:\>dir
Xport C:\OMNI>dir /pause ..\
Xport C:\>dir autoexec
C:\>xport dir *.bat
C:\>xport dir/wide \omni
```

Commands for viewing VMS directories:

```
Xport C:\>dir []
Xport C:\>dir /pause [-]
Xport C:\>dir login.*;*
C:\>xport dir *.com;*
C:\>xport dir [test.docs]
C:\>xport dir [...]
```

XPORT DOS *command*

Executes the DOS command specified. The XPORT DOS command is useful primarily in interactive mode because it allows you to execute DOS commands without leaving XPORT.

The *command* parameter may be any MS-DOS command or the name of a .COM, .EXE, or .BAT file.

Example

```
Xport C:\>dos mount e: [dos]123data
[DOS]123DATA successfully mounted as drive E:.
Xport C:\>
```

XPORT EXIT XPORT QUIT

Leaves XPORT's interactive mode and returns to DOS.

Example

```
Xport C:\OMNI>quit
C:\OMNI>
```

XPORT EXPORT [*switches*] *dosfile* [*vmsdir*]

Copies files from DOS to VMS, where

dosfile Indicates what DOS file or files to copy; wild-cards may be included.

vmsdir Indicates the VMS destination directory to which the files should be copied. If this parameter is omitted, the current VMS directory is the default.

The VMS file retains the DOS file name. You cannot change the name of the file when copying it from DOS to VMS using EXPORT.

Valid *switches* include:

/APPEND Appends the data to a destination file that already exists rather than overwriting the existing file. Cannot be specified with the **/CONFIRM** switch.

/BINARY Indicates that the file to be copied contains binary (i.e., non-ASCII) data. If this switch is not included, EXPORT assumes the file contains ASCII characters.

/CONFIRM Asks you to confirm before overwriting an existing file. Cannot be specified with the **/APPEND** switch.

/SELECT Asks you to confirm whether a file should be copied; the default response is No.

/VARIABLE Creates a file with a VMS variable file attribute. The default file attribute is stream.

Examples

```
C:\>xport export autoexec.bat
AUTOEXEC.BAT
```

```
1 file(s) copied
```

```
C:\>xport export \\lotus\data\*.wk1 zeke::[lotus]
\\lotus\data\PART1.WK1
\\lotus\data\PART2.WK1
\\lotus\data\PART3.WK1
```

```
3 file(s) copied
```

```
C:\>xport
```

```
Logiccraft Import/Export Facility vx.xx
Copyright (c) 1987-1992 by Logiccraft Inc.
```

```
Xport C:\>cd \docs
Xport C:\DOCS>export /select *.doc [.docs]
Copy RPT1.DOC [y/N]? y
Copy RPT2.DOC [y/N]? n
Copy RPT3.DOC [y/N]? y
```

```
2 file(s) copied
```

```
Xport C:\DOCS>export /confirm *.doc [.docs]
Overwrite existing RPT1.DOC [y/N]? n
RPT2.DOC
Overwrite existing RPT3.DOC [y/N]? y
RPT3.DOC
```

```
2 file(s) copied
```

```
Xport C:\DOCS>quit
```

```
C:\DOCS>
```

XPORT FREE [*drive*]

Displays the amount of free space available on the logical disk or floppy disk associated with *drive*. If no *drive* is specified, the current drive is the default.

Examples

```
Xport C:\>free
159744 bytes free on drive C:
Xport C:\>xport free d
32178 bytes free on drive D:
Xport C:\>exit
C:\>xport free e:
232894 bytes free on drive E:
C:\>
```

XPORT HELP [*xportcmd*]

Displays a brief explanation of the XPORT command specified, if one is included. If *xportcmd* is omitted, HELP displays a brief listing of the available XPORT commands.

XPORT IMPORT [*switches*] *vmsfile* [*dospath*]

Copies files from VMS to DOS, where:

vmsfile Indicates what VMS file or files to copy; wild-cards may be included.

dospath Indicates the DOS destination path to which the files should be copied. If this parameter is omitted, the current DOS directory is the default.

The DOS file retains the VMS file name and file type, truncated to fit DOS's naming conventions, if necessary. You cannot change the name of the file when copying it from VMS to DOS using IMPORT.

Valid *switches* include:

/APPEND Appends the data to a destination file that already exists rather than overwriting the existing file. Cannot be specified with the **/CONFIRM** switch.

/BINARY Indicates that the file to be copied contains binary (i.e., non-ASCII) data. If this switch is *not* included, XPORT assumes the file contains ASCII characters. During IMPORT, some VMS ASCII file formats may be translated to remove header information, thereby making the file compatible with DOS. To prevent any translation, include this switch.

/CONFIRM Asks you to confirm before overwriting an existing file. Cannot be specified with the **/APPEND** switch.

/SELECT Asks you to confirm whether a file should be copied; the default response is No.

Examples

```
C:\>xport import test.dat
TEST.DAT
```

1 file(s) copied

```
C:\>xport import zeke::[lotus]*.wk1 \lotus\data
ZEKE::TWEETY$QA:[LOTUS]PART1.WK1
ZEKE::TWEETY$QA:[LOTUS]PART2.WK1
ZEKE::TWEETY$QA:[LOTUS]PART3.WK1
```

3 file(s) copied

```
C:\>xport
```

```
Logicraft Import/Export Facility vx.xx
Copyright (c) 1987-1992 by Logicraft Inc.
```

```
Xport C:\>cd [.docs]
Xport C:\>import /select *.doc \docs
Copy RPT1.DOC [y/N]? y
Copy RPT2.DOC [y/N]? n
Copy RPT3.DOC [y/N]? y
```

2 file(s) copied

```
Xport C:\>import /confirm *.doc \docs
Overwrite existing RPT1.DOC [y/N]? n
RPT2.DOC
Overwrite existing RPT3.DOC [y/N]? y
RPT3.DOC
```

2 file(s) copied

```
Xport C:\>quit
```

```
C:\>
```

XPORT PROMPT [*newprompt*]

Changes the XPORT prompt to *newprompt* for the current interactive XPORT session. If *newprompt* is omitted, the current prompt is displayed. All of the special characters recognized by the DOS command PROMPT are recognized by the XPORT PROMPT command. For example, \$d displays the current date.

Examples

```
Xport C:\>prompt
$r $p$g
Xport C:\>prompt $d$g
Fri 6-12-1992>
```

XPORT SWITCHAR [*newchar*]

Changes the character that designates XPORT switches to *newchar*, which may be any alphanumeric character. If *newchar* is omitted, the current switch character is displayed.

The default switch character is the slash ("/"). Changing the switch character affects only the current XPORT session.

Examples

```
Xport C:\>switchar
Current switch character is "/"
Xport C:\>switchar %
Xport C:\>dir %wide
```

XPORT TYPE [*switches*] *filename*

Displays the contents of the specified file, where *filename* is any VMS or DOS file specification; wildcards are *not* allowed.

Valid *switches* include:

`/PAUSE[=nn]` Pauses the display after *nn* lines. If *nn* is omitted, the default is 24 lines.

`/TABS=m` Expands tab characters to *m* columns.

Examples

Commands for displaying DOS files:

```
Xport C:\>type autoexec.bat
```

```
Xport C:\>type /pause \docs\rpt1.txt
```

```
C:\>xport type /pause /tabs=5 \docs\rpt2.txt
```

Commands for displaying VMS files:

```
Xport C:\>type test.dat;
```

```
Xport C:\>type /pause [.docs]rpt1.txt
```

```
C:\>xport type /pause /tabs=5 [test.docs]rpt2.txt
```

XPORT UIC

Displays your user identification code (UIC).

XPORT VERSION

Displays the version of XPORT currently executing.

Using XPORT Batch Files

To execute a group of XPORT commands, place them in a file and enter the file name as an XPORT command (similar to DOS batch files). These files can be executed at either the XPORT prompt or the DOS prompt.

For example, assume a file called DOS2VMS contains these lines:

```
EXPORT C:\LOTUS\DATA\*.* [DATA]
DIR [DATA]
```

These XPORT commands can be executed from the DOS prompt with this command:

```
C:\>xport dos2vms
```

Alternatively, the commands in the file can be executed from XPORT's interactive mode by typing the file name at the XPORT prompt:

```
Xport C:\>dos2vms
```

XSET

This utility changes some of the some of the operation parameters of your DOS session. These changes may be necessary to run certain software applications.

Syntax

```
XSET [ENV] [LST1_FLUSH=timer_ticks]
```

Parameters

ENV Sets three DOS environment variables for the DOS session:

- USERNAME is set to your VMS username.
- SRVNAME is set to the Omni-Ware server name.
- ENV is set to the definition for the VMS variable LOGICRAFT_DOSENV, if this logical name is defined.

The ENV parameter takes no value.

LST1_FLUSH Sets the flush time out value for the LST1 printer assignment. Specify the number of timer ticks (approximately $\frac{1}{8}$ second per tick) before the print buffer is flushed automatically.

Notes

- Parameters may be abbreviated, provided they are identified uniquely.
- With the XSET ENV command, the following message is displayed if the logical name LOGICRAFT_DOSENV is undefined in the VMS process:

```
No environment data found.
```

- If there is insufficient space for the DOS environment variables, the following message is displayed:

Out of environment space.

Use the /E switch on the SHELL= command line in the CONFIG.SYS file to increase the available environment space. Refer to your MS-DOS manual for additional information.

Examples

```
C:\>xset lst1_flush=360
```

```
C:\>xset env
```

```
C:\>xset env lst1_flush=360
```

LOGICRAFT

UTILITIES FOR VMS

Omni-Ware for VMS

*Release 2.0
October 8, 1992*

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Introduction

This section discusses the Omni-Ware-related utilities available within your VMS session. Three major areas are covered:

- **Logical Disk Commands** explains the VMS commands that allow you to manage your logical disks and the PC files they contain.
- **The Info Utility** covers the commands used to request information about Omni-Ware servers and perform a remote reset (reboot) of a server.
- **Keyboard Mapping Utilities** discusses the utilities that allow you to change the default mapping for your terminal or workstation keyboard.

For information on the Omni-Ware commands, used to establish PC sessions, refer to *Session Configuration*.

Logical Disk Commands

Omni-Ware provides several VMS utilities that allow you to manage your logical disks. These commands are summarized in the following table:

Command	Description	Page
DOSCOPY	Transfers files between VMS and DOS.	VMS-4
DOSDIR	Gives directory listings for logical disks.	VMS-8
DOSERA	Erases DOS files from logical disks.	VMS-10
DOSMAKE	Creates logical disks.	VMS-12
DOSSTAT	Gives disk configuration information.	VMS-16
DOSTYPE	Displays the contents of a DOS file.	VMS-18

Figure 1: Summary of Logical Disk Commands

The indicated pages describe each command and its associated parameters and give examples of how the command is used.

The logical disk commands follow standard VMS command conventions; for example, if you omit any necessary parameters, the system prompts you for them. In addition, optional qualifiers may be abbreviated, provided they are identified uniquely.

Disk and Directory Syntax

Normally, when referring to a DOS drive and directory path, you use a colon to separate the drive name from the path, for example, C:\OMNI.

When referring to logical disks and directory paths from VMS, however, the colon is not available for this purpose. (The colon would cause VMS to treat the disk name as a VMS logical name.) As a result, a special syntax is used to specify DOS directory paths when using the logical disk commands.

To specify a DOS directory path within a logical disk, use either the | or & character to separate the disk name from the directory path. For example, to refer to the \OMNI directory of the OMNI-DOSV50.DOS logical disk, use this syntax:

OMNIDOSV50.DOS| \OMNI *or* OMNIDOSV50.DOS& \OMNI

Examples of this syntax are given in the command descriptions that follow.

In addition, VMS does not allow the ? to be used as a single-character wildcard (as it is for DOS); however, you can use the % character instead.

DOSCOPY

This command transfers files between VMS and logical disks. You can extract a DOS file from a logical disk, creating a VMS file, or you can transfer a VMS file to a logical disk, creating a DOS file.

Syntax

DOSCOPY [*qualifiers*] *infile outfile*

DOSCOPY [*qualifiers*] *infile outdir*

Parameters

infile Indicates the name of the DOS or VMS file to copy. You may specify a list of files separated by commas or include wildcard characters, provided that you use the *outdir* parameter rather than the *outfile* parameter.

outfile Indicates the name of the DOS or VMS file to create.

outdir Specifies the destination directory or path. When using this parameter, the copied file is given the same name as *infile*. Using the *outdir* parameter rather than *outfile* allows you to copy multiple files with a single DOSCOPY command.

Qualifiers

/BINARY Prevents manipulation of data within files; when copying a file from DOS to VMS, a stream file is created that contains the exact data within the DOS file. This qualifier cannot be used with */MULTINATIONAL*.

/BINARY is *required* when moving binary files from VMS to DOS or from DOS to VMS.

/MULTINATIONAL

Indicates that the file contains multinational characters (e.g., ü, à, ø, etc.). Include this qualifier to ensure proper conversion between the DOS extended character set and the DEC multinational character set. This qualifier cannot be used with */BINARY*.

/PARTITION=part

Applies only to partitionable logical disks. When copying *from* a partitioned disk, use this qualifier to indicate which partition contains the source file. When copying *to* a logical disk, indicate into which partition the file should be copied. If you omit the qualifier, DOSCOPY uses the disk's first partition.

The following qualifiers are mutually exclusive; specify only one per DOSCOPY command. These qualifiers are used only when transferring from DOS to VMS; they are ignored for VMS to DOS transfers.

- | | |
|---------------|--|
| <i>/FIXED</i> | Creates a VMS file with 512-byte fixed-length records and no record attributes. This is the default if <i>/BINARY</i> is included. |
| <i>/STCR</i> | Creates a VMS file with stream-CR record format and carriage return carriage control. |
| <i>/STLF</i> | Creates a VMS file with stream-LF record format and carriage return carriage control. |
| <i>/STM</i> | Creates a VMS file with stream record format and carriage return carriage control. This is the default for non-binary transfers from DOS to VMS. |

/VARIABLE Creates a VMS file with variable record format and carriage return carriage control.

Notes

- Do *not* abort a DOSCOPY command—e.g., with Ctrl-Y or Ctrl-C! Doing so may cause the logical disk to become corrupted. (Aborting the command is equivalent to powering down a PC while writing to a hard disk.)
- You cannot use DOSCOPY to copy a VMS file to another VMS file. At least one of the parameters (*infile*, *outfile*, *outdir*) must refer to a logical disk. Use the COPY command to copy VMS files.
- You cannot use DOSCOPY to copy a DOS file to the same or another logical disk. At least one of the parameters (*infile*, *outfile*, *outdir*) must refer to a VMS specification.

To copy file(s) from DOS to DOS, copy the file(s) from the source logical disk to VMS, then use a second DOSCOPY command to copy the file(s) from VMS to the destination logical disk. To simplify the copying of multiple files, use a temporary VMS directory and use wildcards to indicate the files. (See the examples below.)

- To specify a logical disk directory path containing wildcards or back slashes, separate the disk name from the directory path with either a | or & character. (See the examples below.)
- Wildcard characters may be included in the *infile* parameter when you specify an *outdir* parameter (rather than *outfile*). The wildcards are the asterisk (*), which matches any number of characters, and the percent sign (%), which matches a single character. When *infile* is a VMS file specification, you may also use the directory wildcards (... and -).
- When copying from VMS to DOS, if *infile* does not represent a valid DOS file name, you must use the *outfile* parameter. When using wildcards to copy multiple files from VMS to DOS, any file that does not have a valid DOS file name will not be copied.

- When copying from DOS to VMS, files are created with stream record format and carriage return carriage control record attributes, unless /BINARY, /FIXED, /STCR, /STLF, or /VARIABLE is specified.

Examples

Copying from VMS to DOS:

```
$ doscopy login.com dosdisk|autoexec.bat
$ doscopy sys$login:*.com dosdisk&\
$ doscopy *.* dosdisk|\test\
$ doscopy login.com,dos.com,temp.dat mydisk|\
$ doscopy /binary [test...]*.* mydisk|\
$ doscopy /multi rpt%.doc mydisk|\docs\
$ doscopy /part=2 newdoc.txt pdisk:mydoc.txt
```

Copying from DOS to VMS:

```
$ doscopy dosdisk|autoexec.bat login.com
$ doscopy dosdisk&autoexec.* sys$login
$ doscopy /binary mydisk|*.* [-.dosdir]
$ doscopy /multi/var mydisk|\docs\rpt%.dos []
$ doscopy /part=2 pdisk:mydoc.txt [.docs]doc.txt
```

Copying from DOS to DOS:

```
$ doscopy dosdisk|\data\temp.dat sys$scratch
$ doscopy sys$scratch:temp.dat lotus|
```

Copying multiple files from DOS to DOS, using wildcards:

```
$ create/directory [.temp]
$ doscopy /binary dosdisk|\data\*.* [.temp]
$ doscopy /binary [.temp]*.* mydisk|\
```

DOSDIR

This command displays the directory of a logical disk or logical disk path.

Syntax

DOSDIR [*qualifiers*] *logicaldisk*

Parameter

logicaldisk Indicates the logical disk for which to display the directory. You may include a directory path and/or file name (which may include wild-cards).

Qualifiers

/BRIEF Displays only the file names, one per line; file sizes and date/time stamp are not displayed. Cannot be specified with */WIDE*.

/PARTITION=part Applies only to partitionable logical disks. Displays a directory of the specified partition. If you omit this qualifier, the first partition is assumed.

/WIDE Displays file names in five columns (similar to the DOS command DIR */W*). Cannot be specified with */BRIEF*.

Notes

- Unless */WIDE* or */BRIEF* is included, the file names, sizes (in bytes), and date/time stamps are displayed, along with the total number of files and the number of free bytes on the disk.

- To specify a logical disk directory path, separate the disk name from the directory path with either a | or & character. (See the examples below.)
- If you specify a logical disk name but no path name, the root directory is displayed.
- You may request a directory of a list of *logicaldisk* parameters, separated by commas.
- Wildcard characters may be included in the *logicaldisk* parameter. The wildcards are the asterisk (*), which matches any number of characters, and the percent sign (%), which matches a single character. You may also use the VMS directory wildcards (... and -).
- The /BRIEF and /WIDE qualifiers are mutually exclusive; specify only one per DOSDIR command.

Examples

```
$ dosdir dosdisk
$ dosdir dosdisk|
$ dosdir dosdisk|\docs
$ dosdir dosdisk&\docs\*.*
$ dosdir lotus|\data,dosdisk|\work, -
  mydisk|\reports
$ dosdir /wide [.dosdisks]lotus&\123\*.wk1
$ dosdir /brief [-.test]mydisk|\*.bat
$ dosdir /part=3 pdisk|\docs
```

DOSERA

This command deletes a file or files from within a logical disk.

Syntax

DOSERA [/PARTITION=*part*] *dosfilespec*

Parameter/Qualifier

dosfilespec Indicates the name of the DOS file to delete, including logical disk and directory path information. Wildcards may be specified.

/PARTITION=*part* Applies only to partitionable logical disks. Indicates the partition containing the file(s) to erase.

Notes

- Do *not* abort a DOSERA command—e.g., with Ctrl-Y or Ctrl-C! Doing so may cause the logical disk to become corrupted. (Aborting the command is equivalent to powering down a PC while writing to a hard disk.)
- To specify a logical disk directory path, separate the disk name from the directory path with either a | or & character. (See the examples below.)
- You may specify a list of *dosfilespec* parameters, separated by commas.
- Wildcard characters may be included in the *dosfilespec* parameter. The wildcards are the asterisk (*), which matches any number of characters, and the percent sign (%), which matches a single character. You may also use the VMS directory wildcards (... and -) when indicating the file specification of the logical disk.

Examples

```
$ dosera dosdsk|autoexec.bat
```

```
$ dosera dosdsk|\auto*.bat,lotus|\*.set
```

```
$ dosera /part=4 [.dosdisks]pdisk|\junk\*.*
```

DOSMAKE

This command creates a standard or partitionable logical disk in the specified VMS file. A standard logical disk may range in size from 360 kilobytes to 32 megabytes. Partitionable logical disks may range in size from one megabyte to 480 megabytes.

Standard logical disks created with the DOSMAKE command are fully compatible with all of Logicaft's PC server products. Partitionable logical disk may be used only with Omni-Ware servers.

Before issuing a DOSMAKE command, you should determine how large your disk needs to be, then ensure you are allotted enough VMS storage space to hold the new disk.

Refer to "More about Logical Disks" on page DSK-17 and "Partitionable Logical Disks" on page DSK-25 of *Logical & Local Disks* for additional information on creating and using partitionable logical disks.

Syntax

DOSMAKE *size filespec*

DOSMAKE /PARTITION *size filespec*

DOSMAKE /PARTITION=(CYLINDERS=*cyls*, HEADS=*hds*,
SECTORS=*sects*) *size filespec*

Parameters

size Specifies the size of the logical disk. The size may be specified as kilobytes, megabytes, or VMS blocks (one block is 512 bytes or half a kilobyte). To specify kilobytes, append K to the number; to specify megabytes, append M. If neither K nor M is appended, *size* is assumed to be VMS blocks.

If /PARTITION is *not* included, the minimum value for *size* is 360K (720 blocks); the maximum is 32M (65,536 blocks). If /PARTITION is included, the minimum value for *size* is 1M (2,048 blocks); the maximum is 480M (983,040 blocks).

If /PARTITION is included and values are specified for CYLINDERS, HEADS, and SECTORS, the *size* must be valid (that is, between 1M and 480M), however, the actual size for the disk is calculated from the values for *cyls*, *hds*, and *sects*. (The size, in bytes, will be *cyls* times *hds* times *sects* times 512.)

filespec Indicates the file name for the logical disk. You may specify any valid VMS file specification to which you have write access. If you do not include an extension, .DOS is assumed.

Qualifiers

- /PARTITION Requests a partitionable logical disk. If omitted, a standard logical disk is created.
- cyls* Indicates the number of cylinders for the partitionable disk; valid range is 1 – 1024 (inclusive).
- hds* Indicates the number of heads for the partitionable disk; valid range is 1 – 15 (inclusive).
- sects* Indicates the number of sectors for the partitionable disk; valid range is 1 – 63 (inclusive).

Notes

- You may create up to 25 disks of the same size with a single DOSMAKE command by specifying multiple *filespec* parameters, separated by commas (provided you stay within DCL's command-line length limitations).
- Once you create a logical disk, you *cannot* change its size. Before using DOSMAKE, determine the maximum size you will need for your logical disk.

Although you cannot change the size of a logical disk, you can create a new disk of the appropriate size, establish a DOS session with both disks, then copy everything from the old disk to the new.¹

If the old disk is mounted as the D: drive, and the new disk is mounted as the E: drive, use this DOS command to move the data:

```
C:\>xcopy d: e: /s /e
```

This command moves all files, subdirectories (even empty ones), and files in the subdirectories. Refer to your MS-DOS manual for information on the XCOPY command.

Once you have copied the information, return to VMS and delete the file for the old logical disk.

- To create a standard logical disk that contains the MS-DOS system files (i.e., can be used to boot the DOS session), do *not* use the FORMAT/S command at the DOS prompt. For instructions, refer to "Creating a Bootable Logical Disk" on page DSK-8 of *Logical & Local Disks*.
- When you create a standard logical disk, DOSMAKE formats the disk for you so that the disk is ready for use. Partitionable disks, however, are *not* formatted. You *must* use FDISK and

¹If the old disk contains any copy-protected software, uninstall it (following the vendor's instructions) before copying data to the new disk. You can then reinstall the software on the new disk.

FORMAT *before* storing files on a partitionable logical disk. Refer to "Partitionable Logical Disks" on page DSK-25 of *Logical & Local Disks* for additional information.

- When creating a partitionable disk, if you omit values for *cyls*, *hds*, and *sects*, DOSMAKE chooses values for you.
- When creating a partitionable disk, DOSMAKE reports on the number of cylinders, heads, and sectors used. The DOSSTAT command can also be used to determine this information; refer to its description later on page VMS-16.
- To use a partitionable disk in an Omni-Ware session, you need to change your server's CMOS set-up or OMNIDISK.SYS command to match the disk configuration.

Examples

```
$ dosmake 360K mydisk
$ dosmake 5m [doscommon.disks]lotus
$ dosmake 2048 [-]temp1. [-]temp2. [-]temp3
$ dosmake /partition 15m pdisk
$ dosmake /part=(cyl=128,h=8,s=17) 1m pdisk2
```

DOSSTAT

This command gives information about the configuration of a logical disk. Although it can be used with any logical disk, it is used primarily to report on partitionable disks.

Syntax

```
DOSSTAT [/PARTITION=part] filespec
```

Parameter/Qualifier

<i>filespec</i>	Indicates the name of the logical disk about which to display information.
<i>part</i>	Displays information about the specified disk partition. If you omit the qualifier, the first partition is assumed.

Notes

- For partitionable logical disks, DOSSTAT reports the number of cylinders, heads, and sectors. If the disk has been partitioned (with FDISK), DOSSTAT also reports on the configuration of the first partition or the partition specified by the /PARTITION qualifier. This configuration information includes the number of bytes per sector, sectors per cluster, FATs, FAT bits, sectors per FAT, reserved sectors, sectors on disk volume, and root directory capacity.
- If the disk has not yet been partitioned and formatted or you specify a nonexistent *part*, DOSSTAT reports the number of cylinders, heads, and sectors, then indicates "Partition not defined with FDISK."
- For standard logical disks, DOSSTAT reports the same information as for a partition of a partitionable logical disk (number of bytes per sector, etc.).

Examples

```
$ dosstat pdisk
```

```
Physical disk: PDISK.DOS
```

```
    Cylinders 128  
    Heads 15  
    Sectors/track 17
```

```
Partition: 1
```

```
    Bytes/sector 512  
    Sectors/cluster 8  
    FATs 2  
    FAT bits 12  
    Sectors per FAT 12  
    Reserved sectors 1  
    Sectors on disk volume 32368  
    Root directory capacity 512
```

```
$ dosstat /partition=2 pdisk
```

```
Physical disk: PDISK.DOS
```

```
    Cylinders 128  
    Heads 15  
    Sectors/track 17
```

```
Partition: 2
```

```
    Partition not defined with FDISK!
```

```
$ dosstat omnidosv50
```

```
Logical disk: OMNIDOSV50.DOS
```

```
    Bytes/sector 512  
    Sectors/cluster 4  
    FATs 2  
    FAT bits 12  
    Sectors per FAT 8  
    Reserved sectors 1  
    Sectors on disk volume 10240  
    Root directory capacity 512
```

DOSTYPE

This command displays the contents of a DOS file (or files) located within a logical disk (or disks).

Syntax

DOSTYPE [*qualifiers*] *dosfile*

Parameters

dosfile Specifies the DOS file to display, including logical disk name. You may include a directory path. Wildcards are allowed.

Qualifiers

/[NO]BINARY Indicates whether the file contains binary (non-ASCII) data. With **/BINARY**, all bytes in the file are displayed; typing does not stop if a Ctrl-Z is detected. You should rarely need this qualifier.

With **/NOBINARY**, the file is displayed until an end-of-file or Ctrl-Z character is detected. The default is **/NOBINARY**.

/BINARY cannot be used with **/MULTINATIONAL**.

/MULTINATIONAL

Indicates that the file contains multinational characters (e.g., ü, à, ø, etc.). Include this qualifier to ensure proper conversion between the DOS extended character set and the DEC multinational character set. **/MULTINATIONAL** cannot be used with **/BINARY**.

/PARTITION=*part*

Applies only to partitionable logical disks. Include this qualifier to display a file in the specified partition. If you omit the qualifier, DOSTYPE uses the disk's first partition.

Notes

- To specify a logical disk directory path, separate the disk name from the directory path with either a | or & character. (See the examples below.)
- To specify a logical disk directory path containing wildcards or back slashes, enclose the entire specification in double quotes. (See the examples below.)
- You may type more than one file by specifying multiple *dosfile* parameters, separated by commas.
- Wildcard characters may be included in the *dosfile* parameter. The wildcards are the asterisk (*), which matches any number of characters, and the percent sign (%), which matches a single character.

Examples

```
$ dostype dosdisk|autoexec.bat
$ dostype mydisk|\docs\*.txt
$ dostype /multi mydisk|\letters\pierre.ltr
$ dostype /part=3 [.docs]rpts|\rpts\rpt1.txt
```

The Info Utility

The Info utility displays information about available Omni-Ware servers. You can also use the Info utility to initiate a remote reboot of a server from the VMS prompt.

For XNS servers, Info is generally installed with PRMMBX privilege; if it is not, you will need PRMMBX to execute it.

Syntax

```
OMNIINFO [-Tnn] [srvname(s)]
```

```
OMNIINFO -R srvname(s)
```

where:

srvname(s) Indicates the name(s) or XNS Ethernet addresses of the Omni-Ware server(s) about which to display information. To specify more than one server, separate the names with spaces. This parameter is optional; if omitted, Info returns information about all responding servers.

When broadcasting for information about all servers, Info gives servers a single chance to reply. If no servers reply or those that reply cannot support another user, Omni-Ware polls again before giving up.

-Tnn Specifies a maximum delay of *nn* seconds to wait for a server response. The default is five seconds.

-R Initiates a remote reboot of the specified server(s). The *srvname(s)* parameter is required. The -R switch requires SYSPRV privilege.

Example

The following is a sample display from the Info utility.

```

$ oaminfo tercel
Info - XMS Transport v2.00 Copyright 1988-1992 by Logcraft, Inc.

Server TERCEL
  Response time      : 1.628 seconds
  Ethernet address  : 00-00-4F-10-06-66
  Product options   : VGA

  Exited via QUIT   : No
  Accepted connects : 2
  Rejected connects : 0
  Failed connects   : 0

Data Link Layer Information

  Bytes Received    : 1810882
  Bytes Transmitted : 539286
  Receive Failures  : 0
  Transmit Failures : 0

User #  Node      Username      Pid      Terminal  Slave  Task
  1      THEETY    JONES        20200429  FTA135:   1      1

```

The first group of information shows the server's name and address, how long it took to respond to the Info request, and whether the server has a VGA board.

The second group indicates whether the previous session was ended with QUIT (rather than BYE); if Yes, the next session can continue the session, provided that /NORESET is included. For information on QUIT, refer to page DOS-23 of *Utilities & Drivers for DOS*. For information on /NORESET, see page CFG-36 of *Session Configuration*.

Information about server connections is also given, and the Data Link Layer Information gives some network performance figures. These numbers are all reset when the server is reset (e.g., powered off and back on or reset with Info or the reset button on the server).

If the server is in use, the user's node name, username, process ID, and terminal are displayed.

Keyboard Mapping Utilities

Logicraft's keyboard mapping utilities—KeyUtil_X and KeyUtil—let you change the default mapping of your keyboard. KeyUtil_X is used with X terminals and workstations using window system 2 or 3. KeyUtil is used with terminals and with workstations or X terminals using window system 0.

You should only need these keyboard mapping utilities if:

- you don't like one or more key assignments in the Logicraft keyboard data file; or
- you have an X terminal or workstation for which Logicraft does not provide a keyboard data file.

With either of the keyboard mapping utilities, you map the keys on your terminal or workstation keyboard to whatever keys on the PC keyboard you like. (For information on the default keyboard mappings, refer to Appendix B.)

Terminology

The following terms are used throughout this discussion of the keyboard mapping utilities:

Host Key Sequence or Host Key Code — the code sequence your terminal transmits to the VMS system when you press a key. Some function keys and cursor control keys generate more than one code. For example, in 8-bit mode the VT code sequence for the Esc key consists of four characters: CSI 2 3 ~.

PC Key Sequence or PC Key Code — the code sequence an ordinary PC keyboard sends to the PC when you press a key. The PC keyboard actually sends two code sequences: the *make* code and the *break* code.

Make Code/Break Code — the two codes sequences generated when you press a key on a PC keyboard. The make code is transmitted to the PC when you *press* the key. The break code is transmitted when you *release* the key.

When you use Omni-Ware, software converts the host key sequence to the make/break codes of a PC key sequence. With the keyboard mapping utilities, you can specify this conversion. That is, to make a key on your terminal keyboard serve as a particular PC key, you use KeyUtil to specify the make/ break codes to use for the host key sequence associated with that terminal key.

With KeyUtil_X, you don't need to specify the make/break codes explicitly; rather, the utility displays a PC key, and you press the key on your keyboard to map to that PC key. KeyUtil_X assigns the make/break codes accordingly.

As mentioned, host and PC key sequences often consist of more than one character or code. The keyboard mapping utilities allow you to map a host key sequence up to sixteen characters long to a PC key sequence (set of make/break codes) up to sixteen codes long.

Special Keys

Several special keys can be remapped or defined in the keyboard mapping utilities. These keys do not have a counterpart on a standard PC; they are used specifically for Omni-Ware. These keys are as follows:

Toggle Used on 24-line terminals to toggle the display between lines 1–24 and 2–25. The VT200 keyboard mapping file maps the terminal's keypad comma key to be the Toggle key.

Flush Used to flush the print buffer manually. For additional information, refer to the discussion of `/[NO]FLUSH` on page CFG–23 of *Session Configuration*.

The default Flush key for most non-X terminal keyboards and for window system 0 is Ctrl-Z. For window system 2 or 3, the Flush key is usually undefined; you can define one with `KeyUtil_X`.

Hot key Used to spawn a VMS subprocess. For additional information, refer to the discussion of `/[NO]HOT_KEY` on page CFG–25 of *Session Configuration*.

The default Hot key is Ctrl-?. This key is not relevant for window systems 2 and 3 and it cannot be defined with `KeyUtil_X`.

Refresh Used to redraw the display. This key is useful if your terminal's communications line is subject to noise.

The default Refresh key is Ctrl-W. This key is not relevant for window systems 2 and 3 and it cannot be defined with `KeyUtil_X`.

Logcraft's Keyboard Mapping Files

Logcraft includes several keyboard mapping files for use with Omni-Ware; these files are all located in SYS\$OMNIWARE and all have the file type or extension .MD2. The following table gives an alphabetical list.

Mapping	Terminal/Workstation
clipper	Intergraph 2000
decwkey	DECwindows workstations and VT1000, VT1200, and VT1300 X terminals (window system 2 or 3)
exoduskey	Macintoshes running eXodus software
hp9000key	HP9000 (window system 2 or 3)
hpxterm	HP9000 (window system 0)
intel	Intel 302 and 402 workstations
is101us	PC DECwindows v. 1, 101-key keyboard
is84ius	PC DECwindows v. 3, 84-key keyboard
is84us	PC DECwindows v. 1, 84-key keyboard
isenhius	PC DECwindows v. 3, 101-key keyboard
lk250dus	PC DECwindows v. 3, LK250 keyboard
lk250ius	PC DECwindows v. 1, LK250 keyboard
macxkey	Macintoshes running MacX
ncdpckey	NCD X terminals, PC keyboard
ncdvtkey	NCD X terminals, VT keyboard
rs6000key	IBM RISC System/6000
sun3keys	Sun 3-series systems
sun4keys	SPARCstations and Sun 4-series systems

Figure 2: Keyboard Mapping Files

Mapping	Terminal/Workstation
sunview3keys	Sun Type3 keyboard for SunView
sunview4keys	Sun Type4 keyboard for SunView
tekxp101	Tektronix XP27, VT100 keyboard
tekxp220	Tektronix XP27, VT200 keyboard
visual101	Visual RE1520, VT100 keyboard
visualxds	Visual RE1520, VT200 keyboard
vt200key	VT200-, VT300-, and VT400-series terminals

Figure 2: Keyboard Mapping Files (Continued)

These files specify the default keyboard mappings discussed in Appendix B.

Typically, the keyboard mapping utilities are used to *modify* one of these default files. For example, you could swap the mapping for the VAXstation keyboard's ~ key (which normally maps to the PC's ~ key) and Do key (which maps to the PC's Esc key). An example given later shows how to use KeyUtil_X to make this change.

Using Your Key Mapping in a PC Session

Once you have used a keyboard mapping utility to tailor your keyboard and have saved the key mapping in a file, you can load that mapping for your Omni-Ware session by including it when you establish the session:

- If you give the OMNI command, use the /KEYMAP qualifier to specify the name of your keyboard mapping file. This qualifier is discussed on page CFG-29 of *Session Configuration*.
- If you use the window system 2 pull-down menus, specify the name of the keyboard mapping file as the "Key mapping file" in the Auxiliary Configuration Parameters dialog box on the Configuration pull-down menu. This dialog box is discussed on page CFG-56 of *Session Configuration*.

The ADDKYBD utility can be used to designate default keyboard mapping files for X platforms. Refer to "Keymap Directory File" on page SMG-19 of *System Manager's Guide* for details.

7-Bit and 8-Bit Modes

Before using a keyboard mapping utility, be sure that your terminal is set up as it will be when you run Omni-Ware. In particular, if you plan to run Omni-Ware in 8-bit mode, ensure that your terminal is set for 8-bit.

If you use your terminal in both 7-bit mode and 8-bit mode, define your remapped keys *twice* in KeyUtil, once for 7-bit and once for 8-bit. This ensures that Omni-Ware recognizes the key sequences in either mode.

To remap for both modes, follow these steps:

1. Set the terminal for 7-bit operation.
2. Run KeyUtil and define your keys.
3. Save your changes.
4. Exit KeyUtil.
5. Set the terminal for 8-bit operation. (You may find it easiest to log out, change the terminal set-up, then log back in.)
6. Run KeyUtil again. When asked for the name of the existing file, type in the file name you specified in Step 3.
7. Define the same keys again.
8. Save your changes again in the *same* file you specified in Step 3.
9. Exit KeyUtil.

An explanation of KeyUtil_X begins on the next page; the discussion of KeyUtil begins on page VMS-34.

KeyUtil_X

As discussed earlier, the KeyUtil_X utility is used with X terminals or workstations with window system 2 or 3. If you use window system 0 (or a terminal), you should use the KeyUtil utility, discussed on page VMS-34.

Syntax

```
KEYUTIL_X [-L language] [-I infile] [-O outfile] [-M mode]
```

Parameters

-L *language* Indicates the nationality to use for the keyboard, one of the following:

Belgian	German	Spanish
British	Italian	Swiss-French
Danish	Norwegian	Swiss-German
French	Portuguese	US

The default is US.

-I *infile* Indicates the keyboard mapping on which to base your mapping. If this parameter is omitted, a completely new keyboard mapping is created (i.e., with no keys defined initially). The default file type or extension is .MD2.

-O *outfile* Indicates the VMS file in which to save the keyboard mapping when you exit the utility; if no file type is specified, .MD2 is assumed.

If this parameter is omitted and an *infile* is specified, the changes are written to a new version of *infile* when you exit KeyUtil_X. If neither *infile* nor *outfile* is specified, the keyboard

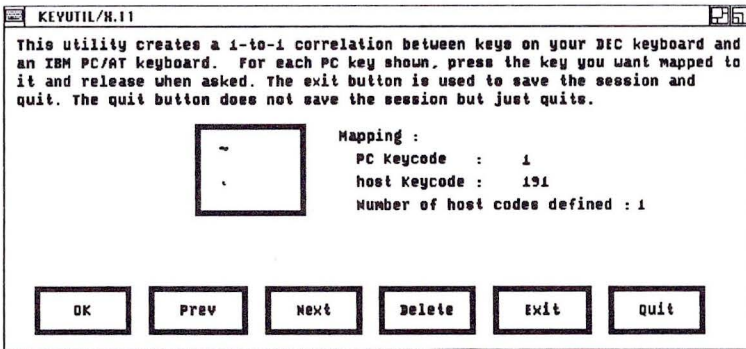
mapping is saved in a file called KEY_MAPPING.MD2 in the default directory.

-M mode Specifies the keyboard mapping mode, **-M1** for 386Ware or **-M2** for Omni-Ware. If this parameter is omitted, **-M2** is assumed.

For example, to modify a copy of the default keyboard mapping for a VAXstation and save the changes in a file called MYDECWKEY.MD2 in the default directory, give a command like the following:

```
$ keyutil_x -isys$omniware:decwkey -omydecwkey
```

When you invoke KeyUtil_X, a window like the following appears:



This window shows a key from the PC keyboard. At this point, you can take the following actions:

- To *remove* the mapping for this PC key, click the **Delete** button.
- To *map a single host key* to this PC key, press the key on your keyboard, release it when the message "Please release key" appears, then click the **OK** button. If the host key is already mapped to a different PC key, you must remove that mapping before you can map the host key to this PC key.

- To map multiple host keys to this PC key, press the first host key and release it when the message "Please release key" appears. Click the OK button, then press the second key and release it when asked. (The "Number of host codes defined" count increments accordingly.) Continue in this fashion until you have entered the entire host key sequence. If any of the host keys is already mapped to a different PC key, you must remove that mapping before you can use the host key for this PC key.

You cannot specify a superset of a previously defined host key sequence. For example, if your keyboard's A key is mapped to the PC's A key, you cannot map the host key sequence A B to a PC key without first deleting the mapping for the A key.

- To see the next PC key, click the Next button. Use Next when you have entered the host key sequence for a PC key or to skip a PC key without remapping it.
- To see the previous PC key, click the Prev button. Use Prev when you have skipped over a key and want to display it again.

When you have defined the keys you want, click the Exit button to save your mapping. If you want to leave KeyUtil_X without saving your changes, click the Quit button instead.

Example

The following example swaps the keyboard mapping for the VAXstation ~ key (normally mapped to the PC ~ key) and the Do key (normally mapped to the PC Esc key).

Start KeyUtil_X with a command like the following:

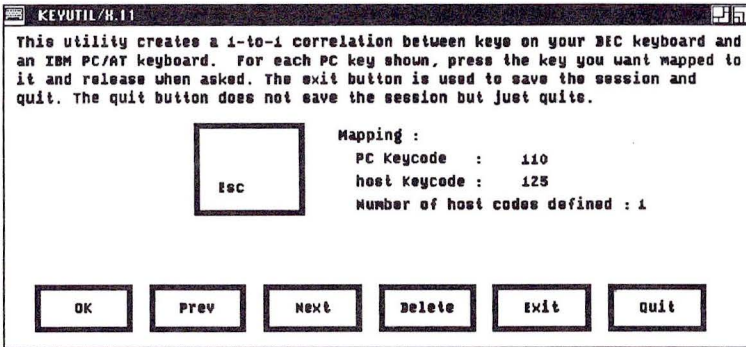
```
$ keyutil_x -isys$omniware:decwkey -omydecwkey
```

This command loads the default keyboard mapping for a VAXstation and will save any changes in the file "mydecwkey.md2" in the default directory.

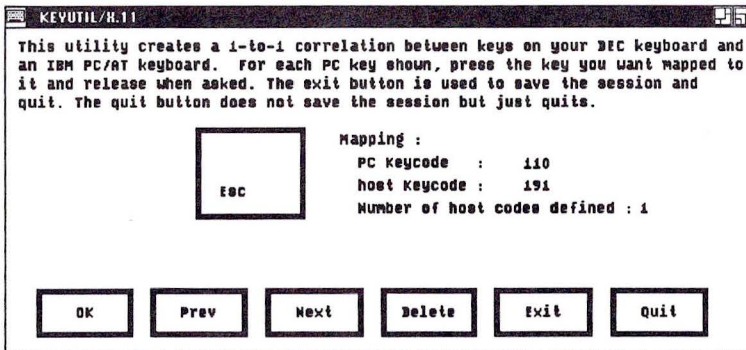
The initial KeyUtil_X screen shows the ~ key, which needs to be remapped. (This screen is shown on page VMS-30.)

Click the Delete button to remove the default mapping. At this point, however, you cannot assign the host Do key to this ~ key because the Do key is already assigned. You must remove that mapping first.

Click the Prev button until the PC Esc key appears. The screen looks like this:

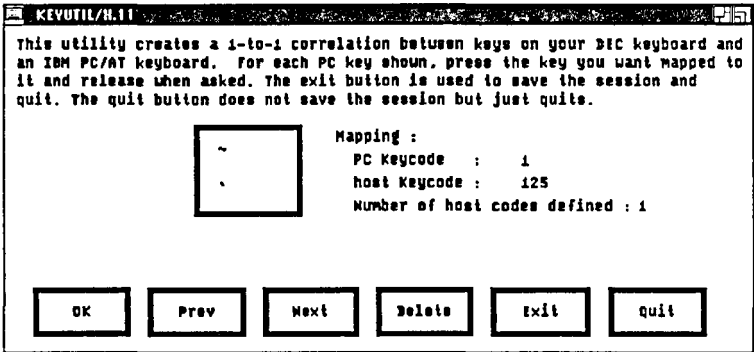


Click Delete to remove the mapping for this key. Press ~ to map that key to the PC Esc key, then click OK. The screen looks like this:



Note the different host keycode.

At this point, you can now map the PC ~ key. Click the Next button until that key reappears. Press the Do key to map that key to the PC ~ key, then click OK. The screen looks like this:



The two key definitions are now swapped. Click Exit to save the changes; KeyUtil_X indicates that it is writing the output. The KeyUtil_X window disappears.

If you establish an Omni-Ware session specifying MYDECWKEY for the keyboard mapping file, you can use the ~ key as the PC's Esc key and the Do key as the PC's ~ key.

KeyUtil

The following pages discuss the KeyUtil utility, which is used to create or change keyboard mappings for VT or ANSI terminals.

To invoke KeyUtil, give this command:

```
$ keyutil
```

A screen with a description of the utility appears. Press Return when you have read this information.

The next screen asks you whether you want to modify an existing keyboard file or create a new one.

Creating a New Keyboard Mapping

If you press Return without specifying a file name, you are asked to enter a 24/25 line toggle key. Press the key or keys that you want as your 24/25 line Toggle key, then press Return. (You must define this key initially, even if you will not need it in your final mapping. You can remove the definition later, if necessary.) The KeyUtil main menu then appears.

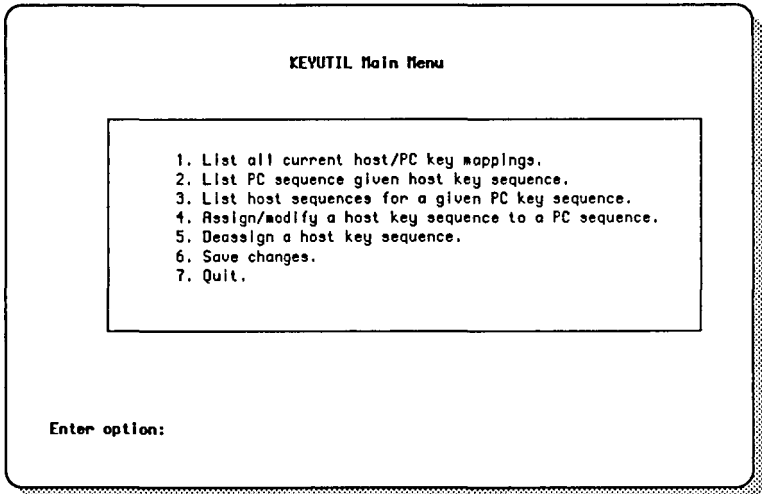
Modifying an Existing Keyboard Mapping

As discussed earlier, you will generally modify an existing keyboard file. To do so, specify the name of the file on which you want your mapping to be based. (When you save your changes, you can specify another file name so as not to change the Logcraft distribution files.)

When you have entered a file name and pressed Return, the main menu appears.

The Main Menu

The main menu for KeyUtil looks like this:



The options on this menu are discussed below.

List All Current Host/PC Key Mappings

This option displays all host sequences and the corresponding PC sequences, a screenful at a time. At the end of each screenful, you can press Return to get the next screen of information or the space bar to return to the main menu.

This option always displays the sequences that are currently in memory, including any changes you have made during this KeyUtil session (even if you have not yet saved those changes in a file).

The listing displayed by this option looks like the following:

```
Host Seq: <^A>
PC Seq: m58 m31 b31 b58
```

Host Seq: <^B>
 PC Seq: m58 m50 b50 b58

The first entry indicates that the host sequence <^A> (Ctrl-A) maps to the PC sequence make code 58, make code 31, break code 31, break code 58. Similarly, the host sequence <^B> (Ctrl-B) maps to the PC sequence make code 58, make code 50, break code 50, break code 58. (Make/break codes formats are explained below.)

List PC Sequence Given Host Key Sequence

This option displays the PC sequence that corresponds to a *particular* host key sequence. This option is useful, for example, when a particular key on your terminal keyboard is not functioning properly in your PC session. You can use this option to view the key's associated PC sequence and determine whether it is incorrect.

When you choose this option, a screen like the following appears:

118	112	113	114	115	116	117	118	119	120	121	122	123
Esc	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12

1	2	3	4	5	6	7	8	9	10	11	12	13	15
`	!	@	#	\$	%	^	&	*	()	-	+ =		
16	17	18	19	20	21	22	23	24	25	26	27	28	29
Tab <-	Q	W	E	R	T	Y	U	I	O	P	[]	\
30	31	32	33	34	35	36	37	38	39	40	41	43	
Caps Lock	A	S	D	F	G	H	J	K	L	;	'		<- Enter
44	46	47	48	49	50	51	52	53	54	55	57		
^ Shift	Z	X	C	U	B	N	M	,	.	?	^ Shift		
58	60	61								62		64	
Ctrl	Alt									Alt		Ctrl	

Enter host key sequence:

^J) **HELP** ^K) **SHIFT KEYBOARD** ^C) **Exit**

This screen shows the left half of a PC/AT enhanced keyboard. Each key has an associated number (displayed at the top of the key) indicating the make/break codes for the PC key. The cursor is positioned after the "Enter host key sequence:" prompt.

To display the PC key sequence associated with a particular host key sequence, press the host key(s) for the sequence, then press Return.

For example, to display the PC key sequence that corresponds to the host key sequence <^A>, press Ctrl-A, then Return. The PC sequence appears in the lower left portion of the screen:

```
Enter host key sequence: <^A>
```

```
PC Sequence: m58 m31 b31 b58
```

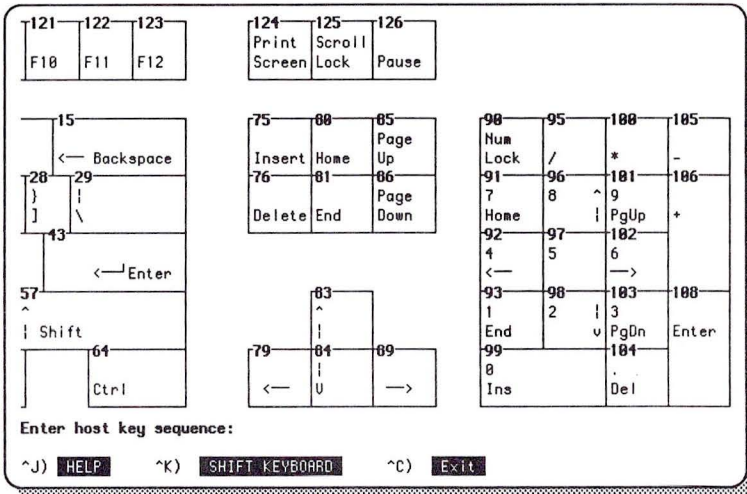
```
PRESS RETURN TO CONTINUE
```

Note that the Ctrl key on the keyboard screen has the number 58 associated with it, the A key, 31. The make/break codes shown above translate to "press the Ctrl key (number 58), press the A key (31), release the A key, release the Ctrl key."

To see the other half of the PC keyboard, press Ctrl-K. The following prompt appears:

```
Is this <^K> key part of the sequence (y/n): n
```

Press Return to accept the default "n" (indicating that the Ctrl-K is not part of a host sequence). The keyboard screen shifts, showing the numeric and cursor movement keypads:



For helpful information about the option you are currently using, press Ctrl-J. A prompt similar to the one for Ctrl-K appears; press Return to indicate that the Ctrl-J is not part of a host sequence.

To return to the main menu, press Ctrl-C, then press Return to indicate "no" at the "is this part of the sequence" prompt.

List Host Sequences for a Given PC Key Sequence

This option functions essentially the same way as "2. List PC sequence given host key sequence," except that you enter the PC sequence and the system displays the host key sequence (rather than the other way around).

When you choose this option, the same keyboard screen shown on page VMS-36 appears, except the lower portion of the screen looks like this:

Enter PC key sequence:

^J) **HELP** ^K) **SHIFT KEYBOARD** ^C) **Exit**

At the “Enter PC key sequence:” prompt, type the make/break codes, separated with commas, for the sequence on which you want information, and press Return.

For example, to display the host sequence that corresponds to the PC sequence for Ctrl-B, specify the make/break codes as **m58,m50,b50,b58**; these codes translate to “press the Ctrl key (number 58), press the B key (50), release the B key, release the Ctrl key.”

When you have entered the codes, press Return. The host sequence is displayed in the lower portion of the screen:

Enter PC key sequence: **m58,m50,b50,b58**
Host Sequence: **<^B>**

PRESS RETURN TO CONTINUE

To display the host sequence for the Logcraft Toggle key, Flush key, Hot key, or Refresh key, enter **TOGGLE**, **FLUSH**, **HOT**, or **REFRESH**, respectively, at the “Enter PC key sequence:” prompt.

To see the other half of the PC keyboard, press Ctrl-K. For helpful information, press Ctrl-J. Press Ctrl-C to return to the main menu.

Assign/Modify a Host Key Sequence to a PC Sequence

Use this option to define the PC sequence for a given host key sequence.

When you choose this option, the same keyboard screen shown on page VMS-36 appears, except the lower portion of the screen looks like this:

```
Enter host key sequence: █
Enter PC key sequence:
^J) █ HELP      ^K) █ SHIFT KEYBOARD      ^C) █ Exit
```

To define a key mapping, press the key(s) on your terminal that you want to define, then press Return. The "Enter PC key sequence:" prompt is then highlighted. Type the make/break codes for the PC key sequence you want, using the same format described on the previous page, then press Return. The new key mapping is now in memory. However, you must save the keyboard mapping before you can use your new definitions in a PC session.

When entering a host key sequence, you cannot specify a superset of a previously defined host key sequence. For example, you cannot assign a key mapping to <^A> <^B> because <^A> has its own definition. If you press Ctrl-A Ctrl-B at the "Enter host key sequence:" prompt, the following error message is displayed:

```
INTEGRITY ERROR: Substring defined: <^A>
```

If you really want to assign a mapping to <^A> <^B>, you must first deassign the default mapping for <^A> (using Option 5).

To define a host sequence for the Logcraft Toggle key, Flush key, Hot key, or Refresh key, enter TOGGLE, FLUSH, HOT, or REFRESH, respectively, at the "Enter PC key sequence:" prompt.

To see the other half of the PC keyboard, press Ctrl-K. The following prompt appears:

Is this <^K> key part of the sequence? (y/n): n

Press Return to accept the default "n" (indicating that the Ctrl-K is not part of a host sequence).

For helpful information about the option you are currently using, press Ctrl-J. A prompt similar to the one for Ctrl-K appears; press Return to indicate that the Ctrl-J is not part of a host sequence.

To return to the main menu, press Ctrl-C, then press Return to indicate "no" at the "is this part of the sequence" prompt.

The example given later shows the use of this option to modify the mapping for a host key sequence.

Deassign a Host Key Sequence

Use this option to remove a PC key sequence assignment from a given host key sequence.

When you choose this option, a screen appears asking you for the host key sequence you want to deassign. Press the key(s) for the host sequence, then press Return. The keyboard mapping utility acknowledges its action.

Save Changes

This option saves any changes you made during this KeyUtil session. When you choose this option, KeyUtil prompts you for the name of the file in which to save the changes. You can enter any valid VMS file name to which you have write access. If the file you specify does not already exist, it is created. If the file exists, a new version of the file is created.

You must save any changes in order to use them in an Omni-Ware session.

Quit

This option exits KeyUtil, returning to the VMS prompt. If you made changes and did not save them, the following prompt appears:

```
Exit WITHOUT saving changes? (y/n): n
```

If you type "n" or press Return to accept the default, KeyUtil returns to the main menu, giving you the opportunity to save your changes. If you type "y" to indicate that you want to exit without saving your changes, you are returned to the VMS prompt, and the changes are discarded.

Example

The following example shows how to use KeyUtil to change the mapping for the VT320's keypad comma key to the PC's Pause key. By default, the keypad comma key is used as the 24/25-line Toggle Key, which is not needed on the VT320 because the status line is used for the 25th line.

Invoke KeyUtil with this command:

```
$ keyutil
```

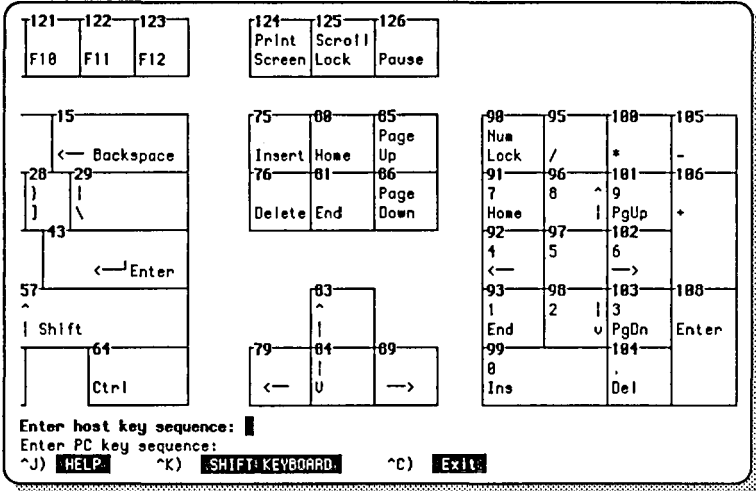
The initial KeyUtil screen appears; read the instructions and press Return.

The next screen asks for the name of the mapping file you want to modify. Enter the default file for the VT320, which is called `SY$OMNIWARE:VT200KEY.MD2`.

The main menu appears. Choose Option 4 to assign or modify a host key sequence.

The left half of the PC/AT keyboard screen appears. The PC's Pause key is located above the cursor movement keypads on the other half of the screen, so press Ctrl-K to view the right half of the keyboard.

The following screen appears:



At the “Enter host key sequence:” prompt, press the comma key on the terminal’s numeric keypad, then press Return. The “Enter PC key sequence:” prompt is highlighted.

Note that the number associated with the Pause key is 126. Type the make/break codes for the Pause key at the prompt, as shown:

```
Enter PC key sequence: m126,b126
```

and press Return.

Next, press Ctrl-C to return to the main menu. Choose Option 6 to save the change you just made.

KeyUtil asks for the name of a file in which to save your changes. Type in a file name, such as “myvt320,” and press Return.

When KeyUtil indicates that the configuration has been saved, press Return to get back to the main menu, and choose Option 7 to return to the VMS prompt.

Appendix A

TERMINAL SET-UP



VT420

The following settings are important for the proper operation of Omni-Ware. Terminal characteristics that are not shown can generally be set as appropriate for your site or personal preference—for example, you can choose either a dark screen or a light screen.

Global

On Line

Communications

XOFF at 128

Display

80 Columns
Interpret Controls
Jump Scroll
3 x 24 Pages
24 Lines/Screen

Keyboard

Warning Bell High
Character Mode
<X> Delete

Tabs

Set 8 column tabs

General

VT420 IL
User Defined Keys Unlocked
User Features Unlocked
No New Line
UPSS DEC Supplemental

Using Two Windows on the VT420

If you plan to use the VT420 in two-window (split-screen) mode, note the following:

- After establishing a DOS session in a split-screen window, give the SETTERM SPLIT command at the DOS prompt. This sets the characteristics needed to display the entire DOS session on half the screen. Refer to page DOS-29 of *Utilities & Drivers for DOS* for information about the SETTERM SPLIT command.

- If you establish a DOS session in one window and the *other* window is set for 24 Lines/Screen (on the Display Set-Up menu), your DOS session will contain only 24 lines instead of 25. To get the 25th line, make the non-DOS window active, then enter Set-Up. Change the Lines/Screen to 36 or 48. Exit Set-Up. Your DOS session in the other window now has 25 lines.

At this point, you can change the set-up for the non-DOS window back to 24 Lines/Screen, and your DOS session will not be affected.

VT340 and VT330

The following settings are important for the proper operation of Omni-Ware. Terminal characteristics that are not shown can generally be set as appropriate for your site or personal preference—for example, you can choose either a dark screen or a light screen.

Global

On-Line/Local: on-line

General

Device Attributes Response:

VT330 *or* VT340

Character Set Mode: multinational

User Preference Char Set:

DEC-MCS

Lock User-Defined Keys: unlocked

User Features Lock: unlocked

Display

Scrolling: jump

Column Mode: 80

Control Representation Mode:
interpret controls

New Line Mode: no new line

Communications

Transmit Flow Control:

XON/XOFF

Graphics

Graphics Cursor: disabled

Sixel Scrolling: enabled

Keyboard

Warning Bell: high

<X> Key: delete

Tabs

Set 8 Column Tabs

VT320

The following settings are important for the proper operation of Omni-Ware. Terminal characteristics that are not shown can generally be set as appropriate for your site or personal preference—for example, you can choose either a dark screen or a light screen.

Set-Up

On Line

Display

80 Columns

Interpret Controls

Jump Scroll

General

VT320 ID

User Defined Keys Unlocked

User Features Unlocked

No New Line

UPSS DEC Supplemental

Communications

XOFF at 128

Keyboard

Warning Bell

<X> Delete

Tabs

Set 8 column tabs

VT220, VT240, and VT241

The following settings are important for the proper operation of Omni-Ware. Terminal characteristics that are not shown can generally be set as appropriate for your site or personal preference—for example, you can choose either a dark screen or a light screen.

Set-Up

On Line

Communications

XOFF at 128

Display

80 Columns

Interpret Controls

Jump Scroll

Keyboard

Warning Bell

Tabs

Set 8 Column Tabs

General

VT200 Mode, 8 Bit Controls

User Defined Keys Unlocked

User Features Unlocked

Multinational

No New Line

Graphics

No Graphics Cursor

GraphOn 240 and 250

The following settings are important for the proper operation of Omni-Ware. Terminal characteristics that are not shown can generally be set as appropriate for your site or personal preference—for example, you can choose either a dark screen or a light screen.

General

- Terminal is online
- host downloading is enabled
- short system commands
- screen format is full resolution
 - for Tek emulation and windows

Memory

- 25 rows long

Microterm 4560

The following settings are important for the proper operation of Omni-Ware. Terminal characteristics that are not shown can generally be set as appropriate for your site or personal preference—for example, you can choose either a dark screen or a light screen.

Set-Up

On Line

Display

80 Columns
Interpret Controls
Jump Scroll

General

VDT200 Mode, 8 Bit Controls
User Defined Keys Unlocked
User features unlocked
Multinational
No New Line

Communication

XOFF at 128

Keyboard

Warning Bell

Tabs

Set 8 column tabs

Graphics

No Graphics Cursor
4014 Margin 0/1
4014 CR Effect = CR
4014 DEL implies Lo Y
Rotated Print
4014 LF Effect = LF
4014 GIN Terminator = none
4014: ANSI-GS

Custom

VDT ID: VDT200
25th Line
Protocol From Host:
XON - XOFF
: Delete

Tektronix 4205 and 4207

The terminal set-up parameters for these terminals are set automatically by Omni-Ware's SETTERM command; you do not need to set up the terminal in a particular fashion. However, if your terminal has a VT200-style keyboard, ensure that the "Tek" light is off.

Wyse 99GT

The following settings are important for the proper operation of Omni-Ware. Terminal characteristics that are not shown can generally be set as appropriate for your site or personal preference—for example, you can choose either a dark screen or a light screen.

Display (F1)

Columns = 80
Lines = 25
Cell Size = 10 x 13
Scroll Speed = Jump
Attribute = Char

General (F2)

Personality = VT220 8 Bit
Enhance = On
Font load = On
Monitor = Off
Test = Off

Communications (F4)

Mdm Rcv Hndshake =
XON/XOFF
Mdm Xmt Hndshake =
XON/XOFF

Misc 1 (F5)

Warning Bell = On
Fkey Lock = Off
Feature Lock = Off
Del = BS/DEL
Margin Ctrl = 0
Del for Low Y Off
GIN Term = CR/EOT

Misc 2 (F6)

Send = All

Tabs (F7)

8 Column

Appendix B

KEYBOARD MAPPINGS



Keyboard Mappings

When you run Omni-Ware, the functions performed by many of the keys on your terminal or workstation keyboard change to match the PC keyboard. The process of redefining the functions performed by the keys on your terminal is called “remapping the keyboard.”

Omni-Ware provides several keyboard mappings, including:

- DEC workstations and X terminals using Logcraft window system 2 or 3 (DECwindows or Motif);
- VT2xx, VT3xx, and VT4xx terminals and compatibles, DEC workstations and X terminals using window system 0.

Information on each of these mappings is given below. For a complete list of the keyboard mappings provided by Logcraft, refer to Figure 2 on page VMS-25 of *Utilities for VMS*.

When you first initiate an Omni-Ware session, the NumLock key is *on* (as it would be on an 80386-based IBM PC). This affects the action of the numeric keypad, as indicated in the diagrams that follow.

The NumLock key is a *toggle*; that is, if you press the NumLock key, the NumLock state changes from on to off. If you press the key again, it changes from off back to on. When NumLock is on, the numeric keypad keys transmit numbers; when off, the keys transmit other functions.

If you use Motif, the window manager traps certain keys, including F10. To use F10 as a PC key within an Omni-Ware session, you can create a DECW\$MOTIFBIND.DAT file that changes the action of F10 for Motif. Refer to “Motif and Key Bindings” on page B-8.

DEC Keyboard: Window Systems 2 and 3

Figures 1 and 2 show the default keyboard mapping for DEC workstations and X terminals using window system 2 or 3. This mapping emulates an enhanced PC keyboard.

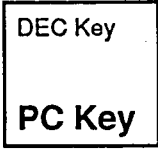
The Shift, Ctrl, and Alt Keys

The DEC keyboard includes Shift, Ctrl, and Compose keys, which are mapped to the PC keyboard's Left Shift, Left Ctrl, and Left Alt keys, respectively. You can use the DEC keys to perform PC Shift, Ctrl, and Alt functions most of the time.

The PC distinguishes between left and right for the Shift, Ctrl, and Alt keys. For most purposes, you can use either the left or right PC key. However, some PC applications use them for different functions. For example, Left Shift-F1 might perform a function different from Right Shift-F1. Because the DEC keys are specifically mapped to the *left* PC keys, you need to use a different key sequence on the DEC keyboard to perform the *right* PC functions.

For these cases, the keyboard mapping for DEC workstations and X terminals includes several keys that map specifically to the PC's Left and Right Shift, Ctrl, and Alt keys. However, these keys are not designed to be used at the same time as other keys (as is the case with these keys on a true PC).

To generate a PC key such as Right Shift-F1, press the DEC key for Right Shift (PF4), release it, and press the F1 key immediately. If you press the two keys in succession quickly enough, Omni-Ware interprets them as the single PC key combination, Right Shift-F1. If you do not press them in succession quickly enough, Omni-Ware sees them as *two* separate keys.



Main Keyboard Mapping

DEC Keyboard: Window Systems 2 and 3

If no PC Key is shown, the key has the same function as the DEC Key.

F1 Hold Scrn	F2 Print Scrn	F3 Set-Up	F4	F5 Break
F1	F2	F3	F4	F5

F6	F7	F8	F9	F10
F6	F7	F8	F9	F10

F11 (Esc)	F12 (BS)	F13 (LF)	F14
F11	F12	PrtSc SysRQ	ScrLk

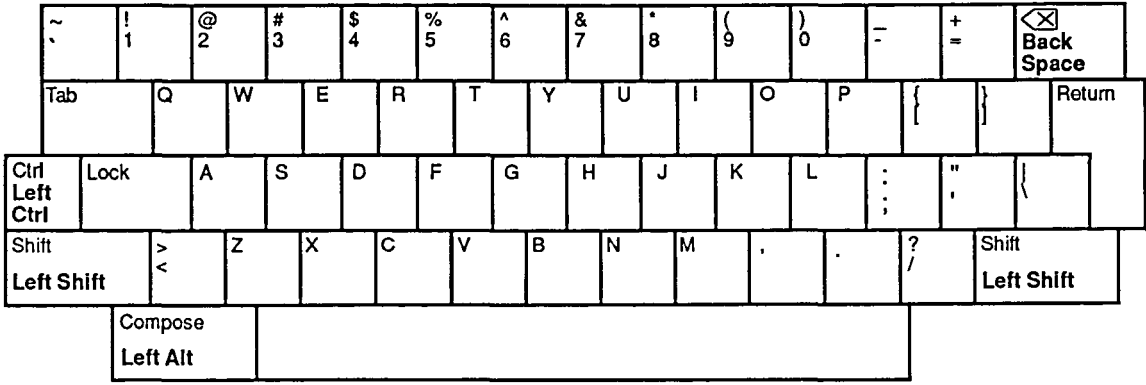


Figure 1: DEC Main Keyboard Mapping, Window System 2/3

DEC Key
NumLock OFF
PC Key

Auxiliary Keyboard Mapping DEC Keyboard: Window Systems 2 and 3

If no PC Key is shown, the key has the same function as the DEC Key.

Help	Do
Pause	Esc
Break	

F17	F18	F19	F20
Left	Right	Left	Right
Ctrl	Ctrl	Alt	Alt

Find	Insert Here	Re-move
Home	Insert	Delete
Select	Prev Screen	Next Screen
End	PgUp	PgDn
	↑	
←	↓	→

PF1	PF2	PF3	PF4
Num Lock	/	*	Right Shift
7	8	9	-
Home	↑	PgUp	
7	8	9	
4	5	6	'
←	→		
4	5	6	+
1	2	3	Enter
End	↓	PgDn	
1	2	3	
0		.	
Insert		Delete	
0		.	

Figure 2: DEC Auxiliary Keyboard Mapping, Window System 2/3

VT2xx, VT3xx, and VT4xx Terminals

Figure 3 on the next page shows the default keyboard mapping for VT2xx, VT3xx, and VT4xx terminals and compatibles and for DEC workstations and X terminals. This mapping emulates an enhanced PC keyboard.

The Shift Keys

The VT terminal keyboard includes two Shift keys on the main keyboard, which are both mapped to the PC keyboard's Left Shift key. You can use the VT keys to perform PC Shift functions most of the time.

The PC distinguishes between left and right for the Shift keys; for most purposes, you can use either the left or right PC key. However, some PC applications use them for different functions. For example, Left Shift-F1 might perform a function different from Right Shift-F1. Because the VT keys are specifically mapped to the *left* PC keys, you need to use a different key sequence on the VT keyboard to perform the *right* PC functions.

For these cases, the keyboard mapping for VT terminals defines F9 and F10 as the PC's Left and Right Shift keys, respectively. However, these VT keys are not designed to be used at the same time as other keys (as is the case with these keys on a true PC).

To generate a PC key such as Right Shift-F1, press the VT key for Right Shift (F10), release it, and press the key for F1 (Help) immediately. If you press the two keys in succession quickly¹ enough, Omni-Ware interprets them as the single PC key combination, Right Shift-F1. If you do not press them in succession quickly enough, Omni-Ware sees them as *two* separate keys.

¹You can change the timeout period for the Shift, Ctrl, Alt keys. Refer to the description of /TIMER_3 on page CFG-40 of *Session Configuration*.

DEC Key
NumLock OFF
PC Key

Keyboard Mapping for:

- VT200/VT300/VT400-Series Terminals (and compatibles)
- DEC keyboard: Window System 0

F6	F7	F8	F9	F10
Alt	Ctrl	Pause Break	Left Shift	Right Shift

F11	F12 (BS)	F13 (LF)	F14
(Esc) Esc	PrtSc *	Num Lock	Scroll Lock

Help	Do
F1	F2

F17	F18	F19	F20
F3	F4	F5	F6


Back Space

Find	Insert Here	Re- move
Home	Insert	Delete
Select	Prev Screen	Next Screen
End	PgUp	PgDn

PF1	PF2	PF3	PF4
F7	F8	F9	F10
7	8	9	-
Home	↑	PgUp	
7	8	9	
4	5	6	
←	→	→	
4	5	6	Toggle
1	2	3	Enter
End	↓	PgDn	
1	2	3	
0		.	
Insert		Delete	
0		.	+

F1 through F5 are not mapped to PC keys.

Keys on the main keyboard perform the same function on the PC as on the host.

←	↓	→
←	↓	→

Figure 3: VT2xx/VT3xx/VT4xx Keyboard Mapping

The Ctrl Key

The VT terminal's Ctrl key is mapped to the PC's Left Ctrl key; however, the terminal's Ctrl key can only be used with certain keys: A – Z (i.e., Ctrl–A through Ctrl–Z), 2 – 8, [, /,], ~, ?, and the space bar.

You *cannot* use the terminal Ctrl key for other PC Ctrl functions, for example, to generate a PC key such as Ctrl–F1. The keyboard mapping defines F7 on the terminal keyboard as another Ctrl key, which can be used to generate any PC Ctrl sequence.

The terminal's F7 key is not designed to be used at the same time as other keys. To generate a PC key such as Ctrl–F1, press the terminal's F7 key, release it, and press the key for F1 (Help) immediately. If you press the two keys in succession quickly¹ enough, Omni-Ware interprets them as the single PC key combination for Ctrl–F1. If you do not press them in succession quickly enough, Omni-Ware sees them as *two* separate keys.

The Alt Key

The PC includes Alt keys that are used with other keys, much like Ctrl and Shift, and many PC packages use Alt key sequences to perform functions. The VT keyboard, however, does not have an Alt key. Consequently, the keyboard mapping defines F6 on the terminal keyboard as the Alt key.

Unlike the PC's Alt key, the F6 key on the terminal is not designed to be used at the same time as other keys. To generate a PC key sequence such as Alt–A, press the terminal's F6 key, release it, and press the A key immediately. If you press the two keys in succession quickly¹ enough, Omni-Ware interprets them as the single PC key combination for Alt–A. If you do not press them in succession quickly enough, Omni-Ware sees them as *two* separate keys.

¹You can change the timeout period for the Shift, Ctrl, Alt keys. Refer to the description of /TIMER_3 on page CFG–40 of *Session Configuration*.

Motif and Key Bindings

The Motif window manager uses certain keys to perform functions within the graphical user interface. Often, for example, F10 selects the menu bar. Similarly, the Motif window manager allows you to specify accelerator keys to perform certain functions, and the default assignments may prevent you from using Alt-function key combinations within a PC session.

Function Keys

Because the function keys (e.g., F10) have special meaning for Motif, they cannot be used as PC keys within an Omni-Ware session unless you reassign or rebind the Motif functions to other keys. A file called DECW\$MOTIFBIND.DAT determines these key bindings.

To bind the menu bar function to another key, thus freeing it then for the Omni-Ware session, include lines like the following in DECW\$MOTIFBIND.DAT:

```
! The line below associates F11 with Motif's
! menu bar function. This change allows F10
! to be used within PC sessions.
!
osfMenuBar      :    <Key>F11
```

For additional information about the DECW\$MOTIFBIND.DAT file, refer to your Motif documentation.

Alt Key

The mappings for the Motif accelerator keys are given in the file `DECW$MWM_RC.DAT`. The relevant section of this file, for example, might look like this:

```
# Default Window Menu Description

Menu DefaultWindowMenu
{
  Restore      _R      Alt<Key>F5      f.normalize
  Move         _M      Alt<Key>F7      f.move
  Size         _S      Alt<Key>F8      f.resize
  Minimize     _n      Alt<Key>F9      f.minimize
  Maximize     _x      Alt<Key>F10     f.maximize
  Lower        _L      Alt<Key>F3      f.lower
  no-label
  Close        _C      Alt<Key>F4      f.kill
}
```

With this set of definitions, you would be unable to use Alt-F5, Alt-F7, Alt-F8, Alt-F9, Alt-F10, Alt-F3, or Alt-F4 within the PC session. To make these keys available, you can remove the Alt key definitions from the `DECW$MWM_RC.DAT` file, like this:

```
Restore      _R      f.normalize
Move         _M      f.move
Size         _S      f.resize
Minimize     _n      f.minimize
Maximize     _x      f.maximize
Lower        _L      f.lower
no-label
Close        _C      f.kill
```

Alternatively, you can remap the Motif functions to other keys. For example:

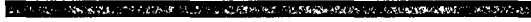
```
Restore      _R      Alt<Key>R      f.normalize
Move         _M      Alt<Key>M      f.move
Size         _S      Alt<Key>S      f.resize
Minimize     _n      Alt<Key>N      f.minimize
Maximize     _x      Alt<Key>X      f.maximize
Lower        _L      Alt<Key>L      f.lower
no-label
Close        _C      Alt<Key>K      f.kill
```

In this example, the Alt-function keys would be available within the PC session; however, Alt-R, Alt-M, Alt-S, Alt-N, Alt-X, Alt-L, and Alt-K would not. If you choose this approach, then, ensure that you select key assignments that will not conflict with key combinations needed within the PC session.

For additional information about the DECW\$MWM_RC.DAT file, refer to your Motif documentation.

Appendix C

ERROR MESSAGES



Omni-Ware Error Messages

The following error messages are generated by the OMNI command. These error messages are common to Logcraft's 386Ware family of servers; some of the messages do not apply to OmniWare.

If you receive an error not listed here, contact Logcraft Customer Support.

Error Code	\$Status	Cause/Remedy
ALLOCTERM	08018094	Unable to allocate terminal. Ensure that no other application has control over SY\$\$OUTPUT.
ASCIITOSCAN	080180A4	Error opening ASCII to scan-code conversion file.
BADDEVSPEC	080182A0	Bad SCSI device specification.
BADDSKPRM	080182CC	Disks parameter must be 1 - 6.
BADSLAVE	080180A8	Bad slave number(s) specified.
BOOTDISK	080180B4	Unable to mount first bootable disk. The first logical disk specified does not exist or does not contain a bootable version of DOS, you do not have sufficient privilege to access the file, or someone else is using the disk and has it mounted for exclusive access.
CHRSETTRN	080180BC	Could not access MULTINATIONAL character set translation file. Check the logical name MULTINATIONAL in the LOGICRAFT_-PARAM_TABLE.
DATAcmpERR	0801814C	SCSI data comparison error.

Error Code	\$Status	Cause/Remedy
DECNETHOST	080180C4	Unable to obtain DECnet node number.
DEVNAMREQ	0801813C	SCSI device name required.
DEVNOTASN	080182AC	Unable to assign channel to SCSI LUN.
DEVNOTOURS	08018144	Address is neither an 386Ware or Omni-Ware unit. Check the server's Ethernet or Internet address.
DNETACPTCON	080182EC	Error accepting inbound connection.
DNETASNCMBX	080182E4	Unable to assign console mailbox.
DNETASNKMBX	0801830C	Unable to assign keyboard mailbox.
DNETINBNDBMX	080182FC	Unable to create inbound connection mailbox.
DNETMBXREAD	080182F4	Unable to post read to DECnet mailbox.
DNETOUTBNDACP	08018314	Unable to transmit outbound ACP control.
DNETOUTBNDBMX	08018304	Unable to create outbound connection mailbox.
DRMHIERARCHY	080180CC	DRM unable to access hierarchy.
DRMWIDGET	080180D4	DRM unable to fetch widget.
DUPLSTPRT	080180E0	Printer assignment conflict; more than one definition for LST1 or LST2 specified. A possible cause is that you specified two printers but failed to include the /PRINTER qualifier. One printer must be specified as LST1 and the other as LST2 with explicit usage of /PRINTER, unless you are printing to the auxiliary port. A printer defaults to LST1 if only one printer is specified. Refer to "The SRV Command" in <i>Utilities for VMS</i> .
DWNLDWRTERR	08018214	Download write error.

Error Code	\$Status	Cause/Remedy
EMPTYKEYMAP	080180EC	Keyboard mapping file is empty or has been corrupted. Create a new file with one of the KEYUTIL utilities or restore the file from the distribution media.
EXMAXDISK	080180F0	Maximum disk devices exceeded; i.e., too many logical disks were specified on the command line.
EXMAXLIST	080180F8	Maximum list devices exceeded; i.e., too many list or spool files were specified on the command line.
IMGNOTOPEN	080180DC	LGI image open error.
IMGREADERR	0801809C	LGI image read error.
INACTVTIM	08018104	Connection terminated... No activity within specified timeout period.
INFSRVDWN	0801810C	InfoServer down or not responding. Execute the Omni-Ware start-up file to restart the InfoServer.
INQUIRYFAIL	08018154	SCSI inquiry failed or not Logcraft hardware.
INSPRIV	08018114	Insufficient privileges for attempted operation.
INVAUXPOS	08018118	/AUX_PORT qualifier is misplaced; this qualifier must follow the LST1 or LST2 keyword.
INVBREAK	08018120	Invalid value for /BREAK. Valid range is 0 to 127 (inclusive).
INVCOPIES	08018128	Invalid value for /COPIES. Valid range is 0 to 255 (inclusive).
INVCTRLCH	08018130	Invalid control character.
INVFORM	08018158	Invalid value for /FORM. Give the SHOW QUEUE/FORM command at the VMS prompt for a list of available forms.
INVLSTDEV	08018168	Invalid value for /PRINTER. Valid values are LST1 and LST2.

Error Code	\$Status	Cause/Remedy
INVMEMORY	08018170	Invalid value for /MEMORY. Valid range is 512 to 704 (inclusive).
INVMINMEMORY	08018298	Invalid value for /MINMEMORY. Valid range is 512 to 14336 (inclusive).
INVSWCOMB	08018180	Invalid qualifier combination. Two or more qualifiers were specified on the command line that have opposing functions. Remove one and reattempt the command.
INVSWITCH	08018188	Undefined command line qualifier; i.e., you specified a non-existent qualifier.
KEYMAPOPEN	08018194	Error opening keyboard mapping file. Ensure that you have read access to the SYSSOMNIWARE directory and to the key mapping data files. If an alternate key mapping is specified with /KEYMAP, check for read access to the alternate file. Also check for spelling errors in the alternate file name.
LCSDNORESPONSE	080182BC	LCSD or 386Ware/SCSI not responding.
LN03MISMATCH	08018198	LN03 qualifier can not be used with IBM qualifier.
LOSTCIRC	080181AC	Lost virtual circuit; Ethernet connection terminated abnormally. It may be due to a disruption of power to the Omni-Ware server or temporary loss of Ethernet communications. Alternatively, it may have been stopped by another VMS user.
LUNCLSERR	08018178	LUN close error.
LUNOPNERR	08018164	LUN open error.
MAXUSER	080181B4	Connection refused - Maximum logins reached.

Error Code	\$Status	Cause/Remedy
MISQUOTES	080181B8	Misplaced quotes.
MISSRVNAM	080181C4	Server name missing.
NOADDRESS	080181DC	Ethernet address expression not found; unable to translate Ethernet address expression. Check the logical in LOGICRAFT_SERVER_TABLE and ensure that the address of the server is valid. If the Ethernet address was entered from the command line, ensure that it is of the format <i>xx-xx-xx-xx-xx-xx</i> .
NOFLAGS	080181E4	Out of local event flags.
NOINTADDRESS	0801831C	Internet address not found. Check address definition in host table.
NOMEMORY	080181EC	Connection refused - Insufficient memory to start user.
NOPROCSLT	080181F4	Omni-Ware login limit — Try again later. Use a different server or reattempt the command later.
NOSUCHDEV	080182D0	No such device available.
NOTOMNIWARE	080182B4	Device is not a SCSI OmniWare.
NOTQELM	080182C4	No Timer Queue Elements available.
OUTFNSIZE	080181FC	Maximum filename size exceeded. Shorten file name and reattempt the command.
OUTOFMEM	08018204	Out of dynamic memory. Increase your PGFLQUO quota.
PCTYPE	08018208	Invalid IBM PC processor type code. Parameter for /PCTYPE qualifier must be either AT or XT.

Error Code	\$Status	Cause/Remedy
RESOLVENAME	080182D8	Unable to resolve server name. A server did not respond to the "best server" request in the allotted time. Attempt the command again, or specify an actual server name, rather than BEST_SERVER.
SLAVENUM	08018220	Value for slave number out of range.
SLAVETMO	0801822C	Connection refused - Slave failed to respond.
STARTMPROC	0801821C	Failed to start microprocessor.
STDREADERR	080181D4	standard read error.
TCPBINDFAILED	0801835C	Bind for console circuit failed.
TCPCONNFAIL	0801833C	TCP/IP connection failed.
TCPCREDEVICE	0801834C	UCX Unable to create device.
TCPGTSKTNNAME	0801836C	Get socket name for console circuit failed.
TCPLSTNFAILED	08018364	Listen for console circuit failed.
TCPNOHOSTENT	0801832C	Unable to obtain host entry; check system host table.
TCPNOHOSTNAME	08018324	Unable to obtain hostname; check system host table.
TCPNOKEEPALIVE	08018354	Unable to set KEEPALIVE, circuits would die.
TCP SOCKFAIL	08018334	Unable to make connection to socket.
TCPTOOMUCHDATA	08018344	TCP/IP connection returned too much data.
TIMERNGE	08018230	Value for timer qualifier out of range.
TOOMANYPARAMS	08018254	Too many command line parameters.
TYPEAHEAD	08018238	Typeahead buffer not in range (16 to 2048).

Error Code	\$Status	Cause/Remedy
UNKTRMTYP	080181C8	Unknown terminal type - SET TERMINAL/INQUIRE.
UNSUPPORTED	0801824C	Unsupported software function. Contact Logicraft Customer Support.
VRCIRCUIT	0801825C	Error establishing connection with Omni-Ware. Reattempt connection.
WINDOWSYS	08018264	Incorrect usage of window system logical name.
WKTIMEOUT	0801826C	Connection rejected... Server connect timeout. The Omni-Ware server is no longer accepting incoming connections from the VAX. Check cables to the Omni-Ware server and ensure the server is booted. Otherwise, the server currently has a maximum load of users, or the KXDRIVER is not running (XNS only). Issue the command XCP STATUS -R If it does not show a line for network number 00-00-00-01, then the KXDRIVER is not running. Execute the Omni-Ware start-up file and reattempt the command.
XLIBNODISPLAY	08018274	XLIB unable to create connection to display.
XLIBNOFONT	0801827C	XLIB unable to locate Omni-Ware font file.
XLIBNOWINDOW	08018284	XLIB unable to create window.
XLIBVISUALS	0801828C	XLIB detected no matching visuals.
XNSENSABO	08018034	XNS: User request aborted.
XNSENSEOF	08018024	XNS: Disconnected partner read request completion.
XNSENSNAK	0801801C	XNS: Network packet delivery time out.
XNSENSNET	08018014	XNS: Network error detected.

Error Code	\$Status	Cause/Remedy
XNSENSOVR	0801802C	XNS: Buffer size too small for incoming data.
XNSENSRES	08018044	XNS: No network services data structures available.
XNSENSSYS	0801800C	XNS: System service failure.
XNSENSTMO	0801803C	XNS: XNSLIB user function timed out.
XNSEPKBSZ	08018054	XNS: Internet packet size mismatch.
XNSEPKCHK	0801805C	XNS: Internet packet checksum mismatch.
XNSEPKHOP	08018064	XNS: Maximum number of HOPS exceeded.
XNSEPKLOS	0801804C	XNS: An transmitting the internet packet.
XNSEPKMSZ	0801808C	XNS: Internet packet too small.
XNSEPKNET	0801806C	XNS: Network address is unknown.
XNSEPKRTE	08018074	XNS: No route to specified network.
XNSEPKSKT	08018084	XNS: Destination socket in network address is unknown.
XNSEPKUNK	0801807C	XNS: Destination network address is unknown.
XNSHOST	0801828C	Error in MERIT_HOST or MERIT_NETWORK logical.
XTNREADERR	080181A4	Extended read error.
XTNWRRTERR	08018244	Extended write error.

Error Messages from the Logical Disk Commands

The following fatal error messages are generated by the logical disk commands: DOSCOPY, DOSDIR, DOSERA, DOSMAKE, DOSSTAT, and DOSTYPE.

Error Code	\$Status	Cause/Remedy
ABRTMSG	08018024	Aborting. The command aborted due to a shortage of system resources. The most common failure is insufficient dynamic memory.
ABRTXFER	0801813A	Aborting transfer.
BADPART	08018064	Bad partition or partition does not exist.
BADSYNTAX	0801811A	Invalid filename syntax. Refer to your DOS or VMS manual as appropriate for more information regarding the format of filenames.
CNTCRTDOS	08018082	Unable to create DOS file. Ensure that the name of the file being transferred conforms to the DOS filename restrictions for valid characters and length. A DOS file can have only an 8-character name with a 3-character file type (extension).
CNTCRTVMS	0801808A	Unable to create VMS file. Ensure that the file name does not contain any invalid characters. If it does, specify a different name for the file to be transferred to under VMS. Check that you have write access to the directory and that you have not exceeded your disk quota.
CNTDELDIR	080180BA	<i>item</i> is a directory, unable to delete. The logical disk commands do not provide a mechanism for deleting directory entries.

Error Code	\$Status	Cause/Remedy
CNTDELRDO	080180B2	<i>item</i> is read only, unable to delete. You cannot delete a read-only file. Change the file protection to permit write access.
CNTFNDDIR	080180A2	Unable to locate DOS directory.
CNTFNDDOS	08018092	Unable to locate DOS file.
CNTFNDDSK	080180AA	Unable to locate DOS structure.
CNTFNDVMS	0801809A	Unable to locate VMS file. Specified file does not exist in the VMS directory, or you lack sufficient privilege to read the directory.
CNTPRSVMS	08018112	Unable to parse file <i>item</i> .
CPYTOSAME	0801805C	Copying from logical disk to the same logical disk is not supported. Copy to VMS, then from VMS back to the logical disk.
CREATERR	080180DA	Error creating logical disk. Check disk quota, FILLM quota, and free disk space.
DIRUPDERR	0801810A	Error updating MS-DOS directory. Usually this results when transferring a file to a subdirectory of a logical disk with insufficient space.
DISKEXIST	080180D2	DOS structure already exists. Choose another name for the logical disk and reattempt the DOSMAKE command.
DISKFULL	0801802C	The logical disk is full.
DOSFILLCK	0801807A	Unable to open DOS structure. File locked by another user. The logical disk is currently in use. If you have PCSA, the logical disk may be mounted as a disk service.
DOSINSPRV	080180E2	Insufficient privilege to open DOS structure.

Error Code	\$Status	Cause/Remedy
ERROPNMLT	08018014	Error opening the multinational translation file. Check the logical name MULTINATIONAL in the LOGICRAFT_PARAM_TABLE. It should specify the directory and filename of the appropriate multinational translation file; e.g., SYSSOMNIWARE:MULTINATIONAL.US. Check also that the file exists and that you have read access to the file.
FATENTERR	08018044	Attempt to set out-of-range FAT entry. The logical disk contains an invalid file allocation table. Mount the disk using Omni-Ware and run the utility CHKDSK /F on the disk to correct the file allocation table and then reattempt the DOS command.
FLCHNERR	080180102	File allocation chain is corrupt. Mount the disk using Omni-Ware and attempt to repair the disk using CHKDSK /F before reattempting the command.
GEOPARMMIS	0801806C	Disk geometry parameter missing.
ILLCYLCNT	08018122	Illegal cylinder value. Valid range: 1 - 1024.
ILLHDCNT	08018132	Illegal head value. Valid range: 1 - 15.
ILLOPTION	080180CA	Illegal option in command line. Refer to the manual or on-line help for command syntax.
ILLSECCNT	0801812A	Illegal sectors/track value. Valid range: 1 - 64.
ILLSIZE	0801801C	Illegal disk size.
INVDOSFNM	080180FA	An invalid MS-DOS file name was specified. Refer to the MS-DOS User's Guide for more information regarding the format of DOS file names.

Error Code	\$Status	Cause/Remedy
MUSTBEDIR	0801803C	Copying multiple files requires that the last argument be a directory. This restriction applies to transfers both into and out of a logical disk.
ODDFORMAT	080180EA	<i>item</i> is an odd format MS-DOS structure. The specified logical disk is not recognized as a logical disk.
OUTERR	080180C2	Error writing to the specified output file. Check disk quota, open file quota FILLM, free disk space, then reattempt command.
RDNGDIRW	080180F2	Attempting to read a directory as data. This file is a DOS structure and does not contain any useful information when transferred to VMS.
SCTRERR	0801804C	Input error in dos structure on sector. (Sector access failure.) The file allocation table specifies an invalid cluster number. Mount the disk using Omni-Ware and run the utility CHKDSK /F on the disk to correct the file allocation table and then reattempt the DOS command.
TOOMNYDSK	08018034	Too many open logical disks. The command could not be processed because of too many open files. Issue multiple commands using fewer disks in each command.
VMSFILLCK	08018072	Unable to open VMS file. File locked by another user.
VMSTOVMS	08018054	Use VMS 'COPY' command to perform VMS-to-VMS transfers. You cannot use DOSCOPY to copy one VMS file to another.
WILNOTSUP	0801800C	Wildcard copies from logical disk to logical disk are not supported.

SETTERM Error Messages

The following errors are related to the SETTERM utility, which is described in *Utilities & Drivers for DOS*.

Ambiguous keyword

An abbreviated keyword was not identified uniquely.

Data file not found

The specified file was not found. Check that the file exists and is in your DOS path.

DLCS preceded 4205 or 4207

When specifying a downloadable character set for the Tektronix terminals, the 4205 or 4207 keyword must come first on the SETTERM command.

Error detected with GRAPH_MAX input value

You have entered an incorrect value for the GRAPH_MAX keyword.

Error detected with PX input value

Error detected with PY input value

You have entered an incorrect value for the PX or PY keyword.

File read error, cannot process input file

An error occurred trying to use the specified file. Check the file name.

keyword1* conflicts with *keyword2

The indicated keywords cannot be specified on the same command.

***keyword* was repeated on the command line**

The indicated keyword was repeated on the command line; specify a given keyword only once per command.

Overflow error. Range is 0..225

The GRAPH_WRITE or GRAPH_MAX parameter's value must be between 0 and 255 (inclusive).

Terminal driver was not installed!

Terminal emulation is not functional

An error occurred. Correct the error, then retry the command.

Unrecognized keyword

You specified a non-existent (or misspelled) keyword.

Appendix D

TABLE OF ASCII CODES



ASCII Codes (Decimal)							
000	NULL	032	Space	064	@	096	`
001	SOH (Ctrl-A)	033	!	065	A	097	a
002	STX (Ctrl-B)	034	"	066	B	098	b
003	ETX (Ctrl-C)	035	#	067	C	099	c
004	EOT (Ctrl-D)	036	\$	068	D	100	d
005	ENQ (Ctrl-E)	037	%	069	E	101	e
006	ACK (Ctrl-F)	038	&	070	F	102	f
007	BEL (Ctrl-G)	039	'	071	G	103	g
008	BS (Ctrl-H)	040	(072	H	104	h
009	HT (Ctrl-I)	041)	073	I	105	i
010	LF (Ctrl-J)	042	*	074	J	106	j
011	VT (Ctrl-K)	043	+	075	K	107	k
012	FF (Ctrl-L)	044	,	076	L	108	l
013	CR (Ctrl-M)	045	-	077	M	109	m
014	SO (Ctrl-N)	046	.	078	N	110	n
015	SI (Ctrl-O)	047	/	079	O	111	o
016	DLE (Ctrl-P)	048	0	080	P	112	p
017	DC1 (Ctrl-Q)	049	1	081	Q	113	q
018	DC2 (Ctrl-R)	050	2	082	R	114	r
019	DC3 (Ctrl-S)	051	3	083	S	115	s
020	DC4 (Ctrl-T)	052	4	084	T	116	t
021	NAK (Ctrl-U)	053	5	085	U	117	u
022	SYN (Ctrl-V)	054	6	086	V	118	v

Figure 1: Table of ASCII Codes

ASCII Codes (Decimal)					
023	ETB	(Ctrl-W)	055	7	087 W 119 w
024	CAN	(Ctrl-X)	056	8	088 X 120 x
025	EM	(Ctrl-Y)	057	9	089 Y 121 y
026	SUB	(Ctrl-Z)	058	:	090 Z 122 z
027	ESC	(Ctrl-[])	059	;	091 [123 {
028	FS	(Ctrl-\)	060	>	092 \ 124
029	GS	(Ctrl-])	061	=	093] 125 }
030	RS	(Ctrl-^)	062	<	094 ^ 126 ~
031	US	(Ctrl-_)	063	?	095 _ 127 DEL

Figure 1: Table of ASCII Codes (Continued)

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- XSET SMG-6, DOS-66 – DOS-67
 - ENV DOS-66
 - LST1_FLUSH DOS-66
 - /[NO]XTNPRTN CFG-43

A – D – Appendices
CFG – *Session Configuration*
DOS – *Utilities & Drivers for DOS*
DSK – *Logical & Local Disks*

INS – *Installation*
SMG – *System Manager's Guide*
UG – *User's Guide*
VMS – *Utilities for VMS*

Reader's Comments
Omni-Ware for VMS, October 8, 1992

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